



Welcome to the 2003 Weed Control Results for the Iowa State University Weed Science Program. We are pleased to present this report to you in an electronic format. Included are the individual experiments and supplemental information.

If your computer is connected to the internet, you can find more weed research information by connecting to [ISU Weed Science Online](#).

Sections of the 2003 report are listed to the left in the **bookmarks** pane. Click on a section or study to view it in the main window.



To search for weed species, products or anything else in the 2003 report, select **Search** from the bookmarks or click the box below to open the search box.

Program personnel:

Michael D. K. Owen, professor and extension weed specialist
Robert G. Hartzler, professor and extension weed specialist
James F. Lux, field research coordinator
Damian D. Franzenburg, agricultural research specialist

Contact information:

Weed Science Program
Department of Agronomy
2517 Agronomy Hall
Iowa State University
Ames, IA 50011
Voice: (515) 294-1467
FAX: (515) 294-9985

[Copyright](#) © 1997-2004
Iowa State University Research Foundation, Inc.
All rights reserved



Caveat

The information in this report is not to be used for publication without the express consent of the Weed Science Program Project Leader. Information contained within does not constitute a recommendation or endorsement of product use. Recommendations for weed control in field crops are available from Iowa State University Extension, Iowa State University, Ames, Iowa.

Acknowledgements

Special acknowledgment and thanks are due to the following for their support of the Weed Science Program, Department of Agronomy, Iowa State University:

- Iowa State University Agricultural Experiment Station
- Iowa State University Extension
- Committee for Agricultural Development
- Leopold Center for Sustainable Agriculture
- Agriliance, LLC
- Asgrow
- BASF Corporation
- Bayer CropScience
- ConAgra Foods Retail Products Company
- DeKalb
- Dow AgroSciences
- Dupont Crop Protection
- FMC Corporation
- Garst Seeds
- K-I Chemical USA, Inc.
- Makhteshim-Agan of North America
- Monsanto Company
- Pioneer Hi-Bred International, Inc.
- Popcorn Board
- Sipcam Agro USA, Inc.
- Spraying Systems Company
- Syngenta Crop Protection, Inc.
- United Suppliers, Inc.
- Valent USA Corporation

Abbreviations

Results contained in the ISU Weed Control Results report are generated by Agriculture Research Manager (ARM) software and uses various abbreviations for treatment, application timing, crop and weed species, and observation information.

Treatment and application information

<u>Abbreviation</u>	<u>Description</u>
DPOST	Directed postemergence timing
DPRE	Delayed preemergence timing
EPOST	Early postemergence timing
EPP	Early preplant timing
FL OZ/A	Fluid ounces product per acre
GAL/100 GAL	Gallons per 100 gallons mix
LB A/A	Pounds active ingredient per acre
LB AE/A	Pounds acid equivalent per acre
LB/100 GAL	Pounds dry product per 100 gallons mix
LB/A	Pounds product per acre
LPOST	Late postemergence timing
MPOST	Mid-postemergence timing
OZ WT/A	Ounces dry product per acre
POST	Postemergence timing
PPI	Preplant incorporated timing
PRE	Preemergence timing
PT/100 GAL	Pints per 100 gallons mix
PT/A	pint per acre
QT/A	Quarts material per acre
SPOST	Sequential postemergence timing
% v/v	Percent volume of product per volume mix basis
% w/v	Percent weight of product per volume mix basis
% w/w	Percent weight of product per weight mix basis

Crop and weed species information

Crop and weed species are designated with the 5-letter Bayer code.

<u>Abbreviation</u>	<u>Common name</u>	<u>Genus species</u>
ABUTH	velvetleaf	<i>Abutilon theophrasti</i>
AMATA	common waterhemp	<i>Amaranthus rudis</i>
AMBEL	common ragweed	<i>Ambrosia elatior</i> L.
CHEAL	common lambsquarters	<i>Chenopodium album</i>
ERBVI	woolly cupgrass	<i>Eriochloa villosa</i>

Abbreviations (continued)

Crop and weed species information

<u>Abbreviation</u>	<u>Common name</u>	<u>Genus species</u>
ERICA	horseweed	<i>Erigeron canadensis</i> L.
GLXMA	soybean	<i>Glycine max</i>
HIBTR	Venice mallow	<i>Hibiscus trionum</i> L.
IPOHE	ivyleaf morningglory	<i>Ipomoea hederacea</i> (L.) Jacq.
POLPY	Pennsylvania smartweed	<i>Polygonum pensylvanicum</i>
SETFA	giant foxtail	<i>Setaria faberi</i>
SETSS	foxtail species mix	<i>Setaria</i>
TAROF	common dandelion	<i>Taraxacum officinale</i>
THLAR	field pennycress	<i>Thlaspi arvense</i> L.
XANST	common cocklebur	<i>Xanthium strumarium</i>
ZEAMD	corn	<i>Zea mays</i>

Observation information

Visual estimates of % crop phytotoxicity and weed control are compared to an untreated control and made on a 0 to 100 rating scale (0 percent = no crop phytotoxicity or weed control; 100 percent = complete crop death or weed control). Corn stand for 30 inch row spacing is measured at 17.42 row feet and is equivalent to 1/1000th acre.

<u>Abbreviation</u>	<u>Description</u>
BU/A	bushels per acre
CONTROL	% control
DA-A	Days after application timing code A
LBS/A	Pounds per acre
PHYGEN	% phytotoxicity – crop injury
STAND	Crop stand

Products used in Weed Science Program – Year 2003

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
Accent 75 DG	Nicosulfuron	Dupont
Aim 2 EW	Carfentrazone	FMC
Arrow 2 EC	Clethodim	Makhteshim-Agan
Assure II 0.88 EC	Quizalofop-P	Dupont
Atrazine 4 L	Atrazine	Syngenta
Atrazine 90 DF	Atrazine	Syngenta
Authority 75 DF	Sulfentrazone	Dupont
Balance Pro 4 SC	Isoxaflutole	Bayer CropScience
Beacon 75 DF	Primisulfuron	Syngenta
Callisto 4 SC	Mesotrione	Syngenta
Cinch 7.64 EC	S-metolachlor	Dupont
Clarity 4 SL	Dicamba	BASF
Command 3 ME	Clomazone	FMC
Cornerstone 3 SL (lb ae)	Glyphosate	Agrilience, LLC
Define 4 SC	Flufenacet	Bayer CropScience
Degree 3.8 CS	Acetochlor	Monsanto
DPX-E9636 25 DF	Rimsulfuron	Dupont
Dual II Magnum 7.64 EC	S-metolachlor & CGA-154281	Syngenta
Dual Magnum 7.62 EC	Metolachlor	Syngenta
Equip 32 WG	Foramsulfuron	Bayer CropScience
FirstRate 84 WG	Cloransulam-methyl	Dow AgroSciences
Flexstar 1.88 HL	Fomesafen & adjuvant	Syngenta
Glyphomax HC 5.4 SL	Glyphosate	Dow AgroSciences
Glyphomax Plus 4 SL	Glyphosate	Dow AgroSciences
Harmony GT 75 DF	Thifensulfuron	Dupont
Harness 7 EC	Acetochlor & MON 4660	Monsanto
KIH-485 3.57 SC	KIH-485	Kumiai Chemical
Liberty 1.67 SL	Glufosinate	Bayer CropScience
Option 35 WDG	Foramsulfuron	Bayer CropScience
Outlook 6 EC	Dimethenamid-P	BASF
Pendimax 3.3 EC	Pendimethalin	Dow AgroSciences
Permit 75 WG	Halosulfuron	Monsanto
Phoenix 2 EC	Lactofen	Valent USA Corp.
Princep 4 L	Simazine	Syngenta
Prowl 3.3 EC	Pendimethalin	BASF
Prowl H ₂ O 3.8 EC	Pendimethalin	BASF
Pursuit 2 SL	Imazethapyr	BASF
Python 80 WG	Flumetsulam	Dow AgroSciences
Raptor 1 SL	Imazamox	BASF

Products used in Weed Science Program – Year 2003 (continued)

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
Roundup 3 SL (lb ae)	Glyphosate	Monsanto
Roundup Ultra 3 SL (lb ae)	Glyphosate	Monsanto
Roundup UltraMAX 3.7 SL (lb ae)	Glyphosate	Monsanto
Roundup WeatherMAX 4.5 SL (lb ae)	Glyphosate	Monsanto
Select 2 EC	Clethodim	Valent USA Corp.
Sencor 75 DF	Metribuzin	Bayer CropScience
Spartan 75 DF	Sulfentrazone	FMC
Stalwart C 7.8 EC	Metolachlor	Sipcam Agro USA
SuppoRRt 75 DF	2, 4-DB	Cedar Chemical
Surpass 6.4 EC	Acetochlor & dichlormid	Dow AgroSciences
Topnotch 3.2 CS	Acetochlor & dichlormid	Dow AgroSciences
Touchdown KPMG 4.17 L (lb ae)	Glyphosate	Syngenta
Ultra Blazer 2 SL	Acifluorfen	BASF
V 10137 0.94 EC	V 10137	Valent USA Corp.
V 10139 1.6 EC	V 10139	Valent USA Corp.
Valor 51 WG	Flumioxazin	Valent USA Corp.
Weedone LV4 3.8 SL	2,4-D ester	Bayer CropScience

Prepackage Mixtures

Axiom 68 DF	Flufenacet & metribuzin	Bayer CropScience
Basis Gold 89.5 DF	Nicosulfuron & rimsulfuron & atrazine	Dupont
Bicep II Magnum 5.5 L	Atrazine & s-metolachlor & CGA-154281	Syngenta
Bicep Lite II Magnum 6 L	Atrazine & s-metolachlor & CGA-154281	Syngenta
Boundary 7.8 EC	S-metolachlor & metribuzin	Syngenta
Buctril+Atrazine 3 SC	Bromoxynil & atrazine	Bayer CropScience
Camix 3.67 SE	S-metolachlor & mesotrione	Syngenta
Canopy XL 56.3 DG	Sulfentrazone & chlorimuron	Dupont
Celebrity Plus 70 WG	Dicamba & diflufenzopyr & nicosulfuron	BASF
Cinch ATZ 5.5 L	Atrazine & s-metolachlor	Dupont
Cinch ATZ Lite 6 L	Atrazine & s-metolachlor	Dupont
Degree Xtra 4.04 CS	Acetochlor & safener & atrazine	Monsanto
Distinct 70 WG	Diflufenzopyr & dicamba	BASF
Domain 60 DF	Flufenacet & metribuzin	Bayer CropScience
Epic 58 DF	Flufenacet & isoxaflutole	Bayer CropScience
Extreme 2.17 SL	Imazethapyr & glyphosate	BASF
Fieldmaster 4.25 SE	Acetochlor & atrazine & glyphosate	Monsanto
FulTime 4 SC	Acetochlor & safener & atrazine	Dow AgroSciences
Fusion 2.66 EC	Fluazifop-P & fenoxaprop	Syngenta
Gangster	Cloransulam-methyl & flumioxazin	Valent USA Corp.

Products used in Weed Science Program – Year 2003 (continued)

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
Prepackage Mixtures		
G-Max Lite 5 SL	Dimethenamid-P & atrazine	BASF
Guardsman Max 5 SC	Dimethenamid-P & atrazine	BASF
Harness Xtra 5.6 EC	Acetochlor & safener & atrazine	Monsanto
Harness Xtra 6 SE	Acetochlor & safener & atrazine	Monsanto
Hornet WDG 68.5 WG	Flumetsulam & clopyralid	Dow AgroSciences
Keystone 5.25 SE	Acetochlor & atrazine	Dow AgroSciences
Keystone LA 5.5 SE	Acetochlor & atrazine	Dow AgroSciences
Laddok S12 5 FL	Bentazon & atrazine	Sipcam Agro USA
Leadoff 5 SL	Dimethenamid & atrazine	Dupont
Lumax 3.95 SE	S-metolachlor & mesotrione & atrazine	Syngenta
Marksman 3.2 FL	Dicamba & atrazine	BASF
Northstar 47.4 WG	Primisulfuron & dicamba	Syngenta
Spirit 57 WG	Prosulfuron & primisulfuron	Syngenta
Stalwart Xtra 5.5 L	Atrazine & metolachlor	Sipcam Agro USA
Steadfast 75 WG	Nicosulfuron & rimsulfuron	Dupont
Yukon 67.5 WDG	Halosulfuron & dicamba	Monsanto
Additives		
Classification		
AG01023	Adjuvant	Agrilience, LLC
Agridex	Crop oil concentrate	-
Alliance	Ammonium sulfate	Agrilience, LLC
AMS (ammonium sulfate)	Ammonium sulfate	Terra Industries
Between	Adjuvant	United Suppliers
Class Act NG (Next Generation)	Ammonium sulfate/non-ionic surfactant blend	Agrilience, LLC
COC (Herbimax Crop Oil Concentrate)	Oil-surfactant adjuvant	UAP-Loveland Ind.
Crop Booster for Soybeans	Foliar chelate for beans	Agrilience, LLC
MSO (Methylated Seed Oil)	Methylated seed oil plus surfactant	UAP-Loveland Ind.
NIS (Activator 90)	Non-ionic surfactant/penetrant	UAP-Loveland Ind.
Placement ProPak	Encapsulating drift control/deposition aid	Agrilience, LLC
Placement 28%N	Drift control agent and deposition aid Fluid fertilizer	Agrilience, LLC United Supplies

Temperature and Precipitation, 2003
Iowa State University - Agronomy Farm, Ames, IA

Date	April			May			June			July			August		
	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch
1	87	46		65	47		72	55		84	62		82	63	
2	82	49		66	32		58	50	0.36	87	64		80	59	
3	77	36		67	49		64	49		94	71		80	60	
4	36	26	0.07	55	47	1.67	72	51		85	64	0.20	81	58	
5	29	24	0.09	59	46		74	50		84	63	0.46	72	62	0.19
6	40	25	0.08	67	44	0.37	68	53	0.53	86	65	0.11	80	64	
7	30	27		68	47		69	51	0.32	86	69		83	62	
8	35	23		56	46	0.99	69	52	0.23	73	61	0.23	81	61	
9	50	21		69	51		77	53	0.10	81	66	1.32	81	58	
10	67	32		61	44	0.15	77	59		75	61		82	60	0.18
11	73	32		56	43		76	54		80	58		82	61	
12	71	39		67	44		74	60		78	59		78	59	
13	78	40		70	50	0.39	83	59		81	60		81	59	
14	88	53		73	52	0.18	86	62		86	63	0.06	82	61	
15	83	59		64	50		85	62		82	63		88	64	
16	67	41	0.01	69	45		86	65		84	60	0.01	92	64	
17	48	38		73	48		86	62		89	65		93	68	
18	50	40	0.02	75	54		85	67		78	63		92	72	
19	53	45		69	49		79	58		79	58		88	70	
20	49	43		61	42		78	52		83	65		92	70	0.01
21	62	43		66	39		81	55		77	62		84	63	
22	67	35		70	43		86	61		74	56		80	58	
23	66	42		68	51		88	71		77	53		83	60	
24	54	45	0.30	64	51		92	66	0.28	80	53		97	62	
25	70	44		75	47		79	59	0.55	88	60		97	67	
26	74	40		78	49		72	52		92	73		91	68	0.48
27	77	44		81	50		83	54		80	68	1.06	90	62	
28	71	49		80	60		80	59		82	65		86	69	
29	58	44		79	55		80	60		83	61		84	62	
30	55	48	0.96	87	57		83	58		82	65	0.05	73	56	
31				72	52					83	62		67	56	
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	62	39	1.53	69	48	3.75	78	57	2.37	82	63	3.50	84	63	0.86

Temperature and Precipitation, 2003
Iowa State University - Armstrong Farm, Lewis, IA

Date	April			May			June			July			August		
	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip
	max	min	inch	max	min	inch	max	min	inch	max	min	inch	max	min	inch
1	86	48		63	48		75	57		86	62		84	62	
2	85	47		69	49		57	49	0.37	89	65		83	63	
3	75	37		70	45		63	50		94	72		84	60	
4	37	28	0.16	60	51	1.22	70	49		89	70		84	58	
5	35	23	0.03	65	48	0.23	73	56	0.15	92	63	0.28	86	65	0.03
6	32	28	0.11	64	45	0.24	73	55	0.09	90	64	0.34	81	64	
7	32	26		70	43	0.01	65	51	0.15	90	72		85	61	
8	37	25	0.12	56	49	0.94	69	51	0.04	89	67	0.03	85	62	
9	55	21		69	51		83	52	0.65	83	67	0.78	85	60	
10	68	32	0.02	55	44	0.27	72	59		79	63		87	63	0.63
11	75	42		59	44		77	55		82	59		82	61	0.01
12	74	41		69	41	0.01	74	62		80	59		80	62	
13	82	49		77	52	0.67	85	59		84	61		82	61	
14	89	59		73	49	0.25	86	60		91	66		85	63	
15	81	61	0.09	62	46		84	64	0.37	86	67		90	66	
16	70	46	0.03	67	46		86	63		87	63		96	68	
17	50	42		73	46		85	63	0.00	93	71		97	70	
18	58	43	0.27	77	53		84	64	0.07	84	67	0.02	98	71	
19	53	44	0.47	65	46	0.24	79	59		81	67		96	70	0.01
20	49	43		60	41		77	56		92	66	0.24	96	68	
21	65	44		66	40		81	58		78	61		89	65	
22	69	39		72	46		83	65	0.01	78	58	0.08	85	60	
23	67	45	0.25	70	54		87	68	0.06	77	55	0.01	89	64	
24	51	48	0.14	59	53	0.10	90	71		82	56		97	65	
25	68	46		73	47		81	55	0.35	91	64		100	70	
26	71	43		78	54		76	51		96	73		96	70	
27	75	45		80	53	0.10	85	56	0.07	81	68	0.26	95	69	
28	70	49	0.20	82	59	0.09	83	60	0.05	82	66		85	71	
29	57	46	0.47	81	56	0.31	80	62		84	62		87	62	
30	58	49	1.42	84	59		82	56		85	65	0.11	72	58	
31				74	53					82	64		67	56	
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	62	41	3.78	69	49	4.68	78	58	2.43	86	65	2.15	87	64	0.68

Temperature and Precipitation, 2003
Iowa State University - McNay Memorial Farm, Chariton, IA

Date	April			May			June			July			August		
	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch
1	87	48		58	48		72	54		85	62		84	63	
2	82	50	0.02	65	46		56	50	0.41	88	63		84	61	
3	76	37		68	46		61	50	0.17	93	71		83	59	
4	37	27	0.11	59	50	1.63	70	50		88	73		81	58	
5	33	24		65	47	0.08	74	50	0.11	92	66	1.79	82	62	
6	39	26		70	47	0.03	69	54	0.38	88	65	0.01	82	63	
7	31	27		68	49	0.02	70	51	0.24	88	74		85	61	
8	35	24		61	46	0.02	69	52		84	71	0.11	85	60	
9	54	21		72	53		79	52	0.29	86	66	0.46	82	60	
10	66	29		64	45	0.13	74	62		76	64		84	60	0.20
11	74	36		56	45		77	56		81	60		84	65	0.35
12	73	39		68	44	0.01	78	61		80	59		78	60	
13	78	43		72	52	0.57	83	64	0.01	82	59		82	62	
14	85	55		76	50	0.25	85	58		89	65		84	64	
15	83	59		63	49		81	62		85	66		92	66	
16	68	42		66	46		84	60		84	60	0.20	97	67	
17	51	40		74	48		85	59		90	68		98	70	
18	53	41		72	54		82	65		82	70		97	71	
19	56	45	0.18	73	51		77	57		75	68		91	72	
20	50	43		60	43		78	52		86	65		99	73	0.02
21	62	45		64	39		81	55		79	63		92	69	
22	67	35		69	43		85	60		75	57		85	62	
23	66	42	0.04	69	54		88	68		78	52		86	63	
24	51	47	0.64	65	47	0.14	91	73		80	56		98	64	
25	66	43		75	46		85	64	0.21	88	62		102	68	
26	73	41		77	50		74	54		92	72		99	72	
27	76	46		81	46		84	54		82	72		95	69	0.11
28	71	49	0.20	81	59	0.05	82	63		83	65	0.36	86	70	0.10
29	56	47	0.36	77	51		80	62		83	59		88	67	
30	74	49	0.08	89	58		83	58		83	63		77	60	
31				73	52					84	63		66	57	0.56
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	62	40	1.63	69	49	2.93	78	58	1.82	84	64	2.93	87	64	1.34

Temperature and Precipitation, 2003
Iowa State University - Northeast Farm, Nashua, IA

Date	April			May			June			July			August		
	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch	temp °F max	temp °F min	precip inch
1	79	39		65	44		74	51		85	59		80	59	
2	76	39		65	50		61	50	0.17	88	63		79	57	0.20
3	49	32		67	43		68	49		94	69		79	59	0.12
4	32	21	0.27	49	46	1.25	72	49	0.07	87	67	0.51	80	56	
5	32	19		56	47		77	52		85	63	0.54	71	56	0.03
6	39	24		69	43		65	51	1.89	84	65	0.08	82	59	
7	30	26	0.45	62	47	0.96	69	50		84	64	0.24	83	60	
8	37	19		56	42	0.70	69	53	0.80	72	62	0.48	80	59	
9	46	14		67	51		76	50	0.49	74	61	0.44	83	56	
10	64	26		65	44	0.25	78	58	0.20	71	60	0.17	80	59	0.03
11	70	33		52	43		73	57		78	55	0.05	83	58	
12	68	37		65	44		79	53		79	56		79	54	
13	74	37		71	39		84	61	0.03	82	57		83	59	
14	89	52		72	52	0.34	83	62		82	62	0.07	85	61	
15	86	54		66	47		84	59		79	60		90	64	
16	66	36	0.54	71	43		85	60		81	55		92	64	
17	44	35		72	48		86	58		88	63		89	65	
18	49	38	0.49	77	52		85	64		78	58		92	66	
19	59	47	0.46	77	50		77	58		82	53		91	70	0.02
20	49	42	0.03	61	41		79	49		78	65	0.31	94	69	
21	59	39		64	40		83	52		75	58		84	60	
22	63	33		68	43	0.18	86	60		72	53		82	54	
23	68	38		66	44		88	68		76	50		86	57	
24	57	46		66	48		92	66	0.36	79	51		94	61	
25	70	38		75	43		78	58	1.93	86	61		98	68	0.09
26	74	39		77	47		71	53		89	71		92	63	
27	77	44		83	46		82	52	0.15	84	68		90	58	
28	69	46		79	55		79	61		83	64		91	64	
29	62	43		80	50		80	58		85	58		82	55	
30	53	47	1.60	84	53	0.21	84	56		84	63		74	56	
31				70	49					87	61	0.1	71	54	
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	60	36	3.84	68	46	3.89	78	56	6.09	82	60	2.99	84	60	0.49

Experiment Directory

Ames, IA corn experiments

- ACN 1 Balance Pro applied early preplant and preemergence, and followed by postemergence Option, Equip, and Distinct in no-tillage corn
- ACN 2 Preplant, preplant incorporated and preemergence applications of Balance Pro with Atrazine and Define in corn
- ACN 3 Evaluation of various preemergence followed by postemergence applied herbicides for crop phytotoxicity and weed control in no-tillage corn
- ACC 1 Option and Equip applied postemergence with various tank-mix partners for weed control in corn
- ACC 2 Postemergence applications in corn of reduced rates of Callisto in tank-mixture with Buctril plus Atrazine
- ACC 3 Evaluation of preemergence applied Define and Dual II Magnum for crop phytotoxicity and weed control in corn
- ACC 4 Lumax, Camix, Bicep II Magnum, Harness Extra, Keystone and other preemergence applied herbicides in corn
- ACC 5 Evaluation of preplant incorporated and preemergence applied herbicides for crop phytotoxicity and weed control in corn
- ACC 6 Preemergence applications of Balance Pro, Atrazine, Define, and Lumax for weed control in corn
- ACC 7 Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn
- ACC 8 Evaluation of postemergence application timings of Steadfast with Lumax or Camix for crop phytotoxicity and weed control in corn
- ACS 1 Postemergence applications of Prowl H2O, Outlook, Clarity, Distinct or Marksman with Roundup for weed control in corn
- ACS 2 Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in corn
- ACS 3 Postemergence applied Touchdown KPMG and Roundup WeatherMAX in corn
- ACS 4 Postemergence applications of Roundup WeatherMAX in tank-mixture with DPX-E9636, Cinch, Cinch ATZ and others for weed control in corn
- ACS 5 Preemergence applied Degree Xtra, Harness Xtra, and Atrazine followed by postemergence Roundup WeatherMAX for weed control in corn
- ACS 6 FulTime, Keystone, Surpass, Hornet WDG, Callisto, Glyphomax Plus, Glyphomax HC and other herbicides used in one or two-pass programs in corn
- ACS 7 Evaluation of postemergence applications of Option, Define, Liberty, Atrazine, and Equip for crop phytotoxicity and weed control in corn
- ACS 8 Preemergence applied Balance Pro, Define and others, and postemergence Liberty, Option, Atrazine, Equip, and Distinct performance in corn
- ACS 9 Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control
- ACP 1 Effect of postemergence applied herbicides on crop phytotoxicity and yield of eight popcorn varieties

Experiment Directory (continued)

Ames, IA corn experiments

- ACP 2 Effect of preemergence applied herbicides on crop phytotoxicity and yield of eight popcorn varieties
- ACP 3 Effect of 1X rates of postemergence applied herbicides on crop phytotoxicity and yield of five popcorn varieties
- ACP 4 Effect of 2X rates of postemergence applied herbicides on crop phytotoxicity of five popcorn varieties

Ames, IA soybean experiments

- ASN 1 Early preplant applications of Aim and Spartan with Roundup WeatherMAX or Weedone LV4 for weed control in no-tillage soybean
- ASC 1 Prowl formulations applied preplant incorporated and preemergence, and followed by Roundup WeatherMAX for weed control in soybean
- ASC 2 Domain and Canopy XL applied at various rates and as early preplant and preemergence timings for weed control in soybean
- ASC 3 Evaluation of herbicide programs for weed control in soybean
- ASC 4 Preemergence applied Valor and FirstRate followed by postemergence applications of Phoenix, FirstRate, Select or Glyphomax Plus in soybean
- ASC 5 Gangster, Pendimax, Python, FirstRate, Glyphomax Plus and Warrant used in one or two-pass programs in soybean
- ASC 6 Postemergence applied Select, Assure, and others in combination with Roundup WeatherMAX for glyphosate tolerant corn control in soybean
- ASC 7 Preemergence applied Axiom, Dual II Magnum and Authority and postemergence applied Ultra Blazer, Roundup WeatherMAX and Extreme in soybean
- ASC 8 Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in soybean
- ASC 9 Postemergence applications of Roundup WeatherMAX with various adjuvant systems for weed control in soybean
- ASC 10 Postemergence applied Touchdown KPMG and Roundup WeatherMAX in soybean
- ASC 11 Postemergence applied Arrow and Select alone and in tank-mixture with Flexstar, Raptor or FirstRate in soybean
- ASC 12 Postemergence applications of Phoenix, Harmony GT, Select, FirstRate and Raptor for weed control in soybean
- ASC 13 Evaluation of postemergence applications of SuppoRRt and Roundup Ultra for crop phytotoxicity and weed control in soybean

Lewis, IA corn experiments

- LCC 1 Evaluation of various preemergence and postemergence applied herbicides for woolly cupgrass control in corn
- LCC 2 Preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for woolly cupgrass control in corn

Experiment Directory (continued)

Lewis, IA soybean experiment

LSC 1 V10139 and Select applied postemergence in soybean for woolly cupgrass control

Chariton, IA fallow experiments

MNF 1 Weed control with early preplant applications of Aim, Weedone LV4, Bicep II Magnum, Guardsman Max, Harness Xtra, and Roundup WeatherMAX

MNF 2 Evaluation of burndown potential of Balance Pro with Atrazine, Weedone LV4 or Sencor

Nashua, IA corn experiments

NCC 1 Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control

NCC 2 Preemergence and postemergence applied herbicide combinations for weed control in corn

NCC 3 Evaluation of preplant incorporated and preemergence applied herbicides for crop phytotoxicity and weed control in corn

NCC 4 Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn

NCC 5 Lumax, Camix, Bicep Lite II Magnum, Harness Extra, Keystone LA and other preemergence applied herbicides in corn

Nashua, IA soybean experiment

NSC 1 Evaluation of various herbicide treatment combinations and application timings for crop phytotoxicity and weed control in soybean

Iowa State University

Balance Pro applied early preplant and preemergence, and followed by postemergence Option, Equip, and Distinct in no-tillage corn, Ames, IA, 2003.

Trial ID: ACN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 04-11-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate two-pass herbicide programs for crop phytotoxicity and weed control in no-tillage corn production. Balance Pro was applied early preplant and preemergence, and was followed by postemergence applications of Option, Equip, and Distinct.

Conclusions: Foxtail species were predominantly giant foxtail, followed by yellow and green. Foxtail, common lambsquarters, and Pennsylvania smartweed control was excellent with all EPP1, 2, and 3 application timings of Balance Pro plus Roundup WeatherMAX when observed on May 19. Balance Pro plus Roundup WeatherMAX applied EPP1 provided 83% common waterhemp control on May 19, while EPP2 and EPP3 treatments provided 88 to 95% control overall. All EPP treatment timings continued to provide good to excellent foxtail and Pennsylvania smartweed control just prior to MPOST applications on June 5. EPP1 treatments did not provide acceptable common waterhemp control on June 5, but EPP2 and EPP3 treatment timings did. Good to excellent foxtail and Pennsylvania smartweed control, fair common waterhemp and fair to good common lambsquarters control was observed on June 5 with PRE treatments of Roundup WeatherMAX.

MPOST treatments of Equip and Option with or without Distinct resulted in 0 to 8% corn injury when observed on June 13, eight days after application. No injury was evident on June 30, 25 days after application. MPOST applications following EPP and PRE treatments resulted in good to excellent weed control overall when observed on June 30. None of the treatment combinations, however, gave acceptable control of later germinating foxtail, common waterhemp or common lambsquarters control when observed on July 25. Pennsylvania smartweed was an exception, and all treatments gave excellent control on July 25. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETSS	FOXTAIL, SETARIA SP.	SETARIA SP.
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8550

Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED

Rate: 27700 SEEDS/A **Depth:** 1.5 IN

Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3

Tillage Type: NO-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: The experiment area was left un-tilled from the soybean cropping year 2002. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 75% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	04-11-03	04-25-03	05-02-03	05-19-03	06-05-03
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP1	EPP2	EPP3	PRE	MPOST
Applic. Placement:	BROSOI	BROSOI	BROSOI	BROSOI	BROFOL
Air Temp., Unit:	73 F	65 F	64 F	69 F	70 F
% Relative Humidity:	44	29	62	76	72
Wind Velocity, Unit:	8 MPH	13 MPH	3 MPH	12 MPH	5 MPH
Soil Temp., Unit:	47 F	51 F	56 F	62 F	64 F
Soil Moisture:	ADEQUATE	DAMP	DAMP	DAMP	DRY
% Cloud Cover:	0	20	80	100	90

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -	ZEAMD -	ZEAMD -	ZEAMD V2-V3
Stage Scale:	-	-	-	-	DESC
Height, Unit:	-	-	-	-	3 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETSS -	SETSS 1 LEAF	SETSS 1 LEAF	SETSS 1-4 LEAF	SETSS 1-4LF, 3T
Stage Scale:	-	0.25 IN	0.5 IN	0.5-1.5	0.5-3 IN
Density, Unit:	- -	0-5 FT2	5-10 FT2	5-10 FT2	0-10 FT2
Weed 2 Code, Stage:	AMATA -	AMATA COTYEDON	AMATA NUMEROUS	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.25 IN	0.25-0.5	0.5-1.5	0.5-5 IN
Density, Unit:	- -	0-5 FT2	0-20 FT2	5-20 FT2	0-15 FT2
Weed 3 Code, Stage:	CHEAL COTYLEDON	CHEAL COTYLEDON	CHEAL NUMEROUS	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	0.25 IN	0.5-0.75	0.5-1 IN	0.5-4 IN	1-4 IN
Density, Unit:	0-3 FT2	5-15 FT2	5-10 FT2	5-10 FT2	0-5 FT2
Weed 4 Code, Stage:	POLPY -	POLPY -	POLPY -	POLPY 2-8 LEAF	POLPY NUMEROUS
Stage Scale:	-	-	-	0.5-2 IN	2-5 IN
Density, Unit:	- -	- -	- -	0-1 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM	HAND BOOM	TERRA PRO
Operating Pressure:	25	25	25	25	25
Nozzle Type:	11003	11003	11003	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	14 GPA

Iowa State University

Balance Pro applied early preplant and preemergence, and followed by postemergence Option, Equip, and Distinct in no-tillage corn, Ames, IA, 2003.

Trial ID: ACN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									SETSS	AMATA	CHEAL	POLPY	ZEAMD	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									05-19-03	05-19-03	05-19-03	05-19-03	06-05-03	
Trt-Eval Interval									0 DA-D	0 DA-D	0 DA-D	0 DA-D	0 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Rate	Grow Unit	Stg	App Code				
1	Untreated										0	0	0	0
2	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1	A		95	83	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
3	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1	A		93	83	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
4	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2	B		92	90	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
5	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2	B		95	88	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
6	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3	C		98	95	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C					
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
7	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3	C		96	96	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C					
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
8	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D		0	0	0	0
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					
9	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D		0	0	0	0
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E					
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E					
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										SETSS CONTROL PERCENT 05-19-03 0 DA-D	AMATA CONTROL PERCENT 05-19-03 0 DA-D	CHEAL CONTROL PERCENT 05-19-03 0 DA-D	POLPY CONTROL PERCENT 05-19-03 0 DA-D	ZEAMD PHYGEN PERCENT 06-05-03 0 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Stg Stg	Appl Code					
10	Roundup WeatherMAX Distinct MSO 28% UAN	4.5 70	SL WG	0.77 0.0875	LB LB	AE/A A/A	22.0 2.0	FL OZ	OZ/A WT/A	PRE MPOST	D E	0	0	0	0
			L	1.5	PT/A		1.5	PT/A		MPOST	E				
			L	1.5	QT/A		1.5	QT/A		MPOST	E				
11	Roundup WeatherMAX Option MSO 28% UAN	4.5 35	SL WG	0.77 0.0328	LB LB	AE/A A/A	22.0 1.5	FL OZ	OZ/A WT/A	PRE MPOST	D E	0	0	0	0
			L	1.5	PT/A		1.5	PT/A		MPOST	E				
			L	1.5	QT/A		1.5	QT/A		MPOST	E				
12	Roundup WeatherMAX Equip MSO 28% UAN	4.5 32	SL WG	0.77 0.03	LB LB	AE/A A/A	22.0 1.5	FL OZ	OZ/A WT/A	PRE MPOST	D E	0	0	0	0
			L	1.5	PT/A		1.5	PT/A		MPOST	E				
			L	1.5	QT/A		1.5	QT/A		MPOST	E				
LSD (P=.05)											2.4	5.0	0.0	0.0	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETSS CONTROL PERCENT 06-05-03 0 DA-E	AMATA CONTROL PERCENT 06-05-03 0 DA-E	CHEAL CONTROL PERCENT 06-05-03 0 DA-E	POLPY CONTROL PERCENT 06-05-03 0 DA-E	ZEAMD PHYGEN PERCENT 06-13-03 8 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1 A	A	85	60	88	85	5
		4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1 A	A					
		35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
3	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1 A	A	88	63	88	92	8
		4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1 A	A					
		32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
4	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2 B	B	85	87	98	99	5
		4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2 B	B					
		35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
5	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2 B	B	95	88	99	99	5
		4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2 B	B					
		32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
6	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3 C	C	96	95	99	98	3
		4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3 C	C					
		35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
7	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3 C	C	92	96	99	99	5
		4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3 C	C					
		32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
8	Roundup WeatherMAX Option Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE D	D	95	78	80	88	5
		35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
9	Roundup WeatherMAX Equip Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE D	D	93	75	85	88	5
		32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST E	E					
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					
10	Roundup WeatherMAX Distinct MSO 28% UAN	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE D	D	96	82	85	93	0
		70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST E	E					
			L	1.5	PT/A	1.5	PT/A	MPOST E	E					
			L	1.5	QT/A	1.5	QT/A	MPOST E	E					

Iowa State University

Weed Code										SETSS	AMATA	CHEAL	POLPY	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-05-03	06-05-03	06-05-03	06-05-03	06-13-03
Trt-Eval Interval										0 DA-E	0 DA-E	0 DA-E	0 DA-E	8 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
11	Roundup WeatherMAX Option	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	95	77	87	92	5
	MSO	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	28% UAN		L	1.5	PT/A	1.5	PT/A	MPOST	E					
			L	1.5	QT/A	1.5	QT/A	MPOST	E					
12	Roundup WeatherMAX Equip	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	96	83	85	88	5
	MSO	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	28% UAN		L	1.5	PT/A	1.5	PT/A	MPOST	E					
			L	1.5	QT/A	1.5	QT/A	MPOST	E					
LSD (P=.05)										6.6	10.7	6.7	6.3	2.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYGEN PERCENT 06-30-03 25 DA-E	SETSS CONTROL PERCENT 06-30-03 25 DA-E	AMATA CONTROL PERCENT 06-30-03 25 DA-E	CHEAL CONTROL PERCENT 06-30-03 25 DA-E	POLPY CONTROL PERCENT 06-30-03 25 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4 4.5 35 70 L L	SC SL WG WG L L	0.0625 0.77 0.0328 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	2.0 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP1 EPP1 MPOST MPOST MPOST MPOST	A A E E E E	0	88	92	95	98
3	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4 4.5 32 70 L L	SC SL WG WG L L	0.0625 0.77 0.03 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	2.0 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP1 EPP1 MPOST MPOST MPOST MPOST	A A E E E E	0	90	93	98	99
4	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4 4.5 35 70 L L	SC SL WG WG L L	0.047 0.77 0.0328 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	1.5 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP2 EPP2 MPOST MPOST MPOST MPOST	B B E E E E	0	90	95	99	99
5	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4 4.5 32 70 L L	SC SL WG WG L L	0.047 0.77 0.03 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	1.5 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP2 EPP2 MPOST MPOST MPOST MPOST	B B E E E E	0	92	93	99	99
6	Balance Pro Roundup WeatherMAX Option Distinct MSO 28% UAN	4 4.5 35 70 L L	SC SL WG WG L L	0.047 0.77 0.0328 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	1.5 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP3 EPP3 MPOST MPOST MPOST MPOST	C C E E E E	0	93	93	99	98
7	Balance Pro Roundup WeatherMAX Equip Distinct MSO 28% UAN	4 4.5 32 70 L L	SC SL WG WG L L	0.047 0.77 0.03 0.0875 1.5 1.5	LB A/A LB AE/A LB A/A LB A/A PT/A QT/A	1.5 22.0 1.5 2.0 1.5 1.5	FL OZ/A FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	EPP3 EPP3 MPOST MPOST MPOST MPOST	C C E E E E	0	95	98	99	99
8	Roundup WeatherMAX Option Distinct MSO 28% UAN	4.5 35 70 L L	SL WG WG L L	0.77 0.0328 0.0875 1.5 1.5	LB AE/A LB A/A LB A/A PT/A QT/A	22.0 1.5 2.0 1.5 1.5	FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	PRE MPOST MPOST MPOST MPOST	D E E E E	0	92	95	99	98
9	Roundup WeatherMAX Equip Distinct MSO 28% UAN	4.5 32 70 L L	SL WG WG L L	0.77 0.03 0.0875 1.5 1.5	LB AE/A LB A/A LB A/A PT/A QT/A	22.0 1.5 2.0 1.5 1.5	FL OZ/A OZ WT/A OZ WT/A PT/A QT/A	PRE MPOST MPOST MPOST MPOST	D E E E E	0	95	96	99	99
10	Roundup WeatherMAX Distinct MSO 28% UAN	4.5 70 L L	SL WG L L	0.77 0.0875 1.5 1.5	LB AE/A LB A/A PT/A QT/A	22.0 2.0 1.5 1.5	FL OZ/A OZ WT/A PT/A QT/A	PRE MPOST MPOST MPOST	D E E E	0	65	93	96	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYGEN PERCENT 06-30-03 25 DA-E	SETSS CONTROL PERCENT 06-30-03 25 DA-E	AMATA CONTROL PERCENT 06-30-03 25 DA-E	CHEAL CONTROL PERCENT 06-30-03 25 DA-E	POLPY CONTROL PERCENT 06-30-03 25 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
11	Roundup WeatherMAX Option	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	0	92	91	98	94
	MSO	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E					
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	MPOST	E					
		L	L	1.5	QT/A	1.5	QT/A	MPOST	E					
12	Roundup WeatherMAX Equip	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	0	93	90	95	98
	MSO	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E					
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	MPOST	E					
		L	L	1.5	QT/A	1.5	QT/A	MPOST	E					
LSD (P=.05)										0.0	6.7	6.2	3.0	4.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETSS CONTROL PERCENT 07-25-03 50 DA-E	AMATA CONTROL PERCENT 07-25-03 50 DA-E	CHEAL CONTROL PERCENT 07-25-03 50 DA-E	POLPY CONTROL PERCENT 07-25-03 50 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1	A	72	52	42	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A				
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
3	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	EPP1	A	63	60	52	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A				
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
4	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2	B	65	45	57	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B				
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
5	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP2	B	68	53	75	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B				
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
6	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3	C	68	38	70	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C				
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
7	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPP3	C	65	52	77	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C				
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
8	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	65	40	50	96
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
9	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	62	48	83	99
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E				
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				
10	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	45	47	57	99
	Distinct	70	WG	0.0875	LB A/A	2.0	OZ WT/A	MPOST	E				
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	E				
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	E				

Iowa State University

Weed Code										SETSS	AMATA	CHEAL	POLPY
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-25-03	07-25-03	07-25-03	07-25-03
Trt-Eval Interval										50 DA-E	50 DA-E	50 DA-E	50 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
11	Roundup WeatherMAX Option	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	52	42	57	96
	MSO	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	E				
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	MPOST	E				
		L	L	1.5	QT/A	1.5	QT/A	MPOST	E				
12	Roundup WeatherMAX Equip	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	D	57	40	75	98
	MSO	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	E				
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	MPOST	E				
		L	L	1.5	QT/A	1.5	QT/A	MPOST	E				
LSD (P=.05)										14.0	17.1	17.7	3.4

Iowa State University

Preplant, preplant incorporated and preemergence applications of Balance Pro with Atrazine and Define in corn, Ames, IA, 2003.

Trial ID: ACN 2
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 04-25-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate weed control and crop injury from Balance Pro tank-mixes with Atrazine and Define. Treatments were applied early preplant, preplant incorporated and preemergence.

Conclusions: All treatments demonstrated excellent crop safety when observed on May 30 and June 21. Giant foxtail, velvetleaf, common waterhemp and common lambsquarters control was good to excellent with PPI, EPP and PRE treatments when observed on May 30 and June 21. An exception was Roundup WeatherMAX applied PPI, without a residual herbicide. All treatments, except PPI Roundup WeatherMAX, continued to provide good to excellent control of giant foxtail, velvetleaf and common lambsquarters control when observed on July 18. Unacceptable common waterhemp control was observed on July 18 with PPI Roundup WeatherMAX, EPP Balance Pro plus Atrazine plus Roundup WeatherMAX, and Balance Pro plus Define plus Atrazine plus Roundup WeatherMAX. All other treatments provided good to excellent control. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8550
Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: NO-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: The experiment area was left un-tilled from the soybean cropping year 2002. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 75% at planting. Preplant treatments (PPI) were incorporated one pass with a field cultivator operating 2 to 3 inches deep.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A	B	C
Application Date:	04-25-03	05-18-03	05-19-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	EPP	PPI	PRE
Applic. Placement:	BROSIOI	BROSIOI	BROSIOI
Air Temp., Unit:	65 F	73 F	69 F
% Relative Humidity:	29	64	76
Wind Velocity, Unit:	13 MPH	3 MPH	12 MPH
Soil Temp., Unit:	51 F	62 F	62 F
Soil Moisture:	DAMP	DAMP	DAMP
% Cloud Cover:	20	60	100

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -	ZEAMD -
Stage Scale:	-	-	-
	-	-	-

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA 1 LEAF	SETFA 1-3 LEAF	SETFA 1-3 LEAF
Stage Scale:	0.25 IN	0.5-1 IN	0.5-1 IN
Density, Unit:	0-5 FT2	0-5 FT2	0-5 FT2
Weed 2 Code, Stage:	ABUTH COTYLEDON	ABUTH COTYL-1	ABUTH COTYL-1
Stage Scale:	0.5 IN	0.5 IN	0.5 IN
Density, Unit:	0-1 FT2	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA COTYLEDON	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	0.25 IN	0.5-1 IN	0.5-1 IN
Density, Unit:	0-5 FT2	5-30 FT2	5-30 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	0.5-0.75	0.5-3 IN	0.5-3 IN
Density, Unit:	5-15 FT2	5-10 FT2	5-10 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	25	25	25
Nozzle Type:	11003	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Preplant, preplant incorporated and preemergence applications of Balance Pro with Atrazine and Define in corn, Ames, IA, 2003.

Trial ID: ACN 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	SETFA	ABUTH	AMATH	CHEAL		
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								05-30-03	05-30-03	05-30-03	05-30-03	05-30-03		
Trt-Eval Interval								11 DA-C	11 DA-C	11 DA-C	11 DA-C	11 DA-C		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code					
1	Untreated (no tillage)									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PPI	B	0	98	98	95	99
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PPI	B					
3	Balance Pro	4	SC	0.109	LB A/A	3.5	FL OZ/A	EPP	A	0	99	99	99	99
	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	EPP	A					
4	Balance Pro	4	SC	0.094	LB A/A	3.0	FL OZ/A	PPI	B	0	99	99	98	99
	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	PPI	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PPI	B					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PPI	B					
5	Balance Pro	4	SC	0.094	LB A/A	3.0	FL OZ/A	PRE	C	0	99	99	99	98
	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PRE	C					
6	Balance Pro	4	SC	0.082	LB A/A	2.63	FL OZ/A	EPP	A	0	98	99	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	EPP	A					
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	EPP	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	EPP	A					
7	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A	PPI	B	0	99	99	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PPI	B					
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PPI	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PPI	B					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PPI	B					
8	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	C	0	99	99	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PRE	C					
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PRE	C					
9	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	EPP	A	0	99	99	99	99
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A	EPP	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	EPP	A					
10	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PPI	B	0	99	99	99	99
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A	PPI	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PPI	B					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PPI	B					
11	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	C	0	98	99	99	99
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
			L	5.0	GAL/100 GAL	5.0	GAL/100 GAL	PRE	C					
LSD (P=.05)								0.0	2.1	1.2	1.2	1.2		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 06-21-03 33 DA-C	SETFA CONTROL PERCENT 06-21-03 33 DA-C	ABUTH CONTROL PERCENT 06-21-03 33 DA-C	AMATH CONTROL PERCENT 06-21-03 33 DA-C	CHEAL CONTROL PERCENT 06-21-03 33 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated (no tillage)									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5 L	SL	0.77 5.0	LB AE/A GAL/100 GAL	22.0 5.0	FL OZ/A GAL/100 GAL	PPI PPI	B B	0	67	30	28	30
3	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5 L	SC DF SL	0.109 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.5 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP	A A A A	0	90	96	85	96
4	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5 L	SC DF SL	0.094 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI	B B B B	0	96	99	93	98
5	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5 L	SC DF SL	0.094 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE	C C C C	0	98	99	98	98
6	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5 L	SC SC DF SL	0.082 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.63 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP EPP	A A A A A	0	96	99	96	98
7	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5 L	SC SC DF SL	0.07 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.25 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI PPI	B B B B B	0	99	99	96	99
8	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5 L	SC SC DF SL	0.07 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.25 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE PRE	C C C C C	0	99	99	99	99
9	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5 L	SE DF SL	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP	A A A A	0	99	98	99	99
10	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5 L	SE DF SL	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI	B B B B	0	96	99	95	99
11	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5 L	SE DF SL	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE	C C C C	0	98	99	99	99
LSD (P=.05)										0.0	3.7	7.6	3.9	2.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										SETFA CONTROL PERCENT 07-18-03 60 DA-C	ABUTH CONTROL PERCENT 07-18-03 60 DA-C	AMATH CONTROL PERCENT 07-18-03 60 DA-C	CHEAL CONTROL PERCENT 07-18-03 60 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated (no tillage)									0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL L	0.77 5.0	LB AE/A GAL/100 GAL	22.0 5.0	FL OZ/A GAL/100 GAL	PPI PPI	B B	67	27	17	25
3	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5	SC DF SL L	0.109 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.5 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP	A A A A	90	91	42	96
4	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5	SC DF SL L	0.094 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI	B B B B	93	98	87	98
5	Balance Pro Atrazine Roundup WeatherMAX AMS	4 90 4.5	SC DF SL L	0.094 1.0 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 1.11 22.0 5.0	FL OZ/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE	C C C C	93	95	93	98
6	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5	SC SC DF SL L	0.082 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.63 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP EPP	A A A A A	92	99	67	98
7	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5	SC SC DF SL L	0.07 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.25 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI PPI	B B B B B	98	99	95	98
8	Balance Pro Define Atrazine Roundup WeatherMAX AMS	4 4 90 4.5	SC SC DF SL L	0.07 0.53 1.5 0.77 5.0	LB A/A LB A/A LB A/A LB AE/A GAL/100 GAL	2.25 17.0 1.67 22.0 5.0	FL OZ/A FL OZ/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE PRE	C C C C C	98	98	96	99
9	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5	SE DF SL L	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	EPP EPP EPP EPP	A A A A	95	94	90	99
10	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5	SE DF SL L	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	PPI PPI PPI PPI	B B B B	95	98	95	98
11	Lumax Atrazine Roundup WeatherMAX AMS	3.95 90 4.5	SE DF SL L	2.96 0.75 0.77 5.0	LB A/A LB A/A LB AE/A GAL/100 GAL	3.0 0.83 22.0 5.0	QT/A LB/A FL OZ/A GAL/100 GAL	PRE PRE PRE PRE	C C C C	96	98	99	99
LSD (P=.05)										3.0	11.5	9.6	3.7

Iowa State University

Evaluation of various preemergence followed by postemergence applied herbicides for crop phytotoxicity and weed control in no-tillage corn, Ames, IA, 2003.

Trial ID: ACN 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-21-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for crop phytotoxicity and weed control in corn.
Conclusions: No corn injury was observed on June 6 and 30 from the PRE applied treatments. Good to excellent giant foxtail and common waterhemp control was achieved with the PRE treatment combinations on June 30. Velvetleaf control was good to excellent with Balance Pro plus Field Master, Balance Pro plus Harness Xtra plus Roundup WeatherMAX, Balance Pro plus Degree Xtra plus Roundup WeatherMAX, and Lumax plus Roundup WeatherMAX. Remaining treatments provided only poor to fair velvetleaf control. Common lambsquarters control was excellent on June 30 with all treatments except Degree plus Roundup WeatherMAX and Harness plus Roundup WeatherMAX.

POST applications of Yukon and Permit caused 7 to 8% corn injury when observed on July 10, ten days after application. Negligible injury was noted on July 23 from these treatments. Giant foxtail control on July 23 remained acceptable with all treatments and continued with nearly all treatments when observed on August 27. All treatments continued to provide good to excellent common waterhemp control on July 23 and August 27. Common lambsquarters control on July 23 with POST Yukon following PRE Degree and Harness improved from the June 30 observation date, and all treatments now provided excellent control. Good to excellent common lambsquarters control remained evident with all treatments on August 27. Following POST applications of Yukon and Permit, velvetleaf control improved and was good to excellent with nearly all treatments when observed on July 23 and August 27. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8550

Planting Date: 05-21-03 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: The experiment area was left un-tilled from the soybean cropping year 2002. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 75% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B
Application Date:	05-25-03	06-30-03
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	65 F	80 F
% Relative Humidity:	49	42
Wind Velocity, Unit:	3 MPH	3 MPH
Soil Temp., Unit:	61 F	73 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	0	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V6-9
Stage Scale:	-	DESC
Height, Unit:	-	24 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA 1-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	0.5-3 IN	0.5-5 IN
Density, Unit:	0-20 FT2	0-3 FT2
Weed 2 Code, Stage:	ABUTH COTYL-2	ABUTH 4-8 LEAF
Stage Scale:	0.5-1 IN	3-8 IN
Density, Unit:	0-1 FT2	0-2 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	0.5-2 IN	1-3 IN
Density, Unit:	0-15 FT2	0-2 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	0.5-4 IN	4 IN
Density, Unit:	5-15 FT2	0-30 FT2

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	HAND BOOM	HAND BOOM
Operating Pressure:	25	25
Nozzle Type:	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Evaluation of various preemergence followed by postemergence applied herbicides for crop phytotoxicity and weed control in no-tillage corn, Ames, IA, 2003.

Trial ID: ACN 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code				ZEAMD	ZEAMD	SETFA	ABUTH	AMATH	CHEAL							
Rating Data Type				PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL							
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT							
Rating Date				06-06-03	06-30-03	06-30-03	06-30-03	06-30-03	06-30-03							
Trt-Eval Interval				12 DA-A	36 DA-A	36 DA-A	36 DA-A	36 DA-A	36 DA-A							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Grow Unit	Stg	Appl Code						
1	Untreated										0	0	0	0	0	0
2	Degree	3.8	CS	2.2	LB A/A	4.63	PT/A	PRE	A		0	0	95	40	98	75
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
3	Degree Xtra	4.04	CS	3.7	LB A/A	3.66	QT/A	PRE	A		0	0	96	78	99	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
4	Harness	7	EC	2.19	LB A/A	2.5	PT/A	PRE	A		0	0	95	27	96	77
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
5	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A		0	0	95	65	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
6	Degree Xtra	4.04	CS	3.7	LB A/A	3.66	QT/A	PRE	A		0	0	95	72	99	96
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Permit	75	DF	0.0314	LB A/A	0.67	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
7	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A		0	0	93	78	98	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
	Permit	75	DF	0.0314	LB A/A	0.67	OZ WT/A	POST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B							
8	Field Master	4.25	SE	4.8	LB A/A	4.5	QT/A	PRE	A		0	0	93	80	99	99
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
9	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A		0	0	95	99	99	99
	Field Master	4.25	SE	4.25	LB A/A	4.0	QT/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
10	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A		0	0	95	93	99	99
	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
11	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A		0	0	95	98	99	99
	Degree Xtra	4.04	CS	3.7	LB A/A	3.66	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
12	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A		0	0	93	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	A							
	AMS		DF	2.0	% W/V	2.0	% W/V	PRE	A							
LSD (P=.05)											0.0	0.0	2.4	26.9	1.8	7.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD PHYGEN PERCENT 07-10-03 10 DA-B	ZEAMD PHYGEN PERCENT 07-23-03 23 DA-B	SETFA CONTROL PERCENT 07-23-03 23 DA-B	ABUTH CONTROL PERCENT 07-23-03 23 DA-B	AMATH CONTROL PERCENT 07-23-03 23 DA-B	CHEAL CONTROL PERCENT 07-23-03 23 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Degree Roundup WeatherMAX AMS Yukon NIS	3.8 4.5 DF 67.5	CS SL DF WG L	2.2 0.77 2.0 0.169 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	4.63 22.0 2.0 4.0 0.25	PT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	7	2	90	90	99	95
3	Degree Xtra Roundup WeatherMAX AMS Yukon NIS	4.04 4.5 DF 67.5	CS SL DF WG L	3.7 0.77 2.0 0.169 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	3.66 22.0 2.0 4.0 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	8	3	95	95	99	99
4	Harness Roundup WeatherMAX AMS Yukon NIS	7 4.5 DF 67.5	EC SL DF WG L	2.19 0.77 2.0 0.169 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	2.5 22.0 2.0 4.0 0.25	PT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	8	3	90	88	96	98
5	Harness Xtra Roundup WeatherMAX AMS Yukon NIS	6 4.5 DF 67.5	SE SL DF WG L	3.45 0.77 2.0 0.169 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	2.3 22.0 2.0 4.0 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	8	3	90	96	99	99
6	Degree Xtra Roundup WeatherMAX AMS Permit NIS	4.04 4.5 DF 75	CS SL DF DF L	3.7 0.77 2.0 0.0314 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	3.66 22.0 2.0 0.67 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	8	2	93	95	99	95
7	Harness Xtra Roundup WeatherMAX AMS Permit NIS	6 4.5 DF 75	SE SL DF DF L	3.45 0.77 2.0 0.0314 0.25	LB A/A LB AE/A % W/V LB A/A % V/V	2.3 22.0 2.0 0.67 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	7	2	90	91	99	98
8	Field Master AMS	4.25 DF	SE DF	4.8 2.0	LB A/A % W/V	4.5 2.0	QT/A % W/V	PRE PRE	A A	0	0	88	70	98	98
9	Balance Pro Field Master AMS	4 4.25 DF	SC SE DF	0.047 4.25 2.0	LB A/A LB A/A % W/V	1.5 4.0 2.0	FL OZ/A QT/A % W/V	PRE PRE PRE	A A A	0	0	90	96	99	99
10	Balance Pro Harness Xtra Roundup WeatherMAX AMS	4 6 4.5 DF	SC SE SL DF	0.047 3.45 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 2.3 22.0 2.0	FL OZ/A QT/A FL OZ/A % W/V	PRE PRE PRE PRE	A A A A	0	0	93	93	99	99
11	Balance Pro Degree Xtra Roundup WeatherMAX AMS	4 4.04 4.5 DF	SC CS SL DF	0.047 3.7 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 3.66 22.0 2.0	FL OZ/A QT/A FL OZ/A % W/V	PRE PRE PRE PRE	A A A A	0	0	95	96	98	99
12	Lumax Roundup WeatherMAX AMS	3.95 4.5 DF	SE SL DF	2.96 0.77 2.0	LB A/A LB AE/A % W/V	3.0 22.0 2.0	QT/A FL OZ/A % W/V	PRE PRE PRE	A A A	0	0	87	98	99	99
LSD (P=.05)										3.2	3.4	5.8	13.4	2.0	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 08-27-03 58 DA-B	ABUTH CONTROL PERCENT 08-27-03 58 DA-B	AMATH CONTROL PERCENT 08-27-03 58 DA-B	CHEAL CONTROL PERCENT 08-27-03 58 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Degree Roundup WeatherMAX AMS Yukon NIS	3.8 4.5 67.5	CS SL WG L	2.2 0.77 2.0 0.169 0.25	LB AE/A % W/V LB A/A % V/V	4.63 22.0 2.0 4.0 0.25	PT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	85	88	99	95
3	Degree Xtra Roundup WeatherMAX AMS Yukon NIS	4.04 4.5 67.5	CS SL DF WG L	3.7 0.77 2.0 0.169 0.25	LB AE/A % W/V LB A/A % V/V	3.66 22.0 2.0 4.0 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	93	95	98	99
4	Harness Roundup WeatherMAX AMS Yukon NIS	7 4.5 67.5	EC SL DF WG L	2.19 0.77 2.0 0.169 0.25	LB AE/A % W/V LB A/A % V/V	2.5 22.0 2.0 4.0 0.25	PT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	85	85	93	98
5	Harness Xtra Roundup WeatherMAX AMS Yukon NIS	6 4.5 67.5	SE SL DF WG L	3.45 0.77 2.0 0.169 0.25	LB AE/A % W/V LB A/A % V/V	2.3 22.0 2.0 4.0 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	85	93	96	99
6	Degree Xtra Roundup WeatherMAX AMS Permit NIS	4.04 4.5 75	CS SL DF DF L	3.7 0.77 2.0 0.0314 0.25	LB AE/A % W/V LB A/A % V/V	3.66 22.0 2.0 0.67 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	90	95	98	92
7	Harness Xtra Roundup WeatherMAX AMS Permit NIS	6 4.5 75	SE SL DF DF L	3.45 0.77 2.0 0.0314 0.25	LB AE/A % W/V LB A/A % V/V	2.3 22.0 2.0 0.67 0.25	QT/A FL OZ/A % W/V OZ WT/A % V/V	PRE PRE PRE POST POST	A A A B B	87	88	96	98
8	Field Master AMS	4.25	SE DF	4.8 2.0	LB A/A % W/V	4.5 2.0	QT/A % W/V	PRE PRE	A A	80	68	98	98
9	Balance Pro Field Master AMS	4 4.25	SC SE DF	0.047 4.25 2.0	LB A/A LB A/A % W/V	1.5 4.0 2.0	FL OZ/A QT/A % W/V	PRE PRE PRE	A A A	83	96	98	99
10	Balance Pro Harness Xtra Roundup WeatherMAX AMS	4 6 4.5	SC SE SL DF	0.047 3.45 0.77 2.0	LB A/A LB A/A AE/A % W/V	1.5 2.3 22.0 2.0	FL OZ/A QT/A FL OZ/A % W/V	PRE PRE PRE PRE	A A A A	90	95	98	99
11	Balance Pro Degree Xtra Roundup WeatherMAX AMS	4 4.04 4.5	SC CS SL DF	0.047 3.7 0.77 2.0	LB A/A LB A/A AE/A % W/V	1.5 3.66 22.0 2.0	FL OZ/A QT/A FL OZ/A % W/V	PRE PRE PRE PRE	A A A A	92	96	96	99
12	Lumax Roundup WeatherMAX AMS	3.95 4.5	SE SL DF	2.96 0.77 2.0	LB A/A LB AE/A % W/V	3.0 22.0 2.0	QT/A FL OZ/A % W/V	PRE PRE PRE	A A A	85	98	99	99
LSD (P=.05)										8.2	13.4	3.4	3.3

Iowa State University

Option and Equip applied postemergence with various tank-mix partners for weed control in corn, Ames, IA, 2003.

Trial ID: ACC 1
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-19-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate early postemergence applications of Option and Equip with various tank-mix partners for crop phytotoxicity and weed control in corn.

Conclusions: Differences between treatments in corn stand were not significant. Most EPOST treatments caused corn injury when observed on June 19, ten days after application. Giant foxtail, velvetleaf, common waterhemp, common lambsquarters, and ivyleaf morningglory control was good to excellent with all of the tank-mix treatment combinations when evaluated on June 24. Distinct applied alone provided fair giant foxtail control, while Option and Equip alone provided fair common waterhemp control. No corn injury was observed on July 14, 35 days after application. No treatment provided acceptable giant foxtail control on July 14. Heavy grass pressure was present in the experiment area and new germination followed the EPOST application timing. Velvetleaf, common waterhemp and common lambsquarters control remained good to excellent on July 14 with all of the tank-mixture treatments. Only poor to fair ivyleaf morningglory control was observed for all of the treatments on July 14. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8550
Planting Date: 05-19-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	06-09-03
Application Method:	SPRAY
Application Timing:	EPOST
Applic. Placement:	BROFOL
Air Temp., Unit:	77 F
% Relative Humidity:	68
Wind Velocity, Unit:	2 MPH
Soil Temp., Unit:	67 F
Soil Moisture:	DRY
% Cloud Cover:	90

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V3
Stage Scale:	DESC
Height, Unit:	4 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 LEAF
Stage Scale:	0.5-3 IN
Density, Unit:	25 FT2
Weed 2 Code, Stage:	ABUTH COTYL-4
Stage Scale:	0.5-3 IN
Density, Unit:	0-1 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	0.5-2 IN
Density, Unit:	0-15 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	1-1.5 IN
Density, Unit:	0-5 FT2
Weed 5 Code, Stage:	IPOHE COTYL-4
Stage Scale:	0.5-2 IN
Density, Unit:	0-1 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 07-23-03 44 DA-A	ZEAMD PHYGEN PERCENT 06-19-03 10 DA-A	ZEAMD PHYGEN PERCENT 06-24-03 15 DA-A	SETFA CONTROL PERCENT 06-24-03 15 DA-A	ABUTH CONTROL PERCENT 06-24-03 15 DA-A	AMATH CONTROL PERCENT 06-24-03 15 DA-A	CHEAL CONTROL PERCENT 06-24-03 15 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
14	Option Define	35	WG	0.0328	LB A/A	1.5	OZ WT/A	EPOST A		27	2	0	95	98	93	99
	Atrazine	4	SC	0.297	LB A/A	9.5	FL OZ/A	EPOST A								
	MSO	4	L	1.0	LB A/A	1.0	QT/A	EPOST A								
	28% UAN	L		1.5	PT/A	1.5	PT/A	EPOST A								
		L		1.5	QT/A	1.5	QT/A	EPOST A								
15	Equip Define	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST A		25	2	0	93	98	98	99
	Atrazine	4	SC	0.297	LB A/A	9.5	FL OZ/A	EPOST A								
	MSO	4	L	1.0	LB A/A	1.0	QT/A	EPOST A								
	28% UAN	L		1.5	PT/A	1.5	PT/A	EPOST A								
		L		1.5	QT/A	1.5	QT/A	EPOST A								
16	Steadfast Callisto	75	WG	0.035	LB A/A	0.75	OZ WT/A	EPOST A		24	0	0	95	99	99	99
	Atrazine	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST A								
	COC	4	L	0.5	LB A/A	0.5	QT/A	EPOST A								
	28% UAN	L		1.0	QT/A	1.0	QT/A	EPOST A								
		L		1.5	QT/A	1.5	QT/A	EPOST A								
17	Distinct MSO	70	WG	0.131	LB A/A	3.0	OZ WT/A	EPOST A		27	5	5	68	93	95	98
	28% UAN	L		1.5	PT/A	1.5	PT/A	EPOST A								
		L		1.5	QT/A	1.5	QT/A	EPOST A								
18	Distinct MSO	70	WG	0.262	LB A/A	6.0	OZ WT/A	EPOST A		25	10	12	73	95	96	99
	28% UAN	L		1.5	PT/A	1.5	PT/A	EPOST A								
		L		1.5	QT/A	1.5	QT/A	EPOST A								
LSD (P=.05)										3.2	2.9	1.1	3.1	10.1	9.9	2.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									IPOHE CONTROL PERCENT 06-24-03 15 DA-A	ZEAMD PHYGEN PERCENT 07-14-03 35 DA-A	SETFA CONTROL PERCENT 07-14-03 35 DA-A	ABUTH CONTROL PERCENT 07-14-03 35 DA-A	AMATH CONTROL PERCENT 07-14-03 35 DA-A	CHEAL CONTROL PERCENT 07-14-03 35 DA-A	IPOHE CONTROL PERCENT 07-14-03 35 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
15	Equip Define	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST A	A	95	0	62	96	98	98	58
	Atrazine	4	SC	0.297	LB A/A	9.5	FL OZ/A	EPOST A	A							
	MSO	4	L	1.0	LB A/A	1.0	QT/A	EPOST A	A							
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	EPOST A	A							
	28% UAN	L	L	1.5	QT/A	1.5	QT/A	EPOST A	A							
16	Steadfast Callisto	75	WG	0.035	LB A/A	0.75	OZ WT/A	EPOST A	A	95	0	38	99	99	99	62
	Atrazine	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST A	A							
	COC	4	L	0.5	LB A/A	0.5	QT/A	EPOST A	A							
	28% UAN	L	L	1.0	QT/A	1.0	QT/A	EPOST A	A							
	28% UAN	L	L	1.5	QT/A	1.5	QT/A	EPOST A	A							
17	Distinct MSO	70	WG	0.131	LB A/A	3.0	OZ WT/A	EPOST A	A	93	5	45	96	96	99	77
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	EPOST A	A							
	28% UAN	L	L	1.5	QT/A	1.5	QT/A	EPOST A	A							
18	Distinct MSO	70	WG	0.262	LB A/A	6.0	OZ WT/A	EPOST A	A	93	12	53	96	95	99	78
	28% UAN	L	L	1.5	PT/A	1.5	PT/A	EPOST A	A							
	28% UAN	L	L	1.5	QT/A	1.5	QT/A	EPOST A	A							
LSD (P=.05)										5.3	1.1	8.1	10.2	15.0	2.8	32.0

Iowa State University

Postemergence applications in corn of reduced rates of Callisto in tank-mixture with Buctril plus Atrazine, Ames, IA, 2003.

Trial ID: ACC 2
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-19-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate postemergence applications of reduced rates of Callisto in tank-mixture with Buctril plus Atrazine for crop phytotoxicity and weed control in corn. Treatments were applied with and without crop oil concentrate and 28% UAN.

Conclusions: Significant differences between treatments in corn stand were observed on August 6. These differences were not attributable to herbicide treatment, but rather to variable emergence and cutworm damage. All POST applied treatments caused corn injury when observed on the various dates. POST Buctril + Atrazine resulted in 3% corn injury on June 21 and 28, while Buctril + Atrazine with COC and 28% UAN resulted in 10% injury. Generally, the addition of COC and 28% UAN to the various tank-mixture treatments of Callisto and Buctril + Atrazine caused more corn injury than those without. Define was applied PRE to control grass in the experiment area. Velvetleaf and common waterhemp control was excellent with all treatments when observed on June 28 and continued so through the remaining observation dates. No significant differences between treatments were determined. Ivyleaf morningglory control was good to excellent with all treatments on June 28. However, when observed on subsequent evaluation dates the treatments provided fair to good control. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8550
Planting Date: 05-19-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A	B
Application Date:	05-24-03	06-18-03
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	63 F	80 F
% Relative Humidity:	52	65
Wind Velocity, Unit:	2 MPH	8 MPH
Soil Temp., Unit:	58 F	76 F
Soil Moisture:	DAMP	DAMP
% Cloud Cover:	40	50

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V5
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ABUTH -	ABUTH 2-4 LEAF
Stage Scale:	-	2-4 IN
Density, Unit:	- -	0-1 FT2
Weed 2 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	2-5 IN
Density, Unit:	- -	0-2 FT2
Weed 3 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	2-5 IN
Density, Unit:	- -	1-5 FT2
Weed 4 Code, Stage:	IPOHE -	IPOHE NUMEROUS
Stage Scale:	-	1-5 IN
Density, Unit:	- -	0-2 FT2

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	25
Nozzle Type:	11002	11002
Spray Volume, Unit:	14 GPA	20 GPA

Iowa State University

Postemergence applications in corn of reduced rates of Callisto in tank-mixture with Buctril plus Atrazine, Ames, IA, 2003.

Trial ID: ACC 2
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	ZEAMD	ABUTH	AMATH	CHEAL
Rating Data Type										STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit										17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-06-03	06-21-03	06-28-03	06-28-03	06-28-03	06-28-03
Trt-Eval Interval										74 DA-A	3 DA-B	10 DA-B	10 DA-B	10 DA-B	10 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Unit	Appl Stg	Appl Code						
1	Untreated									22	0	0	0	0	0
2	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	3	3	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
3	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		26	10	10	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
	28% UAN	L		2.5 % V/V	2.5 % V/V	2.5 % V/V	POST	B							
4	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0078 LB A/A	0.25 FL OZ/A	0.25 FL OZ/A	POST	B							
5	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		26	10	10	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0078 LB A/A	0.25 FL OZ/A	0.25 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
6	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		22	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0156 LB A/A	0.5 FL OZ/A	0.5 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
7	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		26	10	10	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0156 LB A/A	0.5 FL OZ/A	0.5 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
8	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		23	8	8	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0235 LB A/A	0.75 FL OZ/A	0.75 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
9	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0234 LB A/A	0.75 FL OZ/A	0.75 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
10	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		25	10	10	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0312 LB A/A	1.0 FL OZ/A	1.0 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
11	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		25	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.0312 LB A/A	1.0 FL OZ/A	1.0 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
12	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.047 LB A/A	1.5 FL OZ/A	1.5 FL OZ/A	POST	B							
13	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	8	8	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.047 LB A/A	1.5 FL OZ/A	1.5 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
13	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	8	8	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.047 LB A/A	1.5 FL OZ/A	1.5 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							
13	Define	4	SC	0.78 LB A/A	25.0 FL OZ/A	25.0 FL OZ/A	PRE	A		27	8	8	99	99	99
	Buctril + Atrazine	3	SC	0.75 LB A/A	2.0 PT/A	2.0 PT/A	POST	B							
	Callisto	4	SC	0.047 LB A/A	1.5 FL OZ/A	1.5 FL OZ/A	POST	B							
	COC	L		1.0 % V/V	1.0 % V/V	1.0 % V/V	POST	B							

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 08-06-03 74 DA-A	ZEAMD PHYGEN PERCENT 06-21-03 3 DA-B	ZEAMD PHYGEN PERCENT 06-28-03 10 DA-B	ABUTH CONTROL PERCENT 06-28-03 10 DA-B	AMATH CONTROL PERCENT 06-28-03 10 DA-B	CHEAL CONTROL PERCENT 06-28-03 10 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
14	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	26	5	7	99	99	99
	Buctril + Atrazine	3	SC	0.375	LB A/A	1.0	PT/A	POST	B						
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	POST	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B						
15	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	24	5	5	99	99	99
	Buctril + Atrazine	3	SC	0.375	LB A/A	1.0	PT/A	POST	B						
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B						
LSD (P=.05)								2.9	2.2	2.6	0.0	0.0	0.0		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										IPHOE CONTROL PERCENT 06-28-03 10 DA-B	ZEAMD PHYGEN PERCENT 07-23-03 35 DA-B	ABUTH CONTROL PERCENT 07-23-03 35 DA-B	AMATH CONTROL PERCENT 07-23-03 35 DA-B	CHEAL CONTROL PERCENT 07-23-03 35 DA-B	IPHOE CONTROL PERCENT 07-23-03 35 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Define Buctril + Atrazine	4 SC 3 SC		0.78 LB 0.75 LB	A/A A/A	25.0 FL 2.0 PT	OZ/A A	PRE POST	A B	93	0	98	99	99	87
3	Define Buctril + Atrazine COC 28% UAN	4 SC 3 SC L L		0.78 LB 0.75 LB 1.0 % 2.5 %	A/A A/A V/V V/V	25.0 FL 2.0 PT 1.0 % 2.5 %	OZ/A A V/V V/V	PRE POST POST POST	A B B B	95	5	98	99	99	83
4	Define Buctril + Atrazine Callisto	4 SC 3 SC 4 SC		0.78 LB 0.75 LB 0.0078 LB	A/A A/A A/A	25.0 FL 2.0 PT 0.25 FL	OZ/A A OZ/A	PRE POST POST	A B B	92	2	99	99	99	80
5	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.75 LB 0.0078 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 2.0 PT 0.25 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	96	5	99	99	99	80
6	Define Buctril + Atrazine Callisto	4 SC 3 SC 4 SC		0.78 LB 0.75 LB 0.0156 LB	A/A A/A A/A	25.0 FL 2.0 PT 0.5 FL	OZ/A A OZ/A	PRE POST POST	A B B	95	2	99	99	99	88
7	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.75 LB 0.0156 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 2.0 PT 0.5 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	95	5	99	99	99	78
8	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.75 LB 0.0235 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 2.0 PT 0.75 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	98	5	99	99	99	88
9	Define Buctril + Atrazine Callisto	4 SC 3 SC 4 SC		0.78 LB 0.75 LB 0.0234 LB	A/A A/A A/A	25.0 FL 2.0 PT 0.75 FL	OZ/A A OZ/A	PRE POST POST	A B B	96	2	98	99	99	90
10	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.75 LB 0.0312 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 2.0 PT 1.0 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	98	5	99	99	99	86
11	Define Buctril + Atrazine Callisto	4 SC 3 SC 4 SC		0.78 LB 0.75 LB 0.0312 LB	A/A A/A A/A	25.0 FL 2.0 PT 1.0 FL	OZ/A A OZ/A	PRE POST POST	A B B	98	2	99	99	99	85
12	Define Buctril + Atrazine Callisto	4 SC 3 SC 4 SC		0.78 LB 0.75 LB 0.047 LB	A/A A/A A/A	25.0 FL 2.0 PT 1.5 FL	OZ/A A OZ/A	PRE POST POST	A B B	98	2	99	99	99	85
13	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.75 LB 0.047 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 2.0 PT 1.5 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	99	5	99	99	99	87
14	Define Buctril + Atrazine Callisto COC 28% UAN	4 SC 3 SC 4 SC L L		0.78 LB 0.375 LB 0.0312 LB 1.0 % 2.5 %	A/A A/A A/A V/V V/V	25.0 FL 1.0 PT 1.0 FL 1.0 % 2.5 %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	93	2	99	99	99	77

Iowa State University

Weed Code								IPOHE	ZEAMD	ABUTH	AMATH	CHEAL	IPOHE		
Rating Data Type								CONTROL	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								06-28-03	07-23-03	07-23-03	07-23-03	07-23-03	07-23-03		
Trt-Eval Interval								10 DA-B	35 DA-B	35 DA-B	35 DA-B	35 DA-B	35 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
15	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	96	0	99	99	99	73
	Buctril + Atrazine	3	SC	0.375	LB A/A	1.0	PT/A	POST	B						
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B						
LSD (P=.05)								5.2	2.8	1.7	0.0	0.0	10.0		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 08-15-03 58 DA-B	ABUTH CONTROL PERCENT 08-15-03 58 DA-B	AMATH CONTROL PERCENT 08-15-03 58 DA-B	CHEAL CONTROL PERCENT 08-15-03 58 DA-B	IPOHE CONTROL PERCENT 08-15-03 58 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0		
2	Define Buctril + Atrazine	4 3	SC SC	0.78 0.75	LB LB	A/A A/A	25.0 2.0	FL PT	OZ/A A	PRE POST	A B	0	98	99	99	87
3	Define Buctril + Atrazine COC 28% UAN	4 3 L L	SC SC L L	0.78 0.75 1.0 2.5	LB LB % %	A/A A/A V/V V/V	25.0 2.0 1.0 2.5	FL PT % %	OZ/A A V/V V/V	PRE POST POST POST	A B B B	2	98	99	99	82
4	Define Buctril + Atrazine Callisto	4 3 4	SC SC SC	0.78 0.75 0.0078	LB LB LB	A/A A/A A/A	25.0 2.0 0.25	FL PT FL	OZ/A A OZ/A	PRE POST POST	A B B	0	99	99	99	80
5	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.75 0.0078 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 2.0 0.25 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	3	99	99	99	77
6	Define Buctril + Atrazine Callisto	4 3 4	SC SC SC	0.78 0.75 0.0156	LB LB LB	A/A A/A A/A	25.0 2.0 0.5	FL PT FL	OZ/A A OZ/A	PRE POST POST	A B B	2	99	99	99	87
7	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.75 0.0156 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 2.0 0.5 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	3	99	99	99	80
8	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.75 0.0235 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 2.0 0.75 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	2	99	99	99	83
9	Define Buctril + Atrazine Callisto	4 3 4	SC SC SC	0.78 0.75 0.0234	LB LB LB	A/A A/A A/A	25.0 2.0 0.75	FL PT FL	OZ/A A OZ/A	PRE POST POST	A B B	2	98	99	99	87
10	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.75 0.0312 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 2.0 1.0 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	2	99	99	99	85
11	Define Buctril + Atrazine Callisto	4 3 4	SC SC SC	0.78 0.75 0.0312	LB LB LB	A/A A/A A/A	25.0 2.0 1.0	FL PT FL	OZ/A A OZ/A	PRE POST POST	A B B	0	99	99	99	85
12	Define Buctril + Atrazine Callisto	4 3 4	SC SC SC	0.78 0.75 0.047	LB LB LB	A/A A/A A/A	25.0 2.0 1.5	FL PT FL	OZ/A A OZ/A	PRE POST POST	A B B	0	99	99	99	83
13	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.75 0.047 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 2.0 1.5 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	5	99	99	99	85
14	Define Buctril + Atrazine Callisto COC 28% UAN	4 3 4 L L	SC SC SC L L	0.78 0.375 0.0312 1.0 2.5	LB LB LB % %	A/A A/A A/A V/V V/V	25.0 1.0 1.0 1.0 2.5	FL PT FL % %	OZ/A A OZ/A V/V V/V	PRE POST POST POST POST	A B B B B	0	99	99	99	77

Iowa State University

Weed Code								ZEAMD	ABUTH	AMATH	CHEAL	IPOHE		
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								08-15-03	08-15-03	08-15-03	08-15-03	08-15-03		
Trt-Eval Interval								58 DA-B	58 DA-B	58 DA-B	58 DA-B	58 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	0	99	99	99	72
	Buctril + Atrazine	3	SC	0.375	LB A/A	1.0	PT/A	POST	B					
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)								3.4	1.7	0.0	0.0	10.1		

Iowa State University

Evaluation of preemergence applied Define and Dual II Magnum for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: USA **Initiation Date:** 05-19-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate one-half and full labeled rates of Define and Dual II Magnum for crop phytotoxicity and weed control in corn.
Conclusions: There were no significant differences observed between treatments in corn stand. All treatments demonstrated excellent crop safety on all observation dates. Heavy giant foxtail pressure was noted in the experiment area. PRE applied Define and Dual II Magnum provided fair to good control of giant foxtail when observed on June 16 and 30. As herbicide rate increased so did the level of control. No PRE treatment provided velvetleaf or common lambsquarters control on June 16. Common waterhemp was best controlled by the higher rates of Define and Dual II Magnum. On July 23, 65 days after application, Define applied at 25.0 fl oz/A provided 82% giant foxtail control, while all other treatments gave only 68% or less. Broadleaf weed control was excellent on June 30 and July 23 following the POST application of Callisto to each of the PRE treatments. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8550
Planting Date: 05-19-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A	B
Application Date:	05-19-03	06-16-03
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	69 F	83 F
% Relative Humidity:	78	46
Wind Velocity, Unit:	8 MPH	3 MPH
Soil Temp., Unit:	62 F	80 F
Soil Moisture:	DAMP	DRY
% Cloud Cover:	100	20

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4-V5
Stage Scale:	-	DESC
Height, Unit:	-	9 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	1-6 IN
Density, Unit:	- -	5-50 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	0-2 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.5-5 IN
Density, Unit:	- -	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.5-5 IN
Density, Unit:	- -	5-8 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE 2-5 LEAF
Stage Scale:	-	1-5 IN
Density, Unit:	- -	0-1 FT2

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	25
Nozzle Type:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Evaluation of preemergence applied Define and Dual II Magnum for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								08-11-03	06-02-03	06-16-03	06-16-03	06-16-03	06-16-03	06-16-03	
Trt-Eval Interval								84 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code							
1	Untreated								25	0	0	0	0	0	
2	Define	4	SC	0.39	LB A/A	12.5	FL OZ/A	PRE A	27	0	0	73	2	17	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
3	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE A	26	0	0	65	2	20	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
4	Define	4	SC	0.586	LB A/A	18.75	FL OZ/A	PRE A	26	0	0	78	3	65	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
5	Dual II Magnum	7.64	EC	1.53	LB A/A	1.6	PT/A	PRE A	29	0	0	78	5	58	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
6	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE A	26	0	0	87	10	82	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
7	Dual II Magnum	7.64	EC	2.0	LB A/A	2.1	PT/A	PRE A	27	0	0	82	10	80	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
LSD (P=.05)									3.9	0.0	0.0	9.4	6.5	10.3	9.2

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									IPOHE CONTROL PERCENT 06-16-03 28 DA-A	ZEAMD PHYGEN PERCENT 06-30-03 42 DA-A	SETFA CONTROL PERCENT 06-30-03 42 DA-A	ABUTH CONTROL PERCENT 06-30-03 42 DA-A	AMATA CONTROL PERCENT 06-30-03 42 DA-A	CHEAL CONTROL PERCENT 06-30-03 42 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.39 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	12.5 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 68 99	99 99 99 99	98 98 98 98	99 99 99 99
3	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	0.955 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	1.0 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 58 99	99 99 99 99	99 99 99 99	99 99 99 99
4	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.586 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	18.75 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 77 99	99 99 99 99	99 99 99 99	98 98 98 98
5	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	1.53 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	1.6 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 75 99	99 99 99 99	99 99 99 99	98 98 98 98
6	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.78 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	25.0 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 88 99	99 99 99 99	99 99 99 99	98 98 98 98
7	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	2.0 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	2.1 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	0 0 75 99	99 99 99 99	99 99 99 99	98 98 98 98
LSD (P=.05)										0.0	0.0	11.3	0.0	1.6	3.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									IPOHE CONTROL PERCENT 06-30-03 42 DA-A	ZEAMD PHYGEN PERCENT 07-23-03 65 DA-A	SETFA CONTROL PERCENT 07-23-03 65 DA-A	ABUTH CONTROL PERCENT 07-23-03 65 DA-A	AMATA CONTROL PERCENT 07-23-03 65 DA-A	CHEAL CONTROL PERCENT 07-23-03 65 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Code								
1	Untreated									0	0	0	0	0	0		
2	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.39 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	12.5 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	98	0	57	99	98	99
3	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	0.955 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	1.0 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	98	0	50	99	99	99
4	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.586 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	18.75 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	99	0	68	99	99	98
5	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	1.53 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	1.6 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	98	0	63	99	99	99
6	Define Callisto COC 28% UAN	4 4 L L	SC SC L L	0.78 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	25.0 3.0 1.0 2.5	FL FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	98	0	82	99	99	99
7	Dual II Magnum Callisto COC 28% UAN	7.64 4 L L	EC SC L L	2.0 0.094 1.0 2.5	LB LB % V/V % V/V	A/A A/A V/V V/V	2.1 3.0 1.0 2.5	PT/A FL % V/V % V/V	OZ/A OZ/A POST B POST B	PRE POST POST POST	A B B B	98	0	63	98	99	98
LSD (P=.05)										3.4	0.0	14.1	1.6	1.6	2.3		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									IPOHE CONTROL PERCENT 07-23-03 65 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code
1	Untreated								0
2	Define	4	SC	0.39	LB A/A	12.5	FL OZ/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
3	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
4	Define	4	SC	0.586	LB A/A	18.75	FL OZ/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
5	Dual II Magnum	7.64	EC	1.53	LB A/A	1.6	PT/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
6	Define	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
7	Dual II Magnum	7.64	EC	2.0	LB A/A	2.1	PT/A	PRE	A
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B
	COC		L	1.0	% V/V	1.0	% V/V	POST	B
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B
LSD (P=.05)									7.6

Iowa State University

Lumax, Camix, Bicep II Magnum, Harness Extra, Keystone and other preemergence applied herbicides in corn, Ames, IA, 2003.

Trial ID: ACC 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-24-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to assess the crop phytotoxicity and weed efficacy from preemergence applied herbicides in corn.

Conclusions: Differences between treatments in corn stand were determined and resulted from poor furrow closure during no-tillage planting and not the herbicide. All PRE treatments demonstrated excellent crop safety. Giant foxtail control was good to excellent with the treatments when observed on June 21, 28 days after application. Significant differences were determined between several treatments. Velvetleaf and common waterhemp control was good to excellent with the treatments on June 21. Heavy giant foxtail pressure was present in the experiment area and by July 22, 59 days after application, control had greatly diminished with all of the treatments. On July 22, velvetleaf and common lambsquarters control remained good to excellent with many of the treatments. Corn yields were variable; primarily reflecting the unevenness found in the treatment corn stands. Significant differences were determined between some of the treatments, and all yielded significantly more than the untreated control. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.

Crop 1: ZEAMD CORN, FIELD **Variety:** GARST 8888

Planting Date: 06-04-03 **Planting Method:** DIRECT DRILLED

Rate: 27700 SEEDS/A **Depth:** 1.5 IN

Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3

Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting. Corn was initially planted on May 19, but replanted on June 4 following a burndown application of 16 oz/A of Roundup WeatherMAX to the entire experiment area.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM

pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-24-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOL
Air Temp., Unit:	63 F
% Relative Humidity:	52
Wind Velocity, Unit:	2 MPH
Soil Temp., Unit:	58 F
Soil Moisture:	MOIST
% Cloud Cover:	40

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	ABUTH -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Lumax, Camix, Bicep II Magnum, Harness Extra, Keystone and other preemergence applied herbicides in corn, Ames, IA, 2003.

Trial ID: ACC 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code							ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	ZEAMD
Rating Data Type							STAND	PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN
Rating Unit							17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date							08-06-03	06-21-03	06-21-03	06-21-03	06-21-03	07-22-03
Trt-Eval Interval							74 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	59 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code		
1	Untreated										12	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A		24	0
3	Lumax Atrazine	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A		21	0
4	Lumax Princep	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A		22	0
5	Bicep II Magnum	5.5	SC	3.58	LB A/A	2.6	QT/A	PRE	A		17	0
6	Harness Xtra	5.6	SC	4.2	LB A/A	3.0	QT/A	PRE	A		19	0
7	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE	A		23	0
8	Keystone	5.25	SE	4.2	LB A/A	3.2	QT/A	PRE	A		22	0
9	Keystone Hornet WDG	5.25 68.5	SE WG	4.2 0.128	LB A/A LB AE/A	3.2 3.0	QT/A OZ WT/A	PRE PRE	A A		24	0
10	Keystone Balance Pro	5.25 4	SE SC	2.1 0.094	LB A/A LB A/A	1.6 3.0	QT/A FL OZ/A	PRE PRE	A A		19	0
11	Guardman Max	5	SC	2.87	LB A/A	2.3	QT/A	PRE	A		24	0
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE	A		19	0
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE PRE	A A		21	0
LSD (P=.05)							5.2	0.0	7.4	9.1	1.5	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-22-03 59 DA-A	ABUTH CONTROL PERCENT 07-22-03 59 DA-A	AMATA CONTROL PERCENT 07-22-03 59 DA-A	ZEAMD YIELD BU/A 10-16-03 145 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	8
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	68	88	98	133
3	Lumax Atrazine	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	68	83	96	149
4	Lumax Princep	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	58	95	99	127
5	Bicep II Magnum	5.5	SC	3.58	LB A/A	2.6	QT/A	PRE	A	67	57	95	91
6	Harness Xtra	5.6	SC	4.2	LB A/A	3.0	QT/A	PRE	A	72	72	96	122
7	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE	A	72	99	99	145
8	Keystone	5.25	SE	4.2	LB A/A	3.2	QT/A	PRE	A	75	57	99	138
9	Keystone Hornet WDG	5.25 68.5	SE WG	4.2 0.128	LB A/A LB AE/A	3.2 3.0	QT/A OZ WT/A	PRE PRE	A A	80	91	99	146
10	Keystone Balance Pro	5.25 4	SE SC	2.1 0.094	LB A/A LB A/A	1.6 3.0	QT/A FL OZ/A	PRE PRE	A A	77	99	99	144
11	Guardman Max	5	SC	2.87	LB A/A	2.3	QT/A	PRE	A	67	86	96	146
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE	A	65	85	96	114
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE PRE	A A	65	96	99	126
LSD (P=.05)								16.4	21.4	5.2	27.7		

Iowa State University

Evaluation of preplant incorporated and preemergence applied herbicides for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 5

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-19-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the efficacy and crop safety of preplant incorporated and preemergence applied herbicides in corn.

Conclusions: No significant differences in corn stand were observed between herbicide treatments. All treatments demonstrated excellent crop safety when observed on June 20 and July 21. Heavy giant foxtail and common lambsquarters pressure was present in the experiment area and light to moderate velvetleaf and common waterhemp. Significant rainfall did not occur for nearly three weeks following application. This resulted in poor herbicide activation and likely reduced their overall performance. There were no significant differences in giant foxtail control between any of the treatments when evaluated on June 20, 32 days after application. Control ranged from 73 to 87%. PPI treatments provided better control than PRE. Stalwart Extra and Bicep II Magnum did not provide acceptable velvetleaf control on June 20. On June 20, treatments provided good to excellent common waterhemp control with significant differences noted between some treatments. Common lambsquarters control was good to excellent on June 20, with Stalwart Extra and Bicep II Magnum treatments with no significant difference noted between them. Stalwart C and Dual II Magnum did not provide an acceptable level of common lambsquarters control. Observations made on July 21 and August 13, 63 and 86 days after application, respectively, demonstrated that the level of giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control was less than that observed on June 20. In general, Dual II Magnum and Bicep II Magnum provided a higher level of control of these species than Stalwart C and Stalwart Extra, respectively, on July 21 and August 13. Significant differences were determined between treatments for these species. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8550

Planting Date: 05-19-03 Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting. Preplant treatments were incorporated one pass with a field cultivator operating 2 to 3 inches deep.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	05-19-03
Application Method:	SPRAY
Application Timing:	PPI, PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	69 F
% Relative Humidity:	78
Wind Velocity, Unit:	8 MPH
Soil Temp., Unit:	62 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	100

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	ABUTH -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 4 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-21-03 63 DA-A	ABUTH CONTROL PERCENT 07-21-03 63 DA-A	AMATA CONTROL PERCENT 07-21-03 63 DA-A	CHEAL CONTROL PERCENT 07-21-03 63 DA-A	SETFA CONTROL PERCENT 08-13-03 86 DA-A	ABUTH CONTROL PERCENT 08-13-03 86 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PRE	A	60	0	80	23	53	0
3	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PPI	B	77	0	82	35	72	0
4	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	57	58	95	98	55	53
5	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B	70	50	85	72	68	47
6	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	70	0	80	25	65	0
7	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PPI	B	83	0	88	38	80	0
8	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	68	58	95	96	62	53
9	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B	77	53	93	87	73	53
LSD (P=.05)										11.7	11.1	5.5	16.0	13.5	10.7

Iowa State University

Weed Code								AMATA	CHEAL			
Rating Data Type								CONTROL	CONTROL			
Rating Unit								PERCENT	PERCENT			
Rating Date								08-13-03	08-13-03			
Trt-Eval Interval								86 DA-A	86 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code		
1	Untreated										0	0
2	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PRE	A		80	13
3	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PPI	B		82	27
4	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		93	98
5	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		83	72
6	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A		80	8
7	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PPI	B		88	30
8	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		95	96
9	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		93	85
LSD (P=.05)											5.8	14.6

Iowa State University

Preemergence applications of Balance Pro, Atrazine, Define, and Lumax for weed control in corn, Ames, IA, 2003.

Trial ID: ACC 6
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-19-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate weed control and crop injury from preemergence applications of Balance Pro, Atrazine, Define, Lumax, and Balance Pro.

Conclusions: No significant differences were determined between treatments in corn stand. No treatment caused corn injury. Heavy giant foxtail pressure in the experiment area resulted in significant differences in control between the treatments. On June 27, 34 days after application, PRE applied Balance Pro plus Atrazine provided poor giant foxtail control. Fair to good giant foxtail control was afforded by the remaining treatments. Velvetleaf and common waterhemp control on June 27 was good to excellent with the treatments. Common lambsquarters control with the treatments was also good to excellent, except for Balance Pro plus Define. Similar trends in control of the grass and broadleaf species were observed on July 30. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8550
Planting Date: 05-19-03 Planting Method: DIRECT DRILLED
Rate: 27700 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-24-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOL
Air Temp., Unit:	63 F
% Relative Humidity:	52
Wind Velocity, Unit:	2 MPH
Soil Temp., Unit:	58 F
Soil Moisture:	DAMP
% Cloud Cover:	40

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	ABUTH -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 4 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Preemergence applications of Balance Pro, Atrazine, Define, and Lumax for weed control in corn, Ames, IA, 2003.

Trial ID: ACC 6

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								08-06-03	06-09-03	06-09-03	06-09-03	06-09-03	06-09-03	06-27-03	
Trt-Eval Interval								74 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	34 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Grow Unit	Appl Stg	Code						
1	Untreated									22	0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	23	0	67	95	96	98
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	A						
3	Balance Pro	4	SC	0.082	LB A/A	2.63	FL OZ/A	PRE	A	23	0	68	91	95	91
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	A						
4	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A	26	0	77	95	96	82
	Define	4	SC	0.56	LB A/A	18.0	FL OZ/A	PRE	A						
5	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	25	0	85	91	98	98
	Define	4	SC	0.67	LB A/A	21.5	FL OZ/A	PRE	A						
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	A						
6	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A	28	0	93	98	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PRE	A						
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	A						
7	Balance Pro	4	SC	0.094	LB A/A	3.0	FL OZ/A	PRE	A	25	0	88	98	99	98
	Define	4	SC	0.375	LB A/A	12.0	FL OZ/A	PRE	A						
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A	PRE	A						
8	Lumax	3.95	SE	1.97	LB A/A	2.0	QT/A	PRE	A	25	0	77	98	99	99
9	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	26	0	83	99	99	99
10	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	25	0	87	99	99	98
	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A						
11	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	27	0	78	98	99	99
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A	PRE	A						
LSD (P=.05)								4.9	0.0	9.9	6.4	1.9	5.8	0.0	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										SETFA CONTROL PERCENT 06-27-03 34 DA-A	ABUTH CONTROL PERCENT 06-27-03 34 DA-A	AMATA CONTROL PERCENT 06-27-03 34 DA-A	CHEAL CONTROL PERCENT 06-27-03 34 DA-A	ZEAMD PHYGEN PERCENT 07-30-03 67 DA-A	SETFA CONTROL PERCENT 07-30-03 67 DA-A	ABUTH CONTROL PERCENT 07-30-03 67 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Balance Pro Atrazine	4 SC 90 DF		0.047 LB A/A 1.5 LB A/A		1.5 FL OZ/A 1.67 LB/A		PRE A PRE A		55	96	92	96	0	48	96
3	Balance Pro Atrazine	4 SC 90 DF		0.082 LB A/A 1.5 LB A/A		2.63 FL OZ/A 1.67 LB/A		PRE A PRE A		57	90	92	90	0	48	88
4	Balance Pro Define	4 SC 4 SC		0.07 LB A/A 0.56 LB A/A		2.25 FL OZ/A 18.0 FL OZ/A		PRE A PRE A		75	91	95	78	0	73	90
5	Balance Pro Define Atrazine	4 SC 4 SC 90 DF		0.047 LB A/A 0.67 LB A/A 1.5 LB A/A		1.5 FL OZ/A 21.5 FL OZ/A 1.67 LB/A		PRE A PRE A PRE A		83	88	86	96	0	80	81
6	Balance Pro Define Atrazine	4 SC 4 SC 90 DF		0.07 LB A/A 0.53 LB A/A 1.5 LB A/A		2.25 FL OZ/A 17.0 FL OZ/A 1.67 LB/A		PRE A PRE A PRE A		92	93	99	99	0	92	88
7	Balance Pro Define Atrazine	4 SC 4 SC 90 DF		0.094 LB A/A 0.375 LB A/A 1.5 LB A/A		3.0 FL OZ/A 12.0 FL OZ/A 1.67 LB/A		PRE A PRE A PRE A		85	88	98	96	0	82	80
8	Lumax	3.95 SE		1.97 LB A/A		2.0 QT/A		PRE A		75	98	95	98	0	68	98
9	Lumax	3.95 SE		2.96 LB A/A		3.0 QT/A		PRE A		80	98	99	98	0	75	98
10	Lumax Balance Pro	3.95 SE 4 SC		2.96 LB A/A 0.047 LB A/A		3.0 QT/A 1.5 FL OZ/A		PRE A PRE A		88	96	99	93	0	85	96
11	Lumax Atrazine	3.95 SE 90 DF		2.96 LB A/A 0.75 LB A/A		3.0 QT/A 0.83 LB/A		PRE A PRE A		82	96	99	99	0	78	96
LSD (P=.05)										14.5	9.9	8.6	10.6	0.0	19.6	14.8

Iowa State University

Weed Code										AMATA	CHEAL	
Rating Data Type										CONTROL	CONTROL	
Rating Unit										PERCENT	PERCENT	
Rating Date										07-30-03	07-30-03	
Trt-Eval Interval										67 DA-A	67 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code		
1	Untreated										0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A		PRE	A	92	96
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A		PRE	A		
3	Balance Pro	4	SC	0.082	LB A/A	2.63	FL OZ/A		PRE	A	92	86
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A		PRE	A		
4	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A		PRE	A	93	76
	Define	4	SC	0.56	LB A/A	18.0	FL OZ/A		PRE	A		
5	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A		PRE	A	94	96
	Define	4	SC	0.67	LB A/A	21.5	FL OZ/A		PRE	A		
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A		PRE	A		
6	Balance Pro	4	SC	0.07	LB A/A	2.25	FL OZ/A		PRE	A	98	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A		PRE	A		
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A		PRE	A		
7	Balance Pro	4	SC	0.094	LB A/A	3.0	FL OZ/A		PRE	A	98	96
	Define	4	SC	0.375	LB A/A	12.0	FL OZ/A		PRE	A		
	Atrazine	90	DF	1.5	LB A/A	1.67	LB/A		PRE	A		
8	Lumax	3.95	SE	1.97	LB A/A	2.0	QT/A		PRE	A	95	98
9	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A		PRE	A	99	98
10	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A		PRE	A	99	92
	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A		PRE	A		
11	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A		PRE	A	99	99
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A		PRE	A		
LSD (P=.05)											4.9	11.3

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 7
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-19-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate various preemergence applied rates of KIH-485 and Dual II Magnum for crop phytotoxicity and weed control in corn.

Conclusions: No significant differences in corn stand between herbicide treatments were noted, and no treatment caused crop injury. KIH-485 and Dual II Magnum demonstrated rate responsive control of giant foxtail for all observation dates. A combination of extremely heavy giant foxtail pressure and dry conditions contributed to lack of acceptable giant foxtail control by any herbicide as observed on June 10. Significant rainfall later increased herbicide activity on giant foxtail for all treatments as observed on June 17 and July 14. KIH-485 plus Atrazine and Bicep II Magnum demonstrated excellent common lambsquarters and common waterhemp control. However, neither herbicide provided adequate control of common lambsquarters without the inclusion of Atrazine in the treatment. KIH-485 and Dual II Magnum provided excellent control of common waterhemp on June 10 and 17 at application rates of at least 8.0 fl oz/A and 2.0 pt/A, respectively. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8550
Planting Date: 05-19-03 Planting Method: DIRECT DRILLED
Rate: 27700 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting. Clarity was applied postemergence to the experiment area at 8.0 fluid oz/A on June 16 to control broadleaf weeds.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-24-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	63 F
% Relative Humidity:	52
Wind Velocity, Unit:	2 MPH
Soil Temp., Unit:	58 F
Soil Moisture:	DAMP
% Cloud Cover:	40

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	AMATA	CHEAL	ZEAMD	SETFA		
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL		
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								08-06-03	06-10-03	06-10-03	06-10-03	06-10-03	06-17-03	06-17-03		
Tri-Eval Interval								74 DA-A	17 DA-A	17 DA-A	17 DA-A	17 DA-A	24 DA-A	24 DA-A		
Tri	Treatment	Form	Form	Rate	Product	Product	Grow	Appl								
No.	Name	Conc	Type	Rate	Unit	Rate	Unit	Stg	Code							
1	Untreated									25	0	0	0	0	0	
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	27	0	42	73	38	0	57
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	28	0	47	83	42	0	65
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	24	0	52	95	50	0	68
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	26	0	60	92	43	0	70
6	KIH-485	3.57	SC	0.446	LB A/A	16.0	FL OZ/A	PRE	A	26	0	72	99	67	0	85
7	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	29	0	48	73	43	0	55
8	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	27	0	53	73	43	0	58
9	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	25	0	60	93	48	0	73
10	Dual II Magnum	7.64	EC	3.82	LB A/A	4.0	PT/A	PRE	A	27	0	72	96	57	0	85
11	KIH-485	3.57	SC	0.179	LB A/A	6.4	FL OZ/A	PRE	A	28	0	75	99	99	0	87
	Atrazine	4	SL	2.0	LB A/A	4.0	PT/A	PRE	A							
12	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	25	0	78	99	99	0	88
LSD (P=.05)								4.4	0.0	4.5	7.6	12.1	0.0	7.4		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 06-17-03 24 DA-A	CHEAL CONTROL PERCENT 06-17-03 24 DA-A	ZEAMD PHYGEN PERCENT 07-14-03 51 DA-A	SETFA CONTROL PERCENT 07-14-03 51 DA-A	SETFA CONTROL PERCENT 08-01-03 69 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	75	30	0	47	45
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	85	32	0	68	68
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	95	48	0	67	67
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	92	40	0	73	73
6	KIH-485	3.57	SC	0.446	LB A/A	16.0	FL OZ/A	PRE	A	99	65	0	88	88
7	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	72	35	0	45	42
8	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	73	38	0	52	47
9	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	93	40	0	62	58
10	Dual II Magnum	7.64	EC	3.82	LB A/A	4.0	PT/A	PRE	A	98	45	0	87	87
11	KIH-485 Atrazine	3.57 4	SC SL	0.179 2.0	LB A/A LB A/A	6.4 4.0	FL OZ/A PT/A	PRE PRE	A A	99	99	0	85	87
12	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	99	99	0	82	78
LSD (P=.05)										8.0	12.7	0.0	5.6	6.3

Iowa State University

Evaluation of postemergence application timings of Steadfast with Lumax or Camix for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 8

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-19-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate postemergence application timings of Lumax or Camix tank-mixed with Steadfast for crop phytotoxicity and weed control in corn. Treatments were the same for each application timing.

Conclusions: Significant differences between treatments in corn stand were not attributable to the herbicides. EPOST and MPOST treatments caused corn injury when observed on June 16, seven days after application, and June 23, six days after application, respectively. No treatment resulted in more the 10% corn injury. On July 7, 28 days after application, EPOST treatments provided 45 to 82% control of the heavy foxtail pressure that occurred in the experiment area, while MPOST treatments provided 72 to 85% control, 20 days after application. MPOST applications generally provided better giant foxtail control compared to EPOST on both July 7 and August 11 observation dates. Significant differences were determined between treatments in giant foxtail control for both dates. Generally, giant foxtail control was best when EPOST and MPOST applications included AMS in the treatment compared to those without. Furthermore, control on both dates was generally the best with treatments containing the higher rates of Lumax and Camix tank-mixed with Steadfast.

Velvetleaf, common waterhemp and common lambsquarters control was good to excellent with nearly all of the EPOST and MPOST applications when observed on July 7 and August 11. Common waterhemp and common lambsquarters control was the exception and was poor to fair with EPOST and MPOST applications of Steadfast and Steadfast plus Camix. Few significant differences were determined between treatments in velvetleaf control. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8550

Planting Date: 05-19-03 Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B
Application Date:	06-09-03	06-17-03
Application Method:	SPRAY	SPRAY
Application Timing:	EPOST	MPOST
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	77 F	84 F
% Relative Humidity:	68	67
Wind Velocity, Unit:	2 MPH	5 MPH
Soil Temp., Unit:	67 F	79 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	90	50

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD V3	ZEAMD V5
Stage Scale:	DESC	DESC
Height, Unit:	4 IN	12 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA 1-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	0.5-3 IN	0.5-5 IN
Density, Unit:	40 FT ²	30 FT ²
Weed 2 Code, Stage:	ABUTH COTYL-4	ABUTH COTYL-6
Stage Scale:	0.5-2 IN	0.5-6 IN
Density, Unit:	0-2 FT ²	0-3 FT ²
Weed 3 Code, Stage:	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	0.5-3 IN	0.5-7 IN
Density, Unit:	0-20 FT ²	0-5 FT ²
Weed 4 Code, Stage:	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	1-2 IN	0.5-6 IN
Density, Unit:	0-30 FT ²	0-20 FT ²

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	25	25
Nozzle Type:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Evaluation of postemergence application timings of Steadfast with Lumax or Camix for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACC 8
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATH	CHEAL	
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-30-03	06-16-03	06-23-03	06-23-03	06-23-03	06-23-03	06-23-03	
Trt-Eval Interval								51 DA-A	7 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code							
1	Untreated								26	0	0	0	0	0	
2	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	0	95	95	82	83
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
3	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	0	95	99	99	99
	Lumax	3.95	SE	0.74	LB A/A	24.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
4	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	0	98	98	99	99
	Lumax	3.95	SE	1.48	LB A/A	48.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
5	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	2	95	96	88	96
	Camix	3.67	SE	0.46	LB A/A	16.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
6	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	0	95	99	93	96
	Camix	3.67	SE	0.92	LB A/A	32.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
7	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	2	0	95	98	99	99
	Lumax	3.95	SE	0.74	LB A/A	24.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
8	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	24	7	2	95	99	99	99
	Lumax	3.95	SE	1.48	LB A/A	48.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
9	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	25	7	0	95	98	95	98
	Camix	3.67	SE	0.46	LB A/A	16.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
10	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	26	5	0	95	99	96	98
	Camix	3.67	SE	0.92	LB A/A	32.0	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
11	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	25	2	0	95	99	99	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST A							
	Atrazine	90	DF	12.0	OZ A/A	13.3	OZ WT/A	EPOST A							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
12	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	EPOST A	25	5	0	96	99	99	99
	Cinch ATZ	5.5	L	1.92	LB A/A	2.8	PT/A	EPOST A							
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST A							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST A							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST A							
13	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST B	25	0	5	73	85	62	60
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST B							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST B							
14	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST B	26	0	5	73	96	88	92
	Lumax	3.95	SE	0.74	LB A/A	24.0	FL OZ/A	MPOST B							
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST B							

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD STAND 17.42 FT 07-30-03 51 DA-A	ZEAMD PHYGEN PERCENT 06-16-03 7 DA-A	ZEAMD PHYGEN PERCENT 06-23-03 14 DA-A	SETFA CONTROL PERCENT 06-23-03 14 DA-A	ABUTH CONTROL PERCENT 06-23-03 14 DA-A	AMATH CONTROL PERCENT 06-23-03 14 DA-A	CHEAL CONTROL PERCENT 06-23-03 14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Stg Stg	Appl Code							
15	Steadfast Lumax NIS	75 3.95 L	WG SE L	0.56 1.48 0.25	OZ A/A LB A/A % V/V	0.75 48.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B		28	0	8	72	99	95	98
16	Steadfast Camix NIS	75 3.67 L	WG SE L	0.56 0.46 0.25	OZ A/A LB A/A % V/V	0.75 16.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B		25	0	7	73	83	68	68
17	Steadfast Camix NIS	75 3.67 L	WG SE L	0.56 0.92 0.25	OZ A/A LB A/A % V/V	0.75 32.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B		26	0	8	77	80	73	70
18	Steadfast Lumax NIS AMS	75 3.95 L DF	WG SE L DF	0.56 0.74 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 24.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST MPOST MPOST MPOST	B B B B		25	0	7	72	90	83	87
19	Steadfast Lumax NIS AMS	75 3.95 L DF	WG SE L DF	0.56 1.48 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 48.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST MPOST MPOST MPOST	B B B B		27	0	10	77	98	95	96
20	Steadfast Camix NIS AMS	75 3.67 L DF	WG SE L DF	0.56 0.46 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 16.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST MPOST MPOST MPOST	B B B B		27	0	7	73	82	73	70
21	Steadfast Camix NIS AMS	75 3.67 L DF	WG SE L DF	0.56 0.92 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 32.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST MPOST MPOST MPOST	B B B B		25	0	10	73	92	73	68
22	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 13.3 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A % V/V LB/A	MPOST MPOST MPOST MPOST MPOST	B B B B B		25	0	5	75	98	96	96
23	Steadfast Cinch ATZ Callisto NIS AMS	75 5.5 4 L DF	WG L SC L DF	0.56 1.92 0.047 0.25 2.0	OZ A/A LB A/A LB A/A % V/V LB/A	0.75 2.8 1.5 0.25 2.0	OZ WT/A PT/A FL OZ/A % V/V LB/A	MPOST MPOST MPOST MPOST MPOST	B B B B B		25	2	7	80	98	96	98
LSD (P=.05)											2.8	2.3	2.9	4.9	6.7	6.3	5.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 07-07-03 28 DA-A	SETFA CONTROL PERCENT 07-07-03 28 DA-A	ABUTH CONTROL PERCENT 07-07-03 28 DA-A	AMATH CONTROL PERCENT 07-07-03 28 DA-A	CHEAL CONTROL PERCENT 07-07-03 28 DA-A	ZEAMD PHYGEN PERCENT 08-11-03 55 DA-B	SETFA CONTROL PERCENT 08-11-03 55 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	
2	Steadfast NIS AMS	75 L DF	WG L DF	0.56 0.25 2.0	OZ A/A % V/V LB/A	0.75 0.25 2.0	OZ WT/A % V/V LB/A	EPOST EPOST EPOST	A A A	0	45	92	53	53	0 48	
3	Steadfast Lumax NIS	75 3.95 L	WG SE L	0.56 0.74 0.25	OZ A/A LB A/A % V/V	0.75 24.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A	0	70	99	99	99	0 58	
4	Steadfast Lumax NIS	75 3.95 L	WG SE L	0.56 1.48 0.25	OZ A/A LB A/A % V/V	0.75 48.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A	0	77	98	99	98	0 68	
5	Steadfast Camix NIS	75 3.67 L	WG SE L	0.56 0.46 0.25	OZ A/A LB A/A % V/V	0.75 16.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A	0	57	98	82	75	0 52	
6	Steadfast Camix NIS	75 3.67 L	WG SE L	0.56 0.92 0.25	OZ A/A LB A/A % V/V	0.75 32.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A	0	72	98	93	72	0 65	
7	Steadfast Lumax NIS AMS	75 3.95 L DF	WG SE L DF	0.56 0.74 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 24.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A	0	67	98	98	95	0 58	
8	Steadfast Lumax NIS AMS	75 3.95 L DF	WG SE L DF	0.56 1.48 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 48.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A	0	82	99	98	98	0 73	
9	Steadfast Camix NIS AMS	75 3.67 L DF	WG SE L DF	0.56 0.46 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 16.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A	0	63	96	90	65	0 53	
10	Steadfast Camix NIS AMS	75 3.67 L DF	WG SE L DF	0.56 0.92 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 32.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A	0	68	99	95	73	0 60	
11	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 13.3 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A % V/V LB/A	EPOST EPOST EPOST EPOST EPOST	A A A A A	0	48	99	98	99	0 45	
12	Steadfast Cinch ATZ Callisto NIS AMS	75 5.5 4 L DF	WG L SC L DF	0.56 1.92 0.047 0.25 2.0	OZ A/A LB A/A LB A/A % V/V LB/A	0.75 2.8 1.5 0.25 2.0	OZ WT/A PT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST EPOST	A A A A A	0	82	99	99	99	0 72	
13	Steadfast NIS AMS	75 L DF	WG L DF	0.56 0.25 2.0	OZ A/A % V/V LB/A	0.75 0.25 2.0	OZ WT/A % V/V LB/A	MPOST MPOST MPOST	B B B	5	77	95	52	38	5 77	
14	Steadfast Lumax NIS	75 3.95 L	WG SE L	0.56 0.74 0.25	OZ A/A LB A/A % V/V	0.75 24.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B	3	77	94	92	93	3 63	
15	Steadfast Lumax NIS	75 3.95 L	WG SE L	0.56 1.48 0.25	OZ A/A LB A/A % V/V	0.75 48.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B	5	72	99	99	99	5 53	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 07-07-03 28 DA-A	SETFA CONTROL PERCENT 07-07-03 28 DA-A	ABUTH CONTROL PERCENT 07-07-03 28 DA-A	AMATH CONTROL PERCENT 07-07-03 28 DA-A	CHEAL CONTROL PERCENT 07-07-03 28 DA-A	ZEAMD PHYGEN PERCENT 08-11-03 55 DA-B	SETFA CONTROL PERCENT 08-11-03 55 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
16	Steadfast Camix NIS	75 3.67	WG SE L	0.56 0.46 0.25	OZ A/A LB A/A % V/V	0.75 16.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST B MPOST B MPOST B		3	75	89	58	62	3	65
17	Steadfast Camix NIS	75 3.67	WG SE L	0.56 0.92 0.25	OZ A/A LB A/A % V/V	0.75 32.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST B MPOST B MPOST B		5	77	91	72	77	5	68
18	Steadfast Lumax NIS AMS	75 3.95	WG SE L DF	0.56 0.74 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 24.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B		5	78	96	91	93	5	67
19	Steadfast Lumax NIS AMS	75 3.95	WG SE L DF	0.56 1.48 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 48.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B		3	85	99	99	99	0	83
20	Steadfast Camix NIS AMS	75 3.67	WG SE L DF	0.56 0.46 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 16.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B		5	77	98	70	72	5	70
21	Steadfast Camix NIS AMS	75 3.67	WG SE L DF	0.56 0.92 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 32.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B		5	82	99	75	80	5	83
22	Steadfast Callisto Atrazine Agridex AMS	75 4 90	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 13.3 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B MPOST B		3	77	99	99	99	3	55
23	Steadfast Cinch ATZ Callisto NIS AMS	75 5.5 4	WG L SC L DF	0.56 1.92 0.047 0.25 2.0	OZ A/A LB A/A LB A/A % V/V LB/A	0.75 2.8 1.5 0.25 2.0	OZ WT/A PT/A FL OZ/A % V/V LB/A	MPOST B MPOST B MPOST B MPOST B MPOST B		5	83	99	99	99	2	78
LSD (P=.05)										2.0	9.7	7.6	10.6	9.4	1.9	12.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ABUTH CONTROL PERCENT 08-11-03 55 DA-B	AMATH CONTROL PERCENT 08-11-03 55 DA-B	CHEAL CONTROL PERCENT 08-11-03 55 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Grow Unit	Stg	Appl Code			
1	Untreated										0	0	0
2	Steadfast NIS AMS	75	WG L DF	0.56 0.25 2.0	OZ A/A % V/V LB/A	0.75 0.25 2.0	OZ WT/A % V/V LB/A	EPOST EPOST EPOST	A A A		90	52	53
3	Steadfast Lumax NIS	75 3.95	WG SE L	0.56 0.74 0.25	OZ A/A LB A/A % V/V	0.75 24.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A		99	99	99
4	Steadfast Lumax NIS	75 3.95	WG SE L	0.56 1.48 0.25	OZ A/A LB A/A % V/V	0.75 48.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A		98	99	98
5	Steadfast Camix NIS	75 3.67	WG SE L	0.56 0.46 0.25	OZ A/A LB A/A % V/V	0.75 16.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A		98	82	72
6	Steadfast Camix NIS	75 3.67	WG SE L	0.56 0.92 0.25	OZ A/A LB A/A % V/V	0.75 32.0 0.25	OZ WT/A FL OZ/A % V/V	EPOST EPOST EPOST	A A A		98	93	70
7	Steadfast Lumax NIS AMS	75 3.95	WG SE L DF	0.56 0.74 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 24.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A		98	98	95
8	Steadfast Lumax NIS AMS	75 3.95	WG SE L DF	0.56 1.48 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 48.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A		98	96	98
9	Steadfast Camix NIS AMS	75 3.67	WG SE L DF	0.56 0.46 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 16.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A		96	90	63
10	Steadfast Camix NIS AMS	75 3.67	WG SE L DF	0.56 0.92 0.25 2.0	OZ A/A LB A/A % V/V LB/A	0.75 32.0 0.25 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST	A A A A		99	95	73
11	Steadfast Callisto Atrazine Agridex AMS	75 4 90	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 13.3 1.0 2.0	OZ WT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST EPOST	A A A A A		99	98	99
12	Steadfast Cinch ATZ Callisto NIS AMS	75 5.5 4	WG L SC L DF	0.56 1.92 0.047 0.25 2.0	OZ A/A LB A/A LB A/A % V/V LB/A	0.75 2.8 1.5 0.25 2.0	OZ WT/A PT/A FL OZ/A % V/V LB/A	EPOST EPOST EPOST EPOST EPOST	A A A A A		99	99	99
13	Steadfast NIS AMS	75	WG L DF	0.56 0.25 2.0	OZ A/A % V/V LB/A	0.75 0.25 2.0	OZ WT/A % V/V LB/A	MPOST MPOST MPOST	B B B		95	48	30
14	Steadfast Lumax NIS	75 3.95	WG SE L	0.56 0.74 0.25	OZ A/A LB A/A % V/V	0.75 24.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B		94	90	93
15	Steadfast Lumax NIS	75 3.95	WG SE L	0.56 1.48 0.25	OZ A/A LB A/A % V/V	0.75 48.0 0.25	OZ WT/A FL OZ/A % V/V	MPOST MPOST MPOST	B B B		99	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ABUTH CONTROL PERCENT 08-11-03 55 DA-B	AMATH CONTROL PERCENT 08-11-03 55 DA-B	CHEAL CONTROL PERCENT 08-11-03 55 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Unit	Stg	Appl Code			
16	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		89	55	62
	Camix	3.67	SE	0.46	LB A/A	16.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
17	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		91	70	77
	Camix	3.67	SE	0.92	LB A/A	32.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
18	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		96	88	92
	Lumax	3.95	SE	0.74	LB A/A	24.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
19	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		99	98	99
	Lumax	3.95	SE	1.48	LB A/A	48.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
20	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		98	62	70
	Camix	3.67	SE	0.46	LB A/A	16.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
21	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		99	68	80
	Camix	3.67	SE	0.92	LB A/A	32.0	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
22	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		99	99	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST	B				
	Atrazine	90	DF	12.0	OZ A/A	13.3	OZ WT/A	MPOST	B				
	Agri-dex		L	1.0	% V/V	1.0	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
23	Steadfast	75	WG	0.56	OZ A/A	0.75	OZ WT/A	MPOST	B		99	98	99
	Cinch ATZ	5.5	L	1.92	LB A/A	2.8	PT/A	MPOST	B				
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	B				
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	B				
LSD (P=.05)											7.7	12.6	11.2

Iowa State University

Postemergence applications of Prowl H2O, Outlook, Clarity, Distinct or Marksman with Roundup for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the corn tolerance and weed efficacy of postemergence applied Prowl H2O, Outlook, Clarity, or Distinct with Roundup, or Roundup WeatherMAX.

Conclusions: Herbicide treatments did not significantly affect the corn stand as determined on August 12. Corn injury from several EPOST and MPOST treatments was observed on June 28, 15 days after EPOST, and eight days after MPOST, respectively. Injury was evident as well on July 17 and August 22 with most treatments, but was not considered serious. Injury symptomology occurred as stunting, green snap, or brace root malformation.

All EPOST and MPOST treatments generally provided good to excellent giant foxtail, velvetleaf, common waterhemp, common lambsquarters, and ivyleaf morningglory control when observed on June 28. On July 17, 34 days after application of the EPOST treatments, excellent common waterhemp and common lambsquarters control was observed, while giant foxtail and velvetleaf control was fair to good. Ivyleaf morningglory control was no longer acceptable with most EPOST treatments on July 17. Good to excellent giant foxtail, velvetleaf and common waterhemp control was achieved with all MPOST treatments on July 17, 27 days after application. Common lambsquarters control was good to excellent with the MPOST treatments, except Prowl H2O plus Roundup. Most MPOST treatments did not provide acceptable ivyleaf morningglory control on July 17. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 58-24

Planting Date: 05-18-03 Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Site Type: FIELD

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

Iowa State University

SOIL DESCRIPTION

% Sand: 29.4 % OM: 5.3 Texture: CLAY LOAM
 % Silt: 39.4 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 % Clay: 31.2 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-20-03	06-13-03	06-20-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	62 F	82 F	65 F
% Relative Humidity:	37	25	39
Wind Velocity, Unit:	5 MPH	9 MPH	7 MPH
Soil Temp., Unit:	55 F	70 F	75 F
Soil Moisture:	DAMP	DRY	DRY
% Cloud Cover:	0	30	20

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	13 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 2-4 LEAF
Stage Scale:	-	3-5 IN	3-6 IN
Density, Unit:	- -	35 FT2	10 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH 2-4 LEAF	ABUTH 4-6 LEAF
Stage Scale:	-	1-3 IN	2-5 IN
Density, Unit:	- -	0-1 FT2	0-2 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	1-5 IN	3-6 IN
Density, Unit:	- -	0-5 FT2	0-5 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	1-5 IN	2-6 IN
Density, Unit:	- -	0-5 FT2	0-5 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-4	IPOHE NUMEROUS
Stage Scale:	-	1-3 IN	4-8 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO
Operating Pressure:	25	25	25
Nozzle Type:	11003	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA
Propellant:	CO2	CO2	CO2

Iowa State University

Postemergence applications of Prowl H2O, Outlook, Clarity, Distinct or Marksman with Roundup for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 1
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATH
								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL
								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
								08-12-03	06-20-03	06-28-03	06-28-03	06-28-03	06-28-03
								84 DA-A	7 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code					
1	Untreated								26	0	0	0	0
2	Prowl H2O	3.8	EC	1.0 LB A/A	33.7 FL OZ/A		EPOST B		26	0	0	99	99
	Roundup	3	SL	0.56 LB AE/A	24.0 FL OZ/A		EPOST B						
	NIS		L	0.25 % V/V	0.25 % V/V		EPOST B						
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
3	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		PRE A		25	0	7	99	96
	Clarity	4	SL	0.25 LB A/A	8.0 FL OZ/A		EPOST B						
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		EPOST B						
	NIS		L	0.25 % V/V	0.25 % V/V		EPOST B						
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
4	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		EPOST B		27	0	0	99	98
	Clarity	4	SL	0.25 LB A/A	8.0 FL OZ/A		EPOST B						
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		EPOST B						
	NIS		L	0.25 % V/V	0.25 % V/V		EPOST B						
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
5	Clarity	4	SL	0.25 LB A/A	8.0 FL OZ/A		EPOST B		28	0	3	99	96
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		EPOST B						
	NIS		L	0.25 % V/V	0.25 % V/V		EPOST B						
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
6	Distinct	70	WG	0.175 LB A/A	4.0 OZ WT/A		EPOST B		28	0	0	98	98
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		EPOST B						
	NIS		L	0.25 % V/V	0.25 % V/V		EPOST B						
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
7	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST B		26	0	0	99	99
	AMS		DF	2.5 LB/A	2.5 LB/A		EPOST B						
8	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		PRE A		26	0	0	95	95
	Clarity	4	SL	0.25 LB A/A	8.0 FL OZ/A		MPOST C						
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		MPOST C						
	NIS		L	0.25 % V/V	0.25 % V/V		MPOST C						
	AMS		DF	2.5 LB/A	2.5 LB/A		MPOST C						
9	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		PRE A		25	0	0	96	95
	Distinct	70	WG	0.0875 LB A/A	2.0 OZ WT/A		MPOST C						
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		MPOST C						
	NIS		L	0.25 % V/V	0.25 % V/V		MPOST C						
	AMS		DF	2.5 LB/A	2.5 LB/A		MPOST C						
10	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		PRE A		26	0	0	93	95
	Distinct	70	WG	0.175 LB A/A	4.0 OZ WT/A		MPOST C						
	Roundup	3	SL	0.375 LB AE/A	16.0 FL OZ/A		MPOST C						
	NIS		L	0.25 % V/V	0.25 % V/V		MPOST C						
	AMS		DF	2.5 LB/A	2.5 LB/A		MPOST C						
11	Outlook	6	EC	0.56 LB A/A	12.0 FL OZ/A		PRE A		26	0	0	95	95
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		MPOST C						
	AMS		DF	2.5 LB/A	2.5 LB/A		MPOST C						
12	Prowl H2O	3.8	EC	1.0 LB A/A	33.7 FL OZ/A		MPOST C		26	0	0	85	93
	Roundup	3	SL	0.56 LB AE/A	24.0 FL OZ/A		MPOST C						
	NIS		L	0.25 % V/V	0.25 % V/V		MPOST C						
	AMS		DF	2.5 LB/A	2.5 LB/A		MPOST C						

Iowa State University

Weed Code									ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATH	
Rating Data Type									STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	
Rating Unit									17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									08-12-03	06-20-03	06-28-03	06-28-03	06-28-03	06-28-03	
Trt-Eval Interval									84 DA-A	7 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
13	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	27	0	2	99	98	99
	Marksman	3.2	FL	0.8	LB A/A	2.0	PT/A	EPOST	B						
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	EPOST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	EPOST	B						
14	Marksman	3.2	FL	0.8	LB A/A	2.0	PT/A	EPOST	B	26	0	8	99	99	99
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	EPOST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	EPOST	B						
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	MPOST	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	MPOST	C						
LSD (P=.05)										3.0	0.0	2.4	2.0	2.7	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 06-28-03 15 DA-B	IPOHE CONTROL PERCENT 06-28-03 15 DA-B	ZEAMD PHYGEN PERCENT 07-17-03 34 DA-B	SETFA CONTROL PERCENT 07-17-03 34 DA-B	ABUTH CONTROL PERCENT 07-17-03 34 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL L DF	1.0 0.56 0.25 2.5	LB AE/A V/V LB/A	33.7 24.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	EPOST EPOST EPOST EPOST	B B B B	93	93	0	88	83
3	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL SL L DF	0.56 0.25 0.375 0.25 2.5	LB AE/A V/V LB/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	PRE EPOST EPOST EPOST EPOST	A B B B B	99	99	3	90	87
4	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL SL L DF	0.56 0.25 0.375 0.25 2.5	LB AE/A V/V LB/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	EPOST EPOST EPOST EPOST EPOST	B B B B B	99	95	2	92	88
5	Clarity Roundup NIS AMS	4 3 L DF	SL SL L DF	0.25 0.375 0.25 2.5	LB AE/A V/V LB/A	8.0 16.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	EPOST EPOST EPOST EPOST	B B B B	99	95	2	85	85
6	Distinct Roundup NIS AMS	70 3 L DF	WG SL L DF	0.175 0.375 0.25 2.5	LB AE/A V/V LB/A	4.0 16.0 0.25 2.5	OZ WT/A AE/A V/V LB/A	EPOST EPOST EPOST EPOST	B B B B	98	96	0	83	85
7	Roundup WeatherMAX AMS	4.5 L DF	SL DF	0.77 2.5	LB AE/A LB/A	22.0 2.5	FL OZ/A AE/A LB/A	EPOST EPOST	B B	99	95	0	82	82
8	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL SL L DF	0.56 0.25 0.375 0.25 2.5	LB AE/A V/V LB/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	90	93	8	93	95
9	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL L DF	0.56 0.175 0.375 0.25 2.5	LB AE/A V/V LB/A	12.0 2.0 16.0 0.25 2.5	FL OZ/A WT/A AE/A V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	90	93	5	95	85
10	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL L DF	0.56 0.175 0.375 0.25 2.5	LB AE/A V/V LB/A	12.0 4.0 16.0 0.25 2.5	FL OZ/A WT/A AE/A V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	92	90	3	96	90
11	Outlook Roundup WeatherMAX AMS	6 4.5 L DF	EC SL DF	0.56 0.77 2.5	LB AE/A LB/A	12.0 22.0 2.5	FL OZ/A AE/A LB/A	PRE MPOST MPOST	A C C	88	90	2	93	92
12	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL L DF	1.0 0.56 0.25 2.5	LB AE/A V/V LB/A	33.7 24.0 0.25 2.5	FL OZ/A AE/A V/V LB/A	MPOST MPOST MPOST MPOST	C C C C	85	87	5	93	95
13	Guardsman Max Marksman Roundup NIS AMS	5 3.2 3 L DF	SC FL SL L DF	1.56 0.8 0.375 0.25 2.5	LB AE/A V/V LB/A	2.5 2.0 16.0 0.25 2.5	PT/A AE/A V/V LB/A	PRE EPOST EPOST EPOST EPOST	A B B B B	99	99	2	93	90

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 06-28-03 15 DA-B	IPOHE CONTROL PERCENT 06-28-03 15 DA-B	ZEAMD PHYGEN PERCENT 07-17-03 34 DA-B	SETFA CONTROL PERCENT 07-17-03 34 DA-B	ABUTH CONTROL PERCENT 07-17-03 34 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code					
14	Marksman	3.2	FL	0.8	LB A/A	2.0	PT/A	EPOST	B	99	99	3	88	90
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	EPOST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B					
	AMS		DF	2.5	LB/A	2.5	LB/A	EPOST	B					
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	MPOST	C					
	AMS		DF	2.5	LB/A	2.5	LB/A	MPOST	C					
LSD (P=.05)										3.1	3.5	3.6	5.0	7.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATH CONTROL PERCENT 07-17-03 34 DA-B	CHEAL CONTROL PERCENT 07-17-03 34 DA-B	IPOHE CONTROL PERCENT 07-17-03 34 DA-B	ZEAMD PHYGEN PERCENT 08-22-03 63 DA-C	SETFA CONTROL PERCENT 08-22-03 63 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL	1.0 0.56 0.25 2.5	LB AE/A	33.7 24.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST	B B B B	93	93	80	0	87
3	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	PRE EPOST EPOST EPOST EPOST	A B B B B	99	99	82	3	87
4	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST EPOST	B B B B B	95	96	67	2	87
5	Clarity Roundup NIS AMS	4 3 L DF	SL	0.25 0.375 0.25 2.5	LB AE/A	8.0 16.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST	B B B B	93	95	70	2	78
6	Distinct Roundup NIS AMS	70 3 L DF	WG SL	0.175 0.375 0.25 2.5	LB AE/A	4.0 16.0 0.25 2.5	OZ WT/A	EPOST EPOST EPOST EPOST	B B B B	93	95	75	0	78
7	Roundup WeatherMAX AMS	4.5 L DF	SL	0.77 2.5	LB AE/A	22.0 2.5	FL OZ/A	EPOST EPOST	B B	92	88	75	0	75
8	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	96	96	87	8	93
9	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL	0.56 0.175 0.375 0.25 2.5	LB AE/A	12.0 2.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	98	96	78	5	95
10	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL	0.56 0.175 0.375 0.25 2.5	LB AE/A	12.0 4.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	98	96	73	3	93
11	Outlook Roundup WeatherMAX AMS	6 4.5 L DF	EC SL	0.56 0.77 2.5	LB AE/A	12.0 22.0 2.5	FL OZ/A	PRE MPOST MPOST	A C C	96	88	68	2	92
12	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL	1.0 0.56 0.25 2.5	LB AE/A	33.7 24.0 0.25 2.5	FL OZ/A	MPOST MPOST MPOST MPOST	C C C C	95	82	65	5	92
13	Guardsman Max Marksman Roundup NIS AMS	5 3.2 3 L DF	SC FL SL	1.56 0.8 0.375 0.25 2.5	LB AE/A	2.5 2.0 16.0 0.25 2.5	PT/A	PRE EPOST EPOST EPOST EPOST	A B B B B	99	99	87	2	90

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATH CONTROL PERCENT 07-17-03 34 DA-B	CHEAL CONTROL PERCENT 07-17-03 34 DA-B	IPOHE CONTROL PERCENT 07-17-03 34 DA-B	ZEAMD PHYGEN PERCENT 08-22-03 63 DA-C	SETFA CONTROL PERCENT 08-22-03 63 DA-C		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
14	Marksman	3.2	FL	0.8	LB A/A	2.0	PT/A	EPOST	B	98	99	78	3	83
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	EPOST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B					
	AMS		DF	2.5	LB/A	2.5	LB/A	EPOST	B					
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	MPOST	C					
	AMS		DF	2.5	LB/A	2.5	LB/A	MPOST	C					
LSD (P=.05)										4.5	5.2	18.6	3.6	6.2

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 08-22-03 63 DA-C	AMATH CONTROL PERCENT 08-22-03 63 DA-C	CHEAL CONTROL PERCENT 08-22-03 63 DA-C	IPOHE CONTROL PERCENT 08-22-03 63 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL	1.0 0.56 0.25 2.5	LB AE/A	33.7 24.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST	B B B B	82	93	93	77
3	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	PRE EPOST EPOST EPOST EPOST	A B B B B	83	98	98	77
4	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST EPOST	B B B B B	85	93	96	67
5	Clarity Roundup NIS AMS	4 3 L DF	SL	0.25 0.375 0.25 2.5	LB AE/A	8.0 16.0 0.25 2.5	FL OZ/A	EPOST EPOST EPOST EPOST	B B B B	82	93	95	67
6	Distinct Roundup NIS AMS	70 3 L DF	WG SL	0.175 0.375 0.25 2.5	LB AE/A	4.0 16.0 0.25 2.5	OZ WT/A	EPOST EPOST EPOST EPOST	B B B B	83	93	95	72
7	Roundup WeatherMAX AMS	4.5 SL DF	SL	0.77 2.5	LB AE/A	22.0 2.5	FL OZ/A	EPOST EPOST	B B	82	90	88	72
8	Outlook Clarity Roundup NIS AMS	6 4 3 L DF	EC SL	0.56 0.25 0.375 0.25 2.5	LB AE/A	12.0 8.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	93	96	98	87
9	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL	0.56 0.175 0.375 0.25 2.5	LB AE/A	12.0 2.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	83	98	95	78
10	Outlook Distinct Roundup NIS AMS	6 70 3 L DF	EC WG SL	0.56 0.175 0.375 0.25 2.5	LB AE/A	12.0 4.0 16.0 0.25 2.5	FL OZ/A	PRE MPOST MPOST MPOST MPOST	A C C C C	87	98	96	67
11	Outlook Roundup WeatherMAX AMS	6 4.5 SL DF	EC SL	0.56 0.77 2.5	LB AE/A	12.0 22.0 2.5	FL OZ/A	PRE MPOST MPOST	A C C	90	96	87	60
12	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL	1.0 0.56 0.25 2.5	LB AE/A	33.7 24.0 0.25 2.5	FL OZ/A	MPOST MPOST MPOST MPOST	C C C C	92	95	80	62
13	Guardsman Max Marksman Roundup NIS AMS	5 3.2 3 L DF	SC FL SL	1.56 0.8 0.375 0.25 2.5	LB AE/A	2.5 2.0 16.0 0.25 2.5	PT/A	PRE EPOST EPOST EPOST EPOST	A B B B B	88	99	99	87

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ABUTH CONTROL PERCENT 08-22-03 63 DA-C	AMATH CONTROL PERCENT 08-22-03 63 DA-C	CHEAL CONTROL PERCENT 08-22-03 63 DA-C	IPOHE CONTROL PERCENT 08-22-03 63 DA-C		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code				
14	Marksman	3.2	FL	0.8	LB A/A	2.0	PT/A	EPOST B		88	95	99	78
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	EPOST B					
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST B					
	AMS		DF	2.5	LB/A	2.5	LB/A	EPOST B					
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	MPOST C					
	AMS		DF	2.5	LB/A	2.5	LB/A	MPOST C					
LSD (P=.05)										9.7	4.8	5.8	18.9

Iowa State University

Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACS 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate postemergence applied tank-mixtures of Aim and Roundup WeatherMAX for crop phytotoxicity, weed control, and corn yield.

Conclusions: No significant differences in corn stand between herbicide treatments were observed on August 8. POST applied tank-mixtures of Aim plus Roundup WeatherMAX caused 13 to 15% corn injury when observed on June 16, three days after application. Injury symptoms appeared as leaf speckling to more moderate leaf tissue necrosis. Injury remained apparent on June 21 and July 4. No injury was observed from POST Roundup WeatherMAX applied alone. All POST treatments provided 95 to 99% giant foxtail, velvetleaf, common waterhemp and common lambsquarters control when observed on June 21 and July 4. On July 17, giant foxtail and velvetleaf control was no longer acceptable with the treatments following new germination. Common waterhemp and common lambsquarters control, however, did remain 90% or higher with the treatments.

Corn yields ranged from 163 to 197 bu/A. Few significant differences were determined between treatments. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD

Variety: DEKALB DKC 58-24

Planting Date: 05-18-03

Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-13-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	82 F
% Relative Humidity:	25
Wind Velocity, Unit:	9 MPH
Soil Temp., Unit:	70 F
Soil Moisture:	DRY
% Cloud Cover:	30

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V4
Stage Scale:	DESC
Height, Unit:	7 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 LEAF
Stage Scale:	2-5 IN
Density, Unit:	25 FT ²
Weed 2 Code, Stage:	ABUTH COTYL-4 L
Stage Scale:	1-4 IN
Density, Unit:	0-2 FT ²
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	1-6 IN
Density, Unit:	5-30 FT ²
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	1-5 IN
Density, Unit:	3-10 FT ²

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACS 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								08-04-03	06-16-03	06-21-03	06-21-03	06-21-03
Trt-Eval Interval								52 DA-A	3 DA-A	8 DA-A	8 DA-A	8 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									27	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	27	15	5
	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A			99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A			99
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	27	13	5
	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A			99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A			99
4	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A	27	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A			95
5	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A	27	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A			99
LSD (P=.05)								2.9	2.4	0.0	0.0	3.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 06-21-03 8 DA-A	CHEAL CONTROL PERCENT 06-21-03 8 DA-A	ZEAMD PHYGEN PERCENT 07-04-03 21 DA-A	SETFA CONTROL PERCENT 07-04-03 21 DA-A	ABUTH CONTROL PERCENT 07-04-03 21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim Roundup WeatherMAX AMS	2 4.5	EW SL	0.0078 0.457	LB A/A LB AE/A	0.5 13.0	FL OZ/A FL OZ/A	POST A POST A		95	95	5	99	99
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A						
3	Aim Roundup WeatherMAX AMS	2 4.5	EW SL	0.0078 0.615	LB A/A LB AE/A	0.5 17.5	FL OZ/A FL OZ/A	POST A POST A		96	93	5	99	99
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A						
4	Roundup WeatherMAX AMS	4.5	SL DF	0.457	LB AE/A LB/100 GAL	13.0	FL OZ/A LB/100 GAL	POST A POST A		95	93	0	99	98
5	Roundup WeatherMAX AMS	4.5	SL DF	0.615	LB AE/A LB/100 GAL	17.5	FL OZ/A LB/100 GAL	POST A POST A		96	96	0	99	99
LSD (P=.05)										2.4	4.0	0.0	0.0	1.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 07-04-03 21 DA-A	CHEAL CONTROL PERCENT 07-04-03 21 DA-A	SETFA CONTROL PERCENT 07-17-03 34 DA-A	ABUTH CONTROL PERCENT 07-17-03 34 DA-A	AMATA CONTROL PERCENT 07-17-03 34 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	95	98	77	77	92
	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	95	98	78	73	90
	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
4	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A	95	98	78	73	90
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
5	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A	95	99	78	72	90
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)										0.0	2.4	3.2	8.1	4.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 07-17-03 34 DA-A	ZEAMD YIELD BU/A 10-05-03 114 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	9
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	95	163
	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	POST	A	93	170
	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
4	Roundup WeatherMAX	4.5	SL	0.457	LB AE/A	13.0	FL OZ/A	POST	A	93	165
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
5	Roundup WeatherMAX	4.5	SL	0.615	LB AE/A	17.5	FL OZ/A	POST	A	92	197
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
LSD (P=.05)										4.5	31.7

Iowa State University

Postemergence applied Touchdown KPMG and Roundup WeatherMAX in corn, Ames, IA, 2003.

Trial ID: ACS 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-18-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate corn injury and weed control from postemergence applied Touchdown KPMG and Roundup WeatherMAX in corn.

Conclusions: Corn stand was not affected by herbicide treatment. POST applications of Touchdown KPMG and Roundup WeatherMAX caused little or no corn injury when observed on June 16, 21, and July 4. On June 21 and July 4, both herbicides had achieved excellent burndown control of giant foxtail, velvetleaf, common waterhemp and common lambsquarters. Pennsylvania smartweed and ivyleaf morningglory control was good on these dates. Control was reduced to fair to good on July 17 with the treatments following new germination of giant foxtail, velvetleaf, common waterhemp and common lambsquarters. Pennsylvania smartweed continued to be controlled at an acceptable level by the treatments on July 17; however, ivyleaf morningglory was not. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
6.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD **Variety:** DEKALB DKC 58-24
Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	06-13-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	82 F
% Relative Humidity:	25
Wind Velocity, Unit:	9 MPH
Soil Temp., Unit:	70 F
Soil Moisture:	DRY
% Cloud Cover:	30

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V4
Stage Scale:	DESC
Height, Unit:	7 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 LEAF
Stage Scale:	2-5 IN
Density, Unit:	25 FT2
Weed 2 Code, Stage:	ABUTH COTYL-4
Stage Scale:	1-4 IN
Density, Unit:	0-2 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	1-5 IN
Density, Unit:	5-20 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	1-5 IN
Density, Unit:	3-10 FT2
Weed 5 Code, Stage:	POLPY 2-6 LEAF
Stage Scale:	1-3 IN
Density, Unit:	0-1 FT2
Weed 6 Code, Stage:	IPOHE COTYL-4
Stage Scale:	1-3 IN
Density, Unit:	0-2 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Postemergence applied Touchdown KPMG and Roundup WeatherMAX in corn, Ames, IA, 2003.

Trial ID: ACS 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code							ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH			
Rating Data Type							STAND	PHYGEN	PHYGEN	CONTROL	CONTROL			
Rating Unit							17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date							08-04-03	06-16-03	06-21-03	06-21-03	06-21-03			
Trt-Eval Interval							52 DA-A	3 DA-A	8 DA-A	8 DA-A	8 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								28	0	0	0	0	
2	Touchdown KPMG AMS	4.17	L DF	0.75 LB AE/A 8.5 LB/100 GAL	23.0 FL OZ/A 8.5 LB/100 GAL	POST A POST A			27	0	0	99	99	
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 8.5 LB/100 GAL	22.0 FL OZ/A 8.5 LB/100 GAL	POST A POST A			28	0	2	99	98	
LSD (P=.05)										3.5	0.0	3.8	0.0	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 06-21-03 8 DA-A	CHEAL CONTROL PERCENT 06-21-03 8 DA-A	POLPY CONTROL PERCENT 06-21-03 8 DA-A	IPOHE CONTROL PERCENT 06-21-03 8 DA-A	ZEAMD PHYGEN PERCENT 07-04-03 21 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 LB AE/A 8.5 LB/100 GAL	23.0 FL OZ/A 8.5 LB/100 GAL	FL OZ/A LB/100 GAL	POST A POST A	A	99	98	82	85	2
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 8.5 LB/100 GAL	22.0 FL OZ/A 8.5 LB/100 GAL	FL OZ/A LB/100 GAL	POST A POST A	A	99	98	82	83	3
LSD (P=.05)									0.0	3.0	3.8	3.8	6.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-04-03 21 DA-A	ABUTH CONTROL PERCENT 07-04-03 21 DA-A	AMATA CONTROL PERCENT 07-04-03 21 DA-A	CHEAL CONTROL PERCENT 07-04-03 21 DA-A	POLPY CONTROL PERCENT 07-04-03 21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75	LB AE/A LB/100 GAL	23.0	FL OZ/A LB/100 GAL	POST A	POST A	99	99	96	99	90
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A	POST A	99	99	98	99	90
LSD (P=.05)										0.0	0.0	3.7	0.0	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								IPOHE CONTROL PERCENT 07-04-03 21 DA-A	ZEAMD PHYGEN PERCENT 07-17-03 34 DA-A	SETFA CONTROL PERCENT 07-17-03 34 DA-A	ABUTH CONTROL PERCENT 07-17-03 34 DA-A	AMATA CONTROL PERCENT 07-17-03 34 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75	LB AE/A LB/100 GAL	23.0	FL OZ/A LB/100 GAL	POST A	POST A	90	0	85	78	95
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A	POST A	88	0	85	82	95
LSD (P=.05)										3.8	0.0	10.3	9.3	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 07-17-03 34 DA-A	POLPY CONTROL PERCENT 07-17-03 34 DA-A	IPOHE CONTROL PERCENT 07-17-03 34 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75	LB AE/A LB/100 GAL	23.0	FL OZ/A LB/100 GAL	POST A POST A	A	95	95	52
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A POST A	A	95	95	45
LSD (P=.05)										0.0	0.0	11.9

Iowa State University

Postemergence applications of Roundup WeatherMAX in tank-mixture with DPX-E9636, Cinch, Cinch ATZ and others for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate postemergence timings of Roundup WeatherMAX applied alone and in tank-mixture with DPX-E9636, Cinch or Cinch ATZ for crop phytotoxicity and weed control. Other treatments evaluated included preemergence applied Cinch and Harness followed by Roundup WeatherMAX postemergence, and postemergence applied Steadfast with Callisto and Atrazine.

Conclusions: No significant differences were determined between treatments in corn stand. Excellent crop safety was demonstrated by the EPOST treatments. However, corn injury was observed on June 20 and July 3 following most MPOST applications. All EPOST and MPOST treatments afforded good to excellent giant foxtail, common waterhemp and common lambsquarters control when observed on June 20, 15 and seven days after application, respectively. Twenty-eight days after application on July 3, EPOST treatments provided 38 to 93% control of the heavy foxtail pressure that occurred in the experiment area, while MPOST treatments provided 87 to 99% control, 20 days after application. Overall, MPOST applications provided better giant foxtail control compared to EPOST on both July 3 and August 4 observation dates. Significant differences were determined between treatments in giant foxtail control on both dates. There were no significant differences observed between EPOST treatments that included Roundup WeatherMAX or Roundup UltraMAX for giant foxtail control on July 3 and August 4. EPOST and MPOST treatments containing Cinch, Cinch ATZ and Cinch ATZ Lite and PRE followed by MPOST application timings achieved the best giant foxtail control on July 3 and August 4.

Treatment results in velvetleaf, common waterhemp and common lambsquarters control demonstrated similar trends to those observed with giant foxtail. Overall, applications of MPOST, EPOST Steadfast plus Callisto plus Atrazine, and PRE plus MPOST provided better control of these species compared to the remaining EPOST treatments on July 3 and August 4. Significant differences were frequently observed between treatments in their control. Few significant differences were observed between EPOST treatments that included Roundup WeatherMAX or Roundup UltraMAX for the three species. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 58-24

Planting Date: 05-18-03 Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

Iowa State University

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-20-03	06-05-03	06-13-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	62 F	73 F	82 F
% Relative Humidity:	37	72	25
Wind Velocity, Unit:	5 MPH	10 MPH	12 MPH
Soil Temp., Unit:	55 F	64 F	70 F
Soil Moisture:	DAMP	DRY	DRY
% Cloud Cover:	0	100	30

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V2-V3	ZEAMD V4
Stage Scale:	-	DESC	DESC
Height, Unit:	-	3.5 IN	7 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-3 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	0.5-2 IN	2-5 IN
Density, Unit:	- -	35 FT2	35 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-3	ABUTH COTYL-5
Stage Scale:	-	0.5-2 IN	1-4 IN
Density, Unit:	- -	0-2 FT2	0-3 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-5 LEAF	AMATA NUMEROUS
Stage Scale:	-	0.5-1 IN	2-5 IN
Density, Unit:	- -	0-20 FT2	5-10 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-2 IN	2-5 IN
Density, Unit:	- -	0-5 FT2	5-20 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO
Operating Pressure:	25	25	25
Nozzle Type:	11003	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Postemergence applications of Roundup WeatherMAX in tank-mixture with DPX-E9636, Cinch, Cinch ATZ and others for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								07-23-03	06-12-03	06-20-03	06-20-03	06-20-03	06-20-03
Trt-Eval Interval								64 DA-A	7 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit	Appl Code					
1	Untreated								26	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.7 LB AE/A 2.0 LB/A	20.0 FL OZ/A 2.0 LB/A	EPOST B EPOST B			26	0	0	99	99
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.7 LB AE/A 0.188 OZ A/A 2.0 LB/A	20.0 FL OZ/A 0.75 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			28	0	0	99	99
4	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.7 LB AE/A 0.375 OZ A/A 2.0 LB/A	20.0 FL OZ/A 1.5 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			28	0	0	99	99
5	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7 LB AE/A 1.27 LB A/A 2.0 LB/A	20.0 FL OZ/A 1.33 PT/A 2.0 LB/A	EPOST B EPOST B EPOST B			29	0	0	99	99
6	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7 LB AE/A 2.9 LB A/A 2.0 LB/A	20.0 FL OZ/A 4.2 PT/A 2.0 LB/A	EPOST B EPOST B EPOST B			27	0	0	99	99
7	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5	SL L DF	0.7 LB AE/A 2.25 LB A/A 2.0 LB/A	20.0 FL OZ/A 3.0 PT/A 2.0 LB/A	EPOST B EPOST B EPOST B			28	0	0	99	99
8	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.35 LB AE/A 0.188 OZ A/A 2.0 LB/A	10.0 FL OZ/A 0.75 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			27	0	0	99	98
9	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.35 LB AE/A 0.375 OZ A/A 2.0 LB/A	10.0 FL OZ/A 1.5 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			27	0	0	99	98
10	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.176 LB AE/A 0.188 OZ A/A 2.0 LB/A	5.0 FL OZ/A 0.75 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			28	0	0	99	96
11	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.176 LB AE/A 0.375 OZ A/A 2.0 LB/A	5.0 FL OZ/A 1.5 OZ WT/A 2.0 LB/A	EPOST B EPOST B EPOST B			26	0	0	99	98
12	Steadfast Callisto Atrazine Agridex AMS	75	WG SC DF	0.56 OZ A/A 0.047 LB A/A 12.0 OZ A/A 1.0 % V/V 2.0 LB/A	0.75 OZ WT/A 1.5 FL OZ/A 0.83 LB/A 1.0 % V/V 2.0 LB/A	EPOST B EPOST B EPOST B EPOST B EPOST B			27	0	0	99	99
13	Roundup WeatherMAX AMS	4.5	SL DF	0.7 LB AE/A 2.0 LB/A	20.0 FL OZ/A 2.0 LB/A	MPOST C MPOST C			29	0	3	99	99
14	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF DF	0.7 LB AE/A 0.375 OZ A/A 2.0 LB/A	20.0 FL OZ/A 1.5 OZ WT/A 2.0 LB/A	MPOST C MPOST C MPOST C			29	0	15	99	99
15	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7 LB AE/A 1.27 LB A/A 2.0 LB/A	20.0 FL OZ/A 1.33 PT/A 2.0 LB/A	MPOST C MPOST C MPOST C			28	0	5	99	96
16	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7 LB AE/A 2.9 LB A/A 2.0 LB/A	20.0 FL OZ/A 4.2 PT/A 2.0 LB/A	MPOST C MPOST C MPOST C			29	0	0	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD STAND 17.42 FT 07-23-03 64 DA-A	ZEAMD PHYGEN PERCENT 06-12-03 7 DA-B	ZEAMD PHYGEN PERCENT 06-20-03 15 DA-B	SETFA CONTROL PERCENT 06-20-03 15 DA-B	ABUTH CONTROL PERCENT 06-20-03 15 DA-B	AMATA CONTROL PERCENT 06-20-03 15 DA-B			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
17	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5 6 DF	SL L DF	0.7 2.25 2.0	LB LB LB	AE/A A/A A	20.0 3.0 2.0	FL PT/A LB/A	OZ/A MPOST MPOST	C C C	29	0	2	98	99	99	
18	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.35 0.375 2.0	LB OZ LB	AE/A A/A A	10.0 1.5 2.0	FL OZ LB	OZ/A WT/A LB/A	MPOST MPOST MPOST	C C C	28	0	13	98	98	98
19	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.176 0.375 2.0	LB OZ LB	AE/A A/A A	5.0 1.5 2.0	FL OZ LB	OZ/A WT/A LB/A	MPOST MPOST MPOST	C C C	27	0	10	98	95	96
20	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ LB OZ % LB	A/A A/A A/A V/V A	0.75 1.5 0.83 1.0 2.0	OZ FL LB % LB	WT/A OZ/A A/A V/V LB/A	MPOST MPOST MPOST MPOST MPOST	C C C C C	27	0	7	87	99	99
21	Cinch Roundup WeatherMAX AMS	7.64 4.5 DF	EC SL DF	1.24 0.7 2.0	LB LB LB	A/A AE/A A	1.3 20.0 2.0	PT/A FL LB	PRE OZ/A LB/A	A MPOST MPOST	A C C	28	0	2	99	98	99
22	Harness Roundup WeatherMAX AMS	7 4.5 DF	EC SL DF	1.31 0.7 2.0	LB LB LB	A/A AE/A A	1.5 20.0 2.0	PT/A FL LB	PRE OZ/A LB/A	A MPOST MPOST	A C C	28	0	0	99	99	99
23	Cinch Steadfast Callisto Atrazine Agridex AMS	7.64 75 4 90 L DF	EC WG SC DF L DF	0.64 0.56 0.047 12.0 1.0 2.0	LB OZ LB OZ % LB	A/A A/A A/A A/A V/V A	0.67 0.75 1.5 0.83 1.0 2.0	PT/A OZ FL LB % LB	PRE WT/A OZ/A A/A V/V LB/A	A MPOST MPOST MPOST MPOST MPOST	A C C C C C	28	0	8	93	99	99
24	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.188 2.0	LB OZ LB	AE/A A/A A	26.0 0.75 2.0	FL OZ LB	OZ/A WT/A LB/A	EPOST EPOST EPOST	B B B	27	0	0	99	99	98
25	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.375 2.0	LB OZ LB	AE/A A/A A	26.0 1.5 2.0	FL OZ LB	OZ/A WT/A LB/A	EPOST EPOST EPOST	B B B	29	0	0	99	99	98
26	Roundup UltraMAX Cinch AMS	3.7 7.64 DF	SL EC DF	0.75 1.27 2.0	LB LB LB	AE/A A/A A	26.0 1.33 2.0	FL PT/A LB	OZ/A A/A LB/A	EPOST EPOST EPOST	B B B	29	0	0	99	98	98
LSD (P=.05)										3.6	0.0	2.8	1.9	2.6	2.3		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 06-20-03 15 DA-B	ZEAMD PHYGEN PERCENT 07-03-03 28 DA-B	SETFA CONTROL PERCENT 07-03-03 28 DA-B	ABUTH CONTROL PERCENT 07-03-03 28 DA-B	AMATA CONTROL PERCENT 07-03-03 28 DA-B	CHEAL CONTROL PERCENT 07-03-03 28 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	99	0	38	42	42	37
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	99	0	57	47	55	77
4	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	99	2	65	47	77	85
5	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	96	0	93	12	95	35
6	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	99	0	92	63	99	99
7	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST B	B	99	0	93	37	99	98
8	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.35	LB AE/A LB/A	10.0	FL OZ/A LB/A	EPOST B	B	98	0	60	43	47	57
9	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.35	LB AE/A LB/A	10.0	FL OZ/A LB/A	EPOST B	B	99	0	73	47	62	85
10	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.176	LB AE/A LB/A	5.0	FL OZ/A LB/A	EPOST B	B	92	0	58	38	45	47
11	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.176	LB AE/A LB/A	5.0	FL OZ/A LB/A	EPOST B	B	95	0	57	38	55	67
12	Steadfast Callisto Atrazine Agridex AMS	75	WG SC DF	0.56	OZ A/A LB/A	0.75	OZ WT/A LB/A	EPOST B	B	99	0	63	91	99	99
13	Roundup WeatherMAX AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST C	C	99	2	88	88	95	99
14	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST C	C	99	7	92	88	98	98
15	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST C	C	98	2	95	82	98	98
16	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST C	C	99	0	99	96	99	99
17	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST C	C	99	2	98	96	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										CHEAL CONTROL PERCENT 06-20-03 15 DA-B	ZEAMD PHYGEN PERCENT 07-03-03 28 DA-B	SETFA CONTROL PERCENT 07-03-03 28 DA-B	ABUTH CONTROL PERCENT 07-03-03 28 DA-B	AMATA CONTROL PERCENT 07-03-03 28 DA-B	CHEAL CONTROL PERCENT 07-03-03 28 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Unit Unit	Grow Stg	Appl Code						
18	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.35 0.375 2.0	LB AE/A OZ A/A LB/A	10.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	MPOST MPOST MPOST	C C C		98	5	90	87	93	88
19	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.176 0.375 2.0	LB AE/A OZ A/A LB/A	5.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	MPOST MPOST MPOST	C C C		87	3	92	88	93	72
20	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 0.83 1.0 2.0	OZ WT/A FL OZ/A LB/A % V/V LB/A	MPOST MPOST MPOST MPOST MPOST	C C C C C		99	2	87	96	99	99
21	Cinch Roundup WeatherMAX AMS	7.64 4.5 DF	EC SL DF	1.24 0.7 2.0	LB A/A LB AE/A LB/A	1.3 20.0 2.0	PT/A FL OZ/A LB/A	PRE MPOST MPOST	A C C		99	0	98	78	99	98
22	Harness Roundup WeatherMAX AMS	7 4.5 DF	EC SL DF	1.31 0.7 2.0	LB A/A LB AE/A LB/A	1.5 20.0 2.0	PT/A FL OZ/A LB/A	PRE MPOST MPOST	A C C		99	0	93	75	99	99
23	Cinch Steadfast Callisto Atrazine Agridex AMS	7.64 75 4 90 L DF	EC WG SC DF L DF	0.64 0.56 0.047 12.0 1.0 2.0	LB A/A OZ A/A LB A/A OZ A/A % V/V LB/A	0.67 0.75 1.5 0.83 1.0 2.0	PT/A OZ WT/A FL OZ/A LB/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST MPOST	A C C C C C		99	2	92	92	99	99
24	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.188 2.0	LB AE/A OZ A/A LB/A	26.0 0.75 2.0	FL OZ/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B		99	2	60	50	57	75
25	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.375 2.0	LB AE/A OZ A/A LB/A	26.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B		99	0	67	47	62	92
26	Roundup UltraMAX Cinch AMS	3.7 7.64 DF	SL EC DF	0.75 1.27 2.0	LB AE/A LB A/A LB/A	26.0 1.33 2.0	FL OZ/A PT/A LB/A	EPOST EPOST EPOST	B B B		99	0	93	18	95	60
LSD (P=.05)											2.9	2.8	7.5	17.0	11.7	10.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYGEN PERCENT 08-04-03 52 DA-C	SETFA CONTROL PERCENT 08-04-03 52 DA-C	ABUTH CONTROL PERCENT 08-04-03 52 DA-C	AMATA CONTROL PERCENT 08-04-03 52 DA-C	CHEAL CONTROL PERCENT 08-04-03 52 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	0	38	42	42	37
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	0	52	38	52	77
4	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	2	57	42	75	85
5	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	0	90	7	95	30
6	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	0	85	38	99	99
7	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	EPOST	B	0	87	17	99	98
8	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.35	LB AE/A LB/A	10.0	FL OZ/A LB/A	EPOST	B	0	58	28	47	57
9	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.35	LB AE/A LB/A	10.0	FL OZ/A LB/A	EPOST	B	0	70	32	53	85
10	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.176	LB AE/A LB/A	5.0	FL OZ/A LB/A	EPOST	B	0	53	13	42	43
11	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.176	LB AE/A LB/A	5.0	FL OZ/A LB/A	EPOST	B	0	53	28	52	62
12	Steadfast Callisto Atrazine Agridex AMS	75	WG SC DF	0.56	OZ A/A LB/A	0.75	OZ WT/A LB/A	EPOST	B	0	57	91	99	99
13	Roundup WeatherMAX AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST	C	2	75	88	95	99
14	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST	C	5	83	88	96	98
15	Roundup WeatherMAX Cinch AMS	4.5	SL EC DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST	C	0	88	82	98	98
16	Roundup WeatherMAX Cinch ATZ AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST	C	0	99	96	99	99
17	Roundup WeatherMAX Cinch ATZ Lite AMS	4.5	SL L DF	0.7	LB AE/A LB/A	20.0	FL OZ/A LB/A	MPOST	C	0	98	96	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYGEN PERCENT 08-04-03 52 DA-C	SETFA CONTROL PERCENT 08-04-03 52 DA-C	ABUTH CONTROL PERCENT 08-04-03 52 DA-C	AMATA CONTROL PERCENT 08-04-03 52 DA-C	CHEAL CONTROL PERCENT 08-04-03 52 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
18	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.35 0.375 2.0	LB AE/A OZ A/A LB/A	10.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	MPOST MPOST MPOST	C C C	0	77	85	92	90
19	Roundup WeatherMAX DPX-E9636 AMS	4.5 25 DF	SL DF DF	0.176 0.375 2.0	LB AE/A OZ A/A LB/A	5.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	MPOST MPOST MPOST	C C C	3	77	87	93	68
20	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.56 0.047 12.0 1.0 2.0	OZ A/A LB A/A OZ A/A % V/V LB/A	0.75 1.5 0.83 1.0 2.0	OZ WT/A FL OZ/A LB/A % V/V LB/A	MPOST MPOST MPOST MPOST MPOST	C C C C C	0	78	95	99	99
21	Cinch Roundup WeatherMAX AMS	7.64 4.5 DF	EC SL DF	1.24 0.7 2.0	LB A/A LB AE/A LB/A	1.3 20.0 2.0	PT/A FL OZ/A LB/A	PRE MPOST MPOST	A C C	0	93	78	99	98
22	Harness Roundup WeatherMAX AMS	7 4.5 DF	EC SL DF	1.31 0.7 2.0	LB A/A LB AE/A LB/A	1.5 20.0 2.0	PT/A FL OZ/A LB/A	PRE MPOST MPOST	A C C	0	87	73	99	99
23	Cinch Steadfast Callisto Atrazine Agridex AMS	7.64 75 4 90 L DF	EC WG SC DF L DF	0.64 0.56 0.047 12.0 1.0 2.0	LB A/A OZ A/A LB A/A OZ A/A % V/V LB/A	0.67 0.75 1.5 0.83 1.0 2.0	PT/A OZ WT/A FL OZ/A LB/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST MPOST	A C C C C C	0	85	90	99	99
24	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.188 2.0	LB AE/A OZ A/A LB/A	26.0 0.75 2.0	FL OZ/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B	2	57	38	57	75
25	Roundup UltraMAX DPX-E9636 AMS	3.7 25 DF	SL DF DF	0.75 0.375 2.0	LB AE/A OZ A/A LB/A	26.0 1.5 2.0	FL OZ/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B	0	60	42	62	92
26	Roundup UltraMAX Cinch AMS	3.7 7.64 DF	SL EC DF	0.75 1.27 2.0	LB AE/A LB A/A LB/A	26.0 1.33 2.0	FL OZ/A PT/A LB/A	EPOST EPOST EPOST	B B B	0	88	15	95	60
LSD (P=.05)										1.9	10.5	23.1	13.7	10.8

Iowa State University

Preemergence applied Degree Xtra, Harness Xtra, and Atrazine followed by postemergence Roundup WeatherMAX for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 5
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-18-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate the use of residual herbicides and postemergence applied Roundup WeatherMAX for crop phytotoxicity and weed control in a Roundup Ready corn system.

Conclusions: Corn stand was not affected by herbicide treatment. Excellent crop safety was observed with PRE treatments on June 19. PRE applied 1x rates of Degree Xtra at 3.45 qt/A and Harness Extra at 2.3 qt/A afforded 87 and 98% giant foxtail control, respectively, when observed on June 19, 30 days after application. Degree Xtra at 1/2 and 3/4x rates gave 82 and 90% control, respectively, while Harness Xtra at 1/2 and 3/4x rates gave 87 and 95% control, respectively. PRE Atrazine provided 53% giant foxtail control. Significant differences were observed between the PRE treatments. Poor to fair velvetleaf control was observed with the PRE treatments on June 19, while control of common waterhemp and common lambsquarters was mostly excellent. Exceptions were for common lambsquarters control with Degree Xtra at 1.72 qt/A (1/2x rate) and Harness Xtra at 1.15 qt/A (3/4x rate).

Corn injury was observed with EPOST and POST Roundup WeatherMAX treatments on July 4. Injury was not considered serious. Following the applications of EPOST and POST treatments, giant foxtail, common waterhemp and common lambsquarters control was 99% on July 4. On August 14, control of these species remained good to excellent. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** DEKALB DKC 58-24
Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	05-20-03	06-13-03	06-20-03	07-01-03
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	62 F	82 F	64 F	83 F
% Relative Humidity:	37	25	25	61
Wind Velocity, Unit:	5 MPH	8 MPH	5 MPH	5 MPH
Soil Temp., Unit:	55 F	73 F	75 F	76 F
Soil Moisture:	DAMP	DRY	DRY	MOIST
% Cloud Cover:	0	30	20	30

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V6	ZEAMD V8
Stage Scale:	-	DESC	DESC	DESC
Height, Unit:	-	7 IN	14 IN	24 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 2-4 LEAF	SETFA 1-2 LEAF
Stage Scale:	-	1-4 IN	5-5 IN	0.5-1 IN
Density, Unit:	- -	30 FT2	0-10 FT2	0-10 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-4	ABUTH 3-6 LEAF	ABUTH COTYL
Stage Scale:	-	1-3 IN	2-4 IN	0.5 IN
Density, Unit:	- -	0-5 FT2	0-1 FT2	0-5 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS	AMATA COTYL
Stage Scale:	-	1-3 IN	1-4 IN	0.125 IN
Density, Unit:	- -	1-10 FT2	0-1 FT2	0-10 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS	CHEAL -
Stage Scale:	-	1-3 IN	2-5 IN	-
Density, Unit:	- -	5-20 FT2	0-2 FT2	- -

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	25	25	25	30
Nozzle Type:	11003	11002	11002	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

Iowa State University

Preemergence applied Degree Xtra, Harness Xtra, and Atrazine followed by postemergence Roundup WeatherMAX for weed control in corn, Ames, IA, 2003.

Trial ID: ACS 5

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code	ZEAMD STAND	ZEAMD PHYGEN	SETFA CONTROL	ABUTH CONTROL	AMATA CONTROL	CHEAL CONTROL								
Rating Data Type	17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT								
Rating Unit	08-05-03	06-19-03	06-19-03	06-19-03	06-19-03	06-19-03								
Rating Date	77 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A								
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								24	0	0	0	0	0
2	Degree Xtra	4.04	CS	1.74 LB A/A	1.72 QT/A	PRE	A		24	0	82	53	99	88
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
3	Degree Xtra	4.04	CS	2.61 LB A/A	2.58 QT/A	PRE	A		26	0	90	68	99	98
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
4	Degree Xtra	4.04	CS	3.48 LB A/A	3.45 QT/A	PRE	A		25	0	87	72	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
5	Harness Xtra	6	SE	1.73 LB A/A	1.15 QT/A	PRE	A		24	0	87	47	99	88
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
6	Harness Xtra	6	SE	2.59 LB A/A	1.73 QT/A	PRE	A		25	0	95	72	99	96
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
7	Harness Xtra	6	SE	3.45 LB A/A	2.3 QT/A	PRE	A		25	0	98	76	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
8	Degree Xtra	4.04	CS	1.74 LB A/A	1.72 QT/A	EPOST	B		24	0	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPOST	B							
	AMS		DF	2.0 % W/V	2.0 % W/V	EPOST	B							
9	Degree Xtra	4.04	CS	2.61 LB A/A	2.58 QT/A	EPOST	B		23	0	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPOST	B							
	AMS		DF	2.0 % W/V	2.0 % W/V	EPOST	B							
10	Harness Xtra	6	SE	1.73 LB A/A	1.15 QT/A	EPOST	B		25	0	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPOST	B							
	AMS		DF	2.0 % W/V	2.0 % W/V	EPOST	B							
11	Harness Xtra	6	SE	2.59 LB A/A	1.73 QT/A	EPOST	B		24	0	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPOST	B							
	AMS		DF	2.0 % W/V	2.0 % W/V	EPOST	B							
12	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPOST	B		23	0	0	0	0	0
	AMS		DF	2.0 % W/V	2.0 % W/V	EPOST	B							
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
13	Atrazine	4	L	2.0 LB A/A	4.0 PT/A	PRE	A		25	0	53	53	98	98
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	POST	C							
	AMS		DF	2.0 % W/V	2.0 % W/V	POST	C							
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	DPOST	D							
	AMS		DF	2.0 % W/V	2.0 % W/V	DPOST	D							
LSD (P=.05)									4.5	0.0	5.5	22.3	1.1	5.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD PHYGEN PERCENT 06-28-03 8 DA-C	ZEAMD PHYGEN PERCENT 07-04-03 21 DA-B	SETFA CONTROL PERCENT 07-04-03 21 DA-B	ABUTH CONTROL PERCENT 07-04-03 21 DA-B	AMATA CONTROL PERCENT 07-04-03 21 DA-B	CHEAL CONTROL PERCENT 07-04-03 21 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	Degree Xtra	4.04	CS	1.74 LB A/A	1.72 QT/A		PRE	A	0	3	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
3	Degree Xtra	4.04	CS	2.61 LB A/A	2.58 QT/A		PRE	A	0	2	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
4	Degree Xtra	4.04	CS	3.48 LB A/A	3.45 QT/A		PRE	A	0	2	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
5	Harness Xtra	6	SE	1.73 LB A/A	1.15 QT/A		PRE	A	0	2	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
6	Harness Xtra	6	SE	2.59 LB A/A	1.73 QT/A		PRE	A	0	0	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
7	Harness Xtra	6	SE	3.45 LB A/A	2.3 QT/A		PRE	A	0	0	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
8	Degree Xtra	4.04	CS	1.74 LB A/A	1.72 QT/A		EPOST	B	0	5	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST	B						
	AMS		DF	2.0 % W/V	2.0 % W/V		EPOST	B						
9	Degree Xtra	4.04	CS	2.61 LB A/A	2.58 QT/A		EPOST	B	0	5	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST	B						
	AMS		DF	2.0 % W/V	2.0 % W/V		EPOST	B						
10	Harness Xtra	6	SE	1.73 LB A/A	1.15 QT/A		EPOST	B	0	5	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST	B						
	AMS		DF	2.0 % W/V	2.0 % W/V		EPOST	B						
11	Harness Xtra	6	SE	2.59 LB A/A	1.73 QT/A		EPOST	B	0	7	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST	B						
	AMS		DF	2.0 % W/V	2.0 % W/V		EPOST	B						
12	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		EPOST	B	0	0	99	99	99	99
	AMS		DF	2.0 % W/V	2.0 % W/V		EPOST	B						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
13	Atrazine	4	L	2.0 LB A/A	4.0 PT/A		PRE	A	0	2	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST	C						
	AMS		DF	2.0 % W/V	2.0 % W/V		POST	C						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		DPOST	D						
	AMS		DF	2.0 % W/V	2.0 % W/V		DPOST	D						
LSD (P=.05)									0.0	3.1	0.0	0.0	0.0	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 08-14-03 62 DA-B	ABUTH CONTROL PERCENT 08-14-03 62 DA-B	AMATA CONTROL PERCENT 08-14-03 62 DA-B	CHEAL CONTROL PERCENT 08-14-03 62 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Degree Xtra	4.04	CS	1.74	LB A/A	1.72	QT/A	PRE	A	98	96	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
3	Degree Xtra	4.04	CS	2.61	LB A/A	2.58	QT/A	PRE	A	98	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
4	Degree Xtra	4.04	CS	3.48	LB A/A	3.45	QT/A	PRE	A	98	95	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
5	Harness Xtra	6	SE	1.73	LB A/A	1.15	QT/A	PRE	A	95	95	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
6	Harness Xtra	6	SE	2.59	LB A/A	1.73	QT/A	PRE	A	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
7	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
8	Degree Xtra	4.04	CS	1.74	LB A/A	1.72	QT/A	EPOST	B	98	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B				
	AMS		DF	2.0	% W/V	2.0	% W/V	EPOST	B				
9	Degree Xtra	4.04	CS	2.61	LB A/A	2.58	QT/A	EPOST	B	99	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B				
	AMS		DF	2.0	% W/V	2.0	% W/V	EPOST	B				
10	Harness Xtra	6	SE	1.73	LB A/A	1.15	QT/A	EPOST	B	98	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B				
	AMS		DF	2.0	% W/V	2.0	% W/V	EPOST	B				
11	Harness Xtra	6	SE	2.59	LB A/A	1.73	QT/A	EPOST	B	96	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B				
	AMS		DF	2.0	% W/V	2.0	% W/V	EPOST	B				
12	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	92	93	98	99
	AMS		DF	2.0	% W/V	2.0	% W/V	EPOST	B				
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
13	Atrazine	4	L	2.0	LB A/A	4.0	PT/A	PRE	A	98	98	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	% W/V	2.0	% W/V	POST	C				
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	DPOST	D				
	AMS		DF	2.0	% W/V	2.0	% W/V	DPOST	D				
LSD (P=.05)										3.9	5.0	1.1	0.0

Iowa State University

FulTime, Keystone, Surpass, Hornet WDG, Callisto, Glyphomax Plus, Glyphomax HC, and other herbicides used in one or two-pass programs in corn, Ames, IA, 2003.

Trial ID: ACS 6
Location: Ames

Study Dir.: Owen/Lux/Franzeburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzeburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-18-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate various one and two-pass corn herbicide programs utilizing FulTime, Keystone, Hornet WDG and others for crop phytotoxicity and weed control.

Conclusions: Significant differences between treatments in corn stand were not caused by the herbicide treatment, but rather a result of variable emergence during wet conditions. Corn injury was observed on June 28 with nearly all PRE, PRE plus POST and EPOST applied treatments. Injury ranged from 2 to 10%.

PRE treatments provided 80 to 93% giant foxtail control when observed on June 19, prior to POST applications on June 20. Velvetleaf control with PRE treatments ranged from 43 to 93%. PRE tank-mixture treatments and 1x labeled rates of prepackaged products generally provided the best control. Common lambsquarters control was excellent with all PRE treatments except Surpass. Observations on July 7, following EPOST and POST applications, demonstrated that giant foxtail control was good to excellent with all treatments except PRE Keystone LA plus Hornet WDG and Topnotch plus Hornet WDG. PRE FulTime provided fair velvetleaf control on July 7, while all other treatments gave good to excellent control. Common lambsquarters control following EPOST and POST applications was excellent with all treatments on July 7. On August 6, PRE Keystone plus Hornet WDG plus Steadfast, PRE FulTime plus POST Glyphomax Plus and PRE Keystone plus POST Glyphomax Plus provided 92% and higher giant foxtail control while all other treatments provided 82% or less. Velvetleaf and common lambsquarters control with the treatments on August 6 remained virtually unchanged from that observed on July 7. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** DEKALB DKC 58-24
Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED
Rate: 27700 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-21-03	06-13-03	06-20-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	59 F	82 F	65 F
% Relative Humidity:	53	25	39
Wind Velocity, Unit:	0 MPH	12 MPH	8 MPH
Soil Temp., Unit:	56 F	70 F	75 F
Soil Moisture:	DAMP	DRY	DRY
% Cloud Cover:	0	30	20

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	14 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 2-4 LEAF
Stage Scale:	-	2-6 IN	2-5 IN
Density, Unit:	- -	25 FT ²	5-10 FT ²
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-4	ABUTH 4-8 LEAF
Stage Scale:	-	1-4 IN	2-6 IN
Density, Unit:	- -	0-4 FT ²	1-5 FT ²
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA -
Stage Scale:	-	1-6 IN	-
Density, Unit:	- -	5-30 FT ²	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	1-4 IN	2-6 IN
Density, Unit:	- -	1-3 FT ²	1-3 FT ²

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO
Operating Pressure:	25	25	25
Nozzle Type:	11003	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

FulTime, Keystone, Surpass, Hornet WDG, Callisto, Glyphomax Plus, Glyphomax HC, and other herbicides used in one or two-pass programs in corn, Ames, IA, 2003.

Trial ID: ACS 6

Study Dir.: Owen/Lux/Franzeburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	CHEAL	ZEAMD
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								08-12-03	06-19-03	06-19-03	06-19-03	06-19-03	06-28-03
Tri-Eval Interval								83 DA-A	29 DA-A	29 DA-A	29 DA-A	29 DA-A	8 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									23	0	0	0
2	FulTime Hornet WDG	4 68.5	CS WG	3.35 0.128	LB A/A LB AE/A	3.35 3.0	QT/A OZ WT/A	PRE PRE	A A	26	8	93	93
3	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	25	7	88	93
4	Surpass Hornet WDG Callisto Atrazine 28% UAN COC	6.4 68.5 4 90 L L	EC WG SC DF L L	2 0.128 0.0234 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.5 3.0 0.75 0.28 2.5 1.0	PT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST POST POST POST POST	A C C C C C	26	3	87	53
5	FulTime Hornet WDG Atrazine 28% UAN COC	4 68.5 90 L L	CS WG DF L L	3.35 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	3.35 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST POST POST POST	A C C C C	27	3	91	60
6	Keystone Hornet WDG Steadfast 28% UAN COC	5.25 68.5 75 L L	SE WG WG L L	2.3 0.128 0.0262 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	1.75 3.0 0.56 2.5 1.0	QT/A OZ WT/A OZ WT/A % V/V % V/V	PRE POST POST POST POST	A C C C C	24	2	85	47
7	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	25	3	93	85
8	Surpass Hornet WDG	6.4 68.5	EC WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	PT/A OZ WT/A	PRE PRE	A A	27	7	88	87
9	Keystone LA Hornet WDG	5.5 68.5	SE WG	2.75 0.128	LB A/A LB AE/A	2.0 3.0	QT/A OZ WT/A	PRE PRE	A A	27	7	83	87
10	Topnotch Hornet WDG	3.2 68.5	CS WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	QT/A OZ WT/A	PRE PRE	A A	25	8	80	87
11	FulTime Glyphomax Plus AMS	4 4 DF	CS SL DF	2.25 1.0 2.5	LB A/A LB A/A LB/A	2.25 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	24	5	83	50
12	Keystone Glyphomax Plus AMS	5.25 4 DF	SE SL DF	2.3 1.0 2.5	LB A/A LB A/A LB/A	1.75 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	26	0	85	43
13	Glyphomax Plus Hornet WDG AMS	4 68.5 DF	SL WG DF	1.0 0.128 2.5	LB A/A LB AE/A LB/A	2.0 3.0 2.5	PT/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B	26	0	0	0
14	Glyphomax Plus AMS	4 DF	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	EPOST EPOST	B B	27	0	0	0
15	Glyphomax HC 5.4 AMS	5.4 DF	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	EPOST EPOST	B B	28	7	0	0
LSD (P=.05)								3.6	6.7	6.9	20.1	6.9	3.3

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 07-07-03 17 DA-C	SETFA CONTROL PERCENT 07-07-03 17 DA-C	ABUTH CONTROL PERCENT 07-07-03 17 DA-C	CHEAL CONTROL PERCENT 07-07-03 17 DA-C	SETFA CONTROL PERCENT 08-06-03 47 DA-C	ABUTH CONTROL PERCENT 08-06-03 47 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	FulTime Hornet WDG	4 68.5	CS WG	3.35 0.128	LB A/A LB AE/A	3.35 3.0	QT/A OZ WT/A	PRE PRE	A A	2	90	93	99	75	93
3	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	0	87	93	99	65	92
4	Surpass Hornet WDG Callisto Atrazine 28% UAN COC	6.4 68.5 4 90 L L	EC WG SC DF L L	2 0.128 0.0234 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.5 3.0 0.75 0.28 2.5 1.0	PT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST POST POST POST POST	A C C C C C	2	87	99	99	72	99
5	FulTime Hornet WDG Atrazine 28% UAN COC	4 68.5 90 L L	CS WG DF L L	3.35 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	3.35 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST POST POST POST	A C C C C	0	93	99	99	82	99
6	Keystone Hornet WDG Steadfast 28% UAN COC	5.25 68.5 75 L L	SE WG WG L L	2.3 0.128 0.0262 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	1.75 3.0 0.56 2.5 1.0	QT/A OZ WT/A OZ WT/A % V/V % V/V	PRE POST POST POST POST	A C C C C	0	95	98	99	93	98
7	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	0	90	68	99	72	63
8	Surpass Hornet WDG	6.4 68.5	EC WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	PT/A OZ WT/A	PRE PRE	A A	0	87	80	92	68	80
9	Keystone LA Hornet WDG	5.5 68.5	SE WG	2.75 0.128	LB A/A LB AE/A	2.0 3.0	QT/A OZ WT/A	PRE PRE	A A	0	83	83	98	65	83
10	Topnotch Hornet WDG	3.2 68.5	CS WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	QT/A OZ WT/A	PRE PRE	A A	0	78	87	90	57	87
11	FulTime Glyphomax Plus AMS	4 4 DF	CS SL DF	2.25 1.0 2.5	LB A/A LB A/A LB/A	2.25 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	0	99	98	99	92	95
12	Keystone Glyphomax Plus AMS	5.25 4 DF	SE SL DF	2.3 1.0 2.5	LB A/A LB A/A LB/A	1.75 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	0	99	99	99	95	96
13	Glyphomax Plus Hornet WDG AMS	4 68.5 DF	SL WG DF	1.0 0.128 2.5	LB A/A LB AE/A LB/A	2.0 3.0 2.5	PT/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B	0	99	99	99	77	96
14	Glyphomax Plus AMS	4 DF	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	EPOST EPOST	B B	2	99	99	99	77	93
15	Glyphomax HC 5.4 AMS	5.4 DF	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	EPOST EPOST	B B	0	99	99	99	77	92
LSD (P=.05)										2.2	4.7	7.8	4.7	7.9	10.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 08-06-03 47 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	FulTime Hornet WDG	4 68.5	CS WG	3.35 0.128	LB A/A LB AE/A	3.35 3.0	QT/A OZ WT/A	PRE PRE	A A	98
3	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99
4	Surpass Hornet WDG Callisto Atrazine 28% UAN COC	6.4 68.5 4 90 L L	EC WG SC DF L L	2 0.128 0.0234 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB/A % V/V % V/V	2.5 3.0 0.75 0.28 2.5 1.0	PT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST POST POST POST POST	A C C C C C	99
5	FulTime Hornet WDG Atrazine 28% UAN COC	4 68.5 90 L L	CS WG DF L L	3.35 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	3.35 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST POST POST POST	A C C C C	99
6	Keystone Hornet WDG Steadfast 28% UAN COC	5.25 68.5 75 L L	SE WG WG L L	2.3 0.128 0.0262 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	1.75 3.0 0.56 2.5 1.0	QT/A OZ WT/A OZ WT/A % V/V % V/V	PRE POST POST POST POST	A C C C C	99
7	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99
8	Surpass Hornet WDG	6.4 68.5	EC WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	PT/A OZ WT/A	PRE PRE	A A	88
9	Keystone LA Hornet WDG	5.5 68.5	SE WG	2.75 0.128	LB A/A LB AE/A	2.0 3.0	QT/A OZ WT/A	PRE PRE	A A	98
10	Topnotch Hornet WDG	3.2 68.5	CS WG	2.0 0.171	LB A/A LB AE/A	2.5 4.0	QT/A OZ WT/A	PRE PRE	A A	90
11	FulTime Glyphomax Plus AMS	4 4 DF	CS SL DF	2.25 1.0 2.5	LB A/A LB A/A LB/A	2.25 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	99
12	Keystone Glyphomax Plus AMS	5.25 4 DF	SE SL DF	2.3 1.0 2.5	LB A/A LB A/A LB/A	1.75 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A C C	99
13	Glyphomax Plus Hornet WDG AMS	4 68.5 DF	SL WG DF	1.0 0.128 2.5	LB A/A LB AE/A LB/A	2.0 3.0 2.5	PT/A OZ WT/A LB/A	EPOST EPOST EPOST	B B B	99
14	Glyphomax Plus AMS	4 DF	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	EPOST EPOST	B B	98
15	Glyphomax HC 5.4 AMS	5.4 DF	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	EPOST EPOST	B B	96
LSD (P=.05)										5.4

Iowa State University

Evaluation of postemergence applications of Option, Define, Liberty, Atrazine, and Equip for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACS 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate various postemergence applied herbicides for corn phytotoxicity and weed control. Herbicides applied alone or in tank-mix combinations included Option, Define, Liberty, Atrazine, and Equip.

Conclusions: No significant differences were determined between treatments in corn stand when observed on July 30. Several EPOST applications resulted in negligible corn injury when observed on June 18, nine days after application. PRE plus EPOST and EPOST treatments afforded good to excellent giant foxtail, velvetleaf, common waterhemp and common lambsquarters control on June 27. PRE Balance applied alone provided fair giant foxtail and common waterhemp control, and good to excellent velvetleaf and common lambsquarters control. Treatments that included a residual PRE followed by EPOST generally provided a higher level of control of both grass and broadleaf weed species than EPOST when observed on July 23. Furthermore, EPOST treatments of Liberty, Equip and Option that included Define and Atrazine in the tank-mixture generally provided better velvetleaf and common waterhemp control on July 23 than those that did not include Atrazine. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD

Variety: PIONEER 33R79

Planting Date: 05-18-03

Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A	B
Application Date:	05-20-03	06-09-03
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	EPOST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	62 F	77 F
% Relative Humidity:	37	68
Wind Velocity, Unit:	5 MPH	2 MPH
Soil Temp., Unit:	55 F	67 F
Soil Moisture:	DAMP	DRY
% Cloud Cover:	0	90

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V3
Stage Scale:	-	DESC
Height, Unit:	-	4 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	1-3 IN
Density, Unit:	- -	25 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-4
Stage Scale:	-	0.5-2 IN
Density, Unit:	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.5-1 IN
Density, Unit:	- -	0-15 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	1-1.5 IN
Density, Unit:	- -	0-10 FT2

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	HAND BOOM	TERRA PRO
Operating Pressure:	25	30
Nozzle Type:	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Evaluation of postemergence applications of Option, Define, Liberty, Atrazine, and Equip for crop phytotoxicity and weed control in corn, Ames, IA, 2003.

Trial ID: ACS 7
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type									STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit									17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									07-30-03	06-18-03	06-27-03	06-27-03	06-27-03	06-27-03	06-27-03
Tri-Eval Interval									71 DA-A	9 DA-B	18 DA-B	18 DA-B	18 DA-B	18 DA-B	18 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product	Product Rate	Grow Unit	Appl Stg							
1	Untreated								26	0	0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE A	26	0	0	63	99	65	90
3	Option MSO 28% UAN	35	WG L L	0.0328 1.5 1.5	LB A/A PT/A QT/A	1.5 1.5 1.5	OZ WT/A PT/A QT/A	EPOST B EPOST B EPOST B	27	2	0	90	95	80	93
4	Balance Pro Option Define MSO 28% UAN	4 35 4	SC WG SC	0.047 0.0328 0.187	LB A/A LB A/A LB A/A	1.5 1.5 6.0	FL OZ/A OZ WT/A FL OZ/A	PRE A EPOST B EPOST B EPOST B EPOST B	27	0	0	98	98	93	99
5	Balance Pro Option Define MSO 28% UAN	4 35 4	SC WG SC	0.047 0.0328 0.3	LB A/A LB A/A LB A/A	1.5 1.5 9.6	FL OZ/A OZ WT/A FL OZ/A	PRE A EPOST B EPOST B EPOST B EPOST B	27	0	0	98	99	95	99
6	Liberty AMS	1.67	SL DF	0.417 3.0	LB A/A LB/A	32.0 3.0	FL OZ/A LB/A	EPOST B EPOST B	26	2	0	99	98	96	99
7	Balance Pro Liberty Define AMS	4 1.67 4	SC SL SC	0.047 0.417 0.187	LB A/A LB A/A LB A/A	1.5 32.0 6.0	FL OZ/A FL OZ/A FL OZ/A	PRE A EPOST B EPOST B EPOST B	26	5	0	99	99	99	99
8	Balance Pro Liberty Define AMS	4 1.67 4	SC SL SC	0.047 0.417 0.3	LB A/A LB A/A LB A/A	1.5 32.0 9.6	FL OZ/A FL OZ/A FL OZ/A	PRE A EPOST B EPOST B EPOST B	27	5	0	99	99	99	99
9	Liberty Define Atrazine AMS	1.67 4 4	SL SC L	0.417 0.187 1.0	LB A/A LB A/A LB A/A	32.0 6.0 1.0	FL OZ/A FL OZ/A QT/A	EPOST B EPOST B EPOST B	28	3	0	99	99	99	99
10	Liberty Define Atrazine AMS	1.67 4 4	SL SC L	0.417 0.3 1.0	LB A/A LB A/A LB A/A	32.0 9.6 1.0	FL OZ/A FL OZ/A QT/A	EPOST B EPOST B EPOST B	29	5	0	99	99	99	99
11	Equip MSO 28% UAN	32	WG L L	0.03 1.5 1.5	LB A/A PT/A QT/A	1.5 1.5 1.5	OZ WT/A PT/A QT/A	EPOST B EPOST B EPOST B	27	0	0	90	93	85	92
12	Equip Define MSO 28% UAN	32 4	WG SC L L	0.03 0.187 1.5 1.5	LB A/A LB A/A PT/A QT/A	1.5 6.0 1.5 1.5	OZ WT/A FL OZ/A PT/A QT/A	EPOST B EPOST B EPOST B EPOST B	27	0	0	92	93	85	95
13	Equip Define MSO 28% UAN	32 4	WG SC L L	0.03 0.3 1.5 1.5	LB A/A LB A/A PT/A QT/A	1.5 9.6 1.5 1.5	OZ WT/A FL OZ/A PT/A QT/A	EPOST B EPOST B EPOST B EPOST B	27	0	0	90	93	87	95

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD STAND 17.42 FT 07-30-03 71 DA-A	ZEAMD PHYGEN 06-18-03 9 DA-B	ZEAMD PHYGEN 06-27-03 18 DA-B	SETFA CONTROL 06-27-03 18 DA-B	ABUTH CONTROL 06-27-03 18 DA-B	AMATA CONTROL 06-27-03 18 DA-B	CHEAL CONTROL 06-27-03 18 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
14	Equip Define	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST B	B	28	0	0	90	98	95	99
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	EPOST B	B							
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST B	B							
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST B	B							
15	Equip Define	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST B	B	28	0	0	90	99	95	99
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	EPOST B	B							
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST B	B							
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST B	B							
LSD (P=.05)										2.8	2.2	0.0	2.1	2.8	10.0	3.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYGEN PERCENT 07-23-03 44 DA-B	SETFA CONTROL PERCENT 07-23-03 44 DA-B	ABUTH CONTROL PERCENT 07-23-03 44 DA-B	AMATA CONTROL PERCENT 07-23-03 44 DA-B	CHEAL CONTROL PERCENT 07-23-03 44 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	0	52	96	58	90
3	Option MSO 28% UAN	35	WG L L	0.0328 1.5 1.5	LB A/A PT/A QT/A	1.5	OZ WT/A PT/A QT/A	EPOST EPOST EPOST	B B B	0	63	88	65	87
4	Balance Pro Option Define MSO 28% UAN	4 35 4	SC WG SC	0.047 0.0328 0.187	LB A/A LB A/A LB A/A	1.5	FL OZ/A OZ WT/A FL OZ/A	PRE EPOST EPOST	A B B	0	87	95	88	99
5	Balance Pro Option Define MSO 28% UAN	4 35 4	SC WG SC	0.047 0.0328 0.3	LB A/A LB A/A LB A/A	1.5	FL OZ/A OZ WT/A FL OZ/A	PRE EPOST EPOST	A B B	0	92	98	90	99
6	Liberty AMS	1.67	SL DF	0.417 3.0	LB A/A LB/A	32.0	FL OZ/A LB/A	EPOST EPOST	B B	0	53	80	67	78
7	Balance Pro Liberty Define AMS	4 1.67 4	SC SL SC	0.047 0.417 0.187	LB A/A LB A/A LB A/A	1.5	FL OZ/A FL OZ/A FL OZ/A	PRE EPOST EPOST	A B B	0	88	98	96	99
8	Balance Pro Liberty Define AMS	4 1.67 4	SC SL SC	0.047 0.417 0.3	LB A/A LB A/A LB A/A	1.5	FL OZ/A FL OZ/A FL OZ/A	PRE EPOST EPOST	A B B	0	92	99	99	99
9	Liberty Define Atrazine AMS	1.67 4	SL SC L DF	0.417 0.187 1.0 3.0	LB A/A LB A/A LB A/A LB/A	32.0	FL OZ/A FL OZ/A QT/A LB/A	EPOST EPOST EPOST EPOST	B B B B	0	77	98	96	99
10	Liberty Define Atrazine AMS	1.67 4 4	SL SC L DF	0.417 0.3 1.0 3.0	LB A/A LB A/A LB A/A LB/A	32.0	FL OZ/A FL OZ/A QT/A LB/A	EPOST EPOST EPOST EPOST	B B B B	0	80	90	96	99
11	Equip MSO 28% UAN	32	WG L L	0.03 1.5 1.5	LB A/A PT/A QT/A	1.5	OZ WT/A PT/A QT/A	EPOST EPOST EPOST	B B B	0	53	83	65	90
12	Equip Define MSO 28% UAN	32 4	WG SC L L	0.03 0.187 1.5 1.5	LB A/A LB A/A PT/A QT/A	1.5	OZ WT/A FL OZ/A PT/A QT/A	EPOST EPOST EPOST EPOST	B B B B	0	58	82	70	93
13	Equip Define MSO 28% UAN	32 4	WG SC L L	0.03 0.3 1.5 1.5	LB A/A LB A/A PT/A QT/A	1.5	OZ WT/A FL OZ/A PT/A QT/A	EPOST EPOST EPOST EPOST	B B B B	0	65	78	75	93
14	Equip Define Atrazine MSO 28% UAN	32 4 4	WG SC L L	0.03 0.187 1.0 1.5	LB A/A LB A/A LB A/A PT/A QT/A	1.5	OZ WT/A FL OZ/A QT/A PT/A QT/A	EPOST EPOST EPOST EPOST EPOST	B B B B B	0	77	95	92	99

Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-23-03	07-23-03	07-23-03	07-23-03	07-23-03	
Trt-Eval Interval									44 DA-B	44 DA-B	44 DA-B	44 DA-B	44 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code					
15	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B	0	78	92	92	99
	Define	4	SC	0.3	LB A/A	9.6	FL OZ/A	EPOST	B					
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	EPOST	B					
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B					
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST	B					
LSD (P=.05)										0.0	8.0	15.0	11.6	11.2

Iowa State University

Preemergence applied Balance Pro, Define and others, and postemergence Liberty, Option, Atrazine, Equip, and Distinct performance in corn, Ames, IA, 2003.

Trial ID: ACS 8

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate crop phytotoxicity and weed control from various one-pass and two-pass herbicide programs. Preemergence applications included Balance Pro, Atrazine, Define, and Axiom and postemergence applications included Liberty, Option, Atrazine, Equip, and Distinct.

Conclusions: There were no significant differences observed between treatments in corn stand. Significant corn injury was observed on June 18 from PRE applied Balance Pro plus Atrazine followed by MPOST Option and MPOST Option plus Distinct. Negligible injury was observed from several EPOST treatments. Giant foxtail control was generally good to excellent with all the treatments when observed on June 18, 28 days after PRE applications. Velvetleaf, common waterhemp and common lambsquarters control was also good to excellent with the treatments except PRE Axiom plus Atrazine. Fair control of velvetleaf was provided by this treatment. Poor to excellent ivyleaf morningglory control was noted on June 18, and control was dependent upon the herbicide treatment and application timing.

Mid and late season evaluations on July 18 and August 15 demonstrated that, in general, PRE and PRE plus EPOST or MPOST treatments provided good to excellent control of the heavy infestation of giant foxtail. EPOST and MPOST treatments provided only poor to fair control on July 18 and August 15. PRE Axiom plus Atrazine, EPOST Liberty plus Define plus Atrazine and EPOST Equip plus Distinct did not adequately control velvetleaf on July 18 and August 15. Furthermore, EPOST Equip plus Distinct did not adequately control common waterhemp. In general, all other treatment combinations and application timings provided good to excellent control of these species on the two observation dates. Ivyleaf morningglory control was dependent upon the herbicide treatment and application timing. Most treatments failed to provide acceptable control on July 18 and August 15. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, ANNUAL	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD **Variety:** PIONEER 33R79

Planting Date: 05-18-03 **Planting Method:** DIRECT DRILLED

Rate: 27700 SEEDS/A **Depth:** 1.5 IN

Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3

Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-21-03	06-05-03	06-13-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	59 F	74 F	82 F
% Relative Humidity:	53	72	25
Wind Velocity, Unit:	0 MPH	10 MPH	9 MPH
Soil Temp., Unit:	56 F	64 F	70 F
Soil Moisture:	DAMP	DRY	DRY
% Cloud Cover:	0	100	30

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V2-V3	ZEAMD V4
Stage Scale:	-	DESC	DESC
Height, Unit:	-	3.5 IN	7 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-3 LEAF	SETFA 1-3 LEAF
Stage Scale:	-	0.5-2 IN	0.5-5 IN
Density, Unit:	- -	35 FT2	20 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-3	ABUTH COTYL-4
Stage Scale:	-	0.5-2 IN	1-3 IN
Density, Unit:	- -	0-2 FT2	0-2 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-5 LEAF	AMATA NUMEROUS
Stage Scale:	-	0.5-1 IN	0.5-4 IN
Density, Unit:	- -	0-20 FT2	0-8 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-2 IN	0.5-3 IN
Density, Unit:	- -	0-5 FT2	0-8 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-2	IPOHE COTYL-4
Stage Scale:	-	0.5-2 IN	0.5-3 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO
Operating Pressure:	25	25	25
Nozzle Type:	11003	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Preemergence applied Balance Pro, Define and others, and postemergence Liberty, Option, Atrazine, Equip, and Distinct performance in corn, Ames, IA, 2003.

Trial ID: ACS 8
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-30-03	06-18-03	06-18-03	06-18-03	06-18-03	06-18-03	
Trt-Eval Interval								70 DA-A	13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code						
1	Untreated								25	0	0	0	0	
2	Balance Pro	4 SC		0.047 LB A/A	1.5 FL OZ/A	PRE	A	A	27	0	99	99	99	
	Liberty	1.67 SL		0.417 LB A/A	32.0 FL OZ/A	MPOST	C							
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	MPOST	C							
	AMS	DF		3.0 LB/A	3.0 LB/A	MPOST	C							
3	Balance Pro	4 SC		0.047 LB A/A	1.5 FL OZ/A	PRE	A	A	27	20	93	98	99	
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	PRE	A							
	Option	35 WG		0.0328 LB A/A	1.5 OZ WT/A	MPOST	C							
	MSO	L		1.5 PT/A	1.5 PT/A	MPOST	C							
	28% UAN	L		1.5 QT/A	1.5 QT/A	MPOST	C							
4	Balance Pro	4 SC		0.047 LB A/A	1.5 FL OZ/A	PRE	A	A	26	0	99	99	99	
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	PRE	A							
	Equip	32 WG		0.03 LB A/A	1.5 OZ WT/A	EPOST	B							
	MSO	L		1.5 PT/A	1.5 PT/A	EPOST	B							
	28% UAN	L		1.5 QT/A	1.5 QT/A	EPOST	B							
5	Balance Pro	4 SC		0.0625 LB A/A	2.0 FL OZ/A	PRE	A	A	24	0	99	99	99	
	Define	4 SC		0.53 LB A/A	17.0 FL OZ/A	PRE	A							
	Atrazine	4 L		2.0 LB A/A	2.0 QT/A	PRE	A							
6	Axiom	68 DF		0.765 LB A/A	18.0 OZ WT/A	PRE	A	A	25	0	90	77	96	
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	PRE	A							
7	Epic	58 DF		0.435 LB A/A	12.0 OZ WT/A	PRE	A	A	25	0	98	99	99	
	Atrazine	4 L		1.5 LB A/A	1.5 QT/A	PRE	A							
8	Liberty	1.67 SL		0.417 LB A/A	32.0 FL OZ/A	EPOST	B		25	0	99	99	99	
	Define	4 SC		0.234 LB A/A	7.5 FL OZ/A	EPOST	B							
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	EPOST	B							
	AMS	DF		3.0 LB/A	3.0 LB/A	EPOST	B							
9	Liberty	1.67 SL		0.417 LB A/A	32.0 FL OZ/A	EPOST	B		27	0	99	99	99	
	Atrazine	4 L		1.5 LB A/A	1.5 QT/A	EPOST	B							
	AMS	DF		3.0 LB/A	3.0 LB/A	EPOST	B							
10	Equip	32 WG		0.03 LB A/A	1.5 OZ WT/A	EPOST	B		25	2	95	99	92	
	Atrazine	4 L		1.5 LB A/A	1.5 QT/A	EPOST	B							
	MSO	L		1.5 PT/A	1.5 PT/A	EPOST	B							
	28% UAN	L		1.5 QT/A	1.5 QT/A	EPOST	B							
11	Equip	32 WG		0.03 LB A/A	1.5 OZ WT/A	EPOST	B		26	3	92	90	99	
	Distinct	70 WG		0.131 LB A/A	3.0 OZ WT/A	EPOST	B							
	MSO	L		1.5 PT/A	1.5 PT/A	EPOST	B							
	28% UAN	L		1.5 QT/A	1.5 QT/A	EPOST	B							
12	Define	4 SC		0.67 LB A/A	21.5 FL OZ/A	PRE	A	A	27	3	98	99	99	
	Atrazine	4 L		1.5 LB A/A	1.5 QT/A	PRE	A							
	Callisto	4 SC		0.047 LB A/A	1.5 FL OZ/A	MPOST	C							
	Buctril + Atrazine	3 SC		0.75 LB A/A	2.0 PT/A	MPOST	C							
13	Option	35 WG		0.0328 LB A/A	1.5 OZ WT/A	MPOST	C		26	18	77	85	87	
	Distinct	70 WG		0.131 LB A/A	3.0 OZ WT/A	MPOST	C							
	MSO	L		1.5 PT/A	1.5 PT/A	MPOST	C							
	28% UAN	L		1.5 QT/A	1.5 QT/A	MPOST	C							
LSD (P=.05)									4.3	2.6	2.8	2.8	2.2	1.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										IPOHE CONTROL PERCENT 06-18-03 13 DA-B	ZEAMD PHYGEN PERCENT 06-28-03 15 DA-C	SETFA CONTROL PERCENT 06-28-03 15 DA-C	ABUTH CONTROL PERCENT 06-28-03 15 DA-C	AMATA CONTROL PERCENT 06-28-03 15 DA-C	CHEAL CONTROL PERCENT 06-28-03 15 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Liberty	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	98	0	98	96	98	99
	Atrazine	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST	C						
	AMS	4	L	1.0	LB A/A	1.0	QT/A	MPOST	C						
			DF	3.0	LB/A	3.0	LB/A	MPOST	C						
3	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	88	7	93	98	98	99
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	PRE	A						
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	C						
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	C						
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	C						
4	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	90	2	88	99	98	94
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	PRE	A						
	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B						
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B						
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST	B						
5	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	PRE	A	87	0	95	99	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PRE	A						
	Atrazine	4	L	2.0	LB A/A	2.0	QT/A	PRE	A						
6	Axiom	68	DF	0.765	LB A/A	18.0	OZ WT/A	PRE	A	57	0	78	70	96	96
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	PRE	A						
7	Epic	58	DF	0.435	LB A/A	12.0	OZ WT/A	PRE	A	88	0	93	98	99	99
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	PRE	A						
8	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	73	2	73	42	91	99
	Define	4	SC	0.234	LB A/A	7.5	FL OZ/A	EPOST	B						
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
9	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	96	0	63	85	96	99
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
10	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B	80	3	63	93	78	99
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	EPOST	B						
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B						
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST	B						
11	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B	65	5	63	47	58	98
	Distinct	70	WG	0.131	LB A/A	3.0	OZ WT/A	EPOST	B						
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B						
	28% UAN		L	1.5	QT/A	1.5	QT/A	EPOST	B						
12	Define	4	SC	0.67	LB A/A	21.5	FL OZ/A	PRE	A	99	0	92	98	99	99
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	PRE	A						
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST	C						
	Buctril + Atrazine	3	SC	0.75	LB A/A	2.0	PT/A	MPOST	C						
13	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	C	85	10	85	96	93	99
	Distinct	70	WG	0.131	LB A/A	3.0	OZ WT/A	MPOST	C						
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	C						
	28% UAN		L	1.5	QT/A	1.5	QT/A	MPOST	C						
LSD (P=.05)										18.2	2.8	7.9	9.6	11.9	4.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										IPOHE CONTROL PERCENT 06-28-03 15 DA-C	ZEAMD PHYGEN PERCENT 07-18-03 35 DA-C	SETFA CONTROL PERCENT 07-18-03 35 DA-C	ABUTH CONTROL PERCENT 07-18-03 35 DA-C	AMATA CONTROL PERCENT 07-18-03 35 DA-C	CHEAL CONTROL PERCENT 07-18-03 35 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Liberty Atrazine AMS	4 1.67 4	SC SL L	0.047 0.417 1.0	LB A/A LB A/A LB A/A	1.5 32.0 1.0	FL OZ/A FL OZ/A QT/A	PRE MPOST MPOST	A C C	92	0	93	96	98	99
3	Balance Pro Atrazine Option MSO 28% UAN	4 4 35	SC L WG	0.047 1.0 0.0328	LB A/A LB A/A LB A/A	1.5 1.0 1.5	FL OZ/A QT/A OZ WT/A	PRE PRE MPOST	A A C	87	0	92	98	98	99
4	Balance Pro Atrazine Equip MSO 28% UAN	4 4 32	SC L WG	0.047 1.0 0.03	LB A/A LB A/A LB A/A	1.5 1.0 1.5	FL OZ/A QT/A OZ WT/A	PRE PRE EPOST	A A B	85	0	83	99	98	99
5	Balance Pro Define Atrazine	4 4 4	SC SC L	0.0625 0.53 2.0	LB A/A LB A/A LB A/A	2.0 17.0 2.0	FL OZ/A FL OZ/A QT/A	PRE PRE PRE	A A A	82	0	95	99	99	99
6	Axiom Atrazine	68 4	DF L	0.765 1.0	LB A/A LB A/A	18.0 1.0	OZ WT/A QT/A	PRE PRE	A A	55	0	77	70	96	96
7	Epic Atrazine	58 4	DF L	0.435 1.5	LB A/A LB A/A	12.0 1.5	OZ WT/A QT/A	PRE PRE	A A	68	0	93	98	99	99
8	Liberty Define Atrazine AMS	1.67 4 4	SL SC L	0.417 0.234 1.0	LB A/A LB A/A LB A/A	32.0 7.5 1.0	FL OZ/A FL OZ/A QT/A	EPOST EPOST EPOST	B B B	63	0	57	40	91	98
9	Liberty Atrazine AMS	1.67 4	SL L	0.417 1.5	LB A/A LB A/A	32.0 1.5	FL OZ/A QT/A	EPOST EPOST	B B	83	0	45	83	96	99
10	Equip Atrazine MSO 28% UAN	32 4	WG L	0.03 1.5	LB A/A LB A/A	1.5 1.5	OZ WT/A QT/A	EPOST EPOST	B B	78	0	47	93	78	99
11	Equip Distinct MSO 28% UAN	32 70	WG WG	0.03 0.131	LB A/A LB A/A	1.5 3.0	OZ WT/A OZ WT/A	EPOST EPOST	B B	62	0	42	47	58	98
12	Define Atrazine Callisto Buctril + Atrazine	4 4 4 3	SC L SC SC	0.67 1.5 0.047 0.75	LB A/A LB A/A LB A/A LB A/A	21.5 1.5 1.5 2.0	FL OZ/A QT/A FL OZ/A PT/A	PRE PRE MPOST MPOST	A A C C	95	0	88	98	99	99
13	Option Distinct MSO 28% UAN	35 70	WG WG	0.0328 0.131	LB A/A LB A/A	1.5 3.0	OZ WT/A OZ WT/A	MPOST MPOST	C C	90	0	80	95	93	99
LSD (P=.05)										21.2	0.0	13.4	10.9	11.9	1.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										IPOHE CONTROL PERCENT 07-18-03 35 DA-C	SETFA CONTROL PERCENT 08-15-03 63 DA-C	ABUTH CONTROL PERCENT 08-15-03 63 DA-C	AMATA CONTROL PERCENT 08-15-03 63 DA-C	CHEAL CONTROL PERCENT 08-15-03 63 DA-C	IPOHE CONTROL PERCENT 08-15-03 63 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Liberty Atrazine AMS	4 1.67 4	SC SL L	0.047 0.417 1.0	LB A/A LB A/A LB A/A	1.5 32.0 1.0	FL OZ/A FL OZ/A QT/A	PRE MPOST MPOST	A C C	83	93	99	99	99	83
3	Balance Pro Atrazine Option MSO 28% UAN	4 4 35	SC L WG	0.047 1.0 0.0328	LB A/A LB A/A LB A/A	1.5 1.0 1.5	FL OZ/A QT/A WT/A	PRE PRE MPOST	A A C	57	92	99	99	99	48
4	Balance Pro Atrazine Equip MSO 28% UAN	4 4 32	SC L WG	0.047 1.0 0.03	LB A/A LB A/A LB A/A	1.5 1.0 1.5	FL OZ/A QT/A OZ WT/A	PRE PRE EPOST	A A B	48	82	99	98	99	45
5	Balance Pro Define Atrazine	4 4 4	SC SC L	0.0625 0.53 2.0	LB A/A LB A/A LB A/A	2.0 17.0 2.0	FL OZ/A FL OZ/A QT/A	PRE PRE PRE	A A A	68	95	99	99	99	60
6	Axiom Atrazine	68 4	DF L	0.765 1.0	LB A/A LB A/A	18.0 1.0	OZ WT/A QT/A	PRE PRE	A A	50	83	70	93	96	50
7	Epic Atrazine	58 4	DF L	0.435 1.5	LB A/A LB A/A	12.0 1.5	OZ WT/A QT/A	PRE PRE	A A	67	93	99	99	99	65
8	Liberty Define Atrazine AMS	1.67 4 4	SL SC L	0.417 0.234 1.0	LB A/A LB A/A LB A/A	32.0 7.5 1.0	FL OZ/A FL OZ/A QT/A	EPOST EPOST EPOST	B B B	52	55	38	91	99	47
9	Liberty Atrazine AMS	1.67 4	SL L	0.417 1.5	LB A/A LB A/A	32.0 1.5	FL OZ/A QT/A	EPOST EPOST	B B	78	45	80	96	99	75
10	Equip Atrazine MSO 28% UAN	32 4	WG L	0.03 1.5	LB A/A LB A/A	1.5 1.5	OZ WT/A QT/A	EPOST EPOST	B B	70	45	93	80	99	70
11	Equip Distinct MSO 28% UAN	32 70	WG WG	0.03 0.131	LB A/A LB A/A	1.5 3.0	OZ WT/A OZ WT/A	EPOST EPOST	B B	53	40	45	60	99	52
12	Define Atrazine Callisto Buctril + Atrazine	4 4 4 3	SC L SC SC	0.67 1.5 0.047 0.75	LB A/A LB A/A LB A/A LB A/A	21.5 1.5 1.5 2.0	FL OZ/A QT/A FL OZ/A PT/A	PRE PRE MPOST MPOST	A A C C	83	88	99	99	99	77
13	Option Distinct MSO 28% UAN	35 70	WG WG	0.0328 0.131	LB A/A LB A/A	1.5 3.0	OZ WT/A OZ WT/A	MPOST MPOST	C C	53	78	95	87	99	48
LSD (P=.05)										24.0	12.6	11.6	12.4	1.1	23.7

Iowa State University

Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control, Ames, IA, 2003.

Trial ID: ACS 9

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-18-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the effectiveness of two-pass and single-pass corn herbicide programs for crop phytotoxicity, weed control and yield.

Conclusions: Significant differences between treatments in corn stand were not a result of the herbicides, but due to inherent variability in planter seeding rates. Observations for corn injury on June 11, prior to POST applications, demonstrated excellent crop safety with the PRE treatments. POST applications of Yukon and Option plus Hornet WDG demonstrated 20% injury when observed on June 16. POST Hornet WDG, Steadfast plus Atrazine, Basis Gold plus Clarity, and Steadfast plus Atrazine plus Callisto caused 10 to 13% crop injury, while injury from other POST treatments was less significant. Crop injury from POST treatments on subsequent observation dates remained at 10% or less.

Giant foxtail control ranged from 78 to 88% for PRE Degree Xtra and Keystone treatments on June 11. Lumax applied alone or with Atrazine, provided 80% control. Outlook and Guardsman Max provided 80 to 83% control. Cinch ATZ provided only 60% control. Velvetleaf control observed on June 11 by PRE treatments was excellent with Lumax and Lumax plus Atrazine. No other PRE treatments provided adequate velvetleaf control. Common waterhemp control was generally good to excellent on June 11 with PRE treatments, providing 85% or higher control. PRE Outlook and Cinch ATZ provided only 33 and 57% control of common lambsquarters, respectively, while the remaining treatments provided at least 83%.

On July 11, treatments with only PRE applications, POST Yukon following PRE Degree Xtra, POST Basis Gold plus Clarity, and POST Celebrity Plus provided 80% or less giant foxtail control. The remaining treatments provided 85 to 99% control. Nearly all of the treatments provided good to excellent velvetleaf control on July 11, following POST applications. Common waterhemp control was excellent on July 11, except for Option plus Hornet WDG, which provided only 42% control. Common lambsquarters control was excellent on July 11, except for PRE Lumax applied alone.

Corn yield in the untreated control was 87 bu/A. Otherwise, treatment yields ranged between 176 to 213 bu/A. Differences in yield between treatments were not statistically different. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 58-24

Planting Date: 05-18-03 Planting Method: DIRECT DRILLED

Rate: 27700 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

Iowa State University

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Fertilization included 127 lb/A actual N applied as urea. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-21-03	06-11-03	06-27-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	59 F	72 F	83 F
% Relative Humidity:	53	31	61
Wind Velocity, Unit:	0 MPH	2 MPH	1 MPH
Soil Temp., Unit:	56 F	69 F	69 F
Soil Moisture:	DAMP	DRY	MOIST
% Cloud Cover:	0	50	10

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V7
Stage Scale:	-	DESC	DESC
Height, Unit:	-	5 IN	24 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	0.5-4 IN	0.5-4 IN
Density, Unit:	- -	5-35 FT2	0-5 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-3	ABUTH 1-2 LEAF
Stage Scale:	-	0.5-3 IN	0.5-1 IN
Density, Unit:	- -	0-3 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.5-4 IN	0.5-4 IN
Density, Unit:	- -	0-15 FT2	0-2 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL 2-8 LEAF
Stage Scale:	-	0.5-2 IN	0.5-3 IN
Density, Unit:	- -	0-15 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	HAND BOOM
Operating Pressure:	25	30	30
Nozzle Type:	11003	11002	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control, Ames, IA, 2003.

Trial ID: ACS 9

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								07-30-03	06-11-03	06-11-03	06-11-03	06-11-03
Trt-Eval Interval								70 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated								27	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE A	27	0	80	96
3	Lumax Atrazine	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE A PRE A	29	0	80	96
4	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	L SC L L L	3.58 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6 3.0 0.5 1.0 2.5	QT/A FL OZ/A QT/A % V/V % V/V	PRE A POST B POST B POST B POST B	26	0	75	62
5	Degree Xtra Yukon COC 28% UAN	4.04 67.5 L L	CS WG L L	3.74 0.169 1.0 2.5	LB A/A LB A/A % V/V % V/V	3.7 4.0 1.0 2.5	QT/A OZ WT/A % V/V % V/V	PRE A POST B POST B POST B	28	0	80	60
6	Outlook Marksman NIS	6 3.2 L	EC FL L	0.98 1.4 0.125	LB A/A LB A/A % V/V	0.656 1.75 0.125	QT/A QT/A % V/V	PRE A POST B POST B	28	0	80	43
7	Guardsman Max Distinct NIS 28% UAN	5 70 L L	SC WG L L	2.87 0.175 0.25 2.5	LB A/A LB A/A % V/V % V/V	2.3 4.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE A POST B POST B POST B	28	0	83	68
8	Keystone Hornet WDG NIS 28% UAN	5.25 68.5 L L	SE WG L L	4.2 0.128 0.25 2.5	LB A/A LB AE/A % V/V % V/V	3.2 3.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE A POST B POST B POST B	27	0	88	72
9	Cinch ATZ Steadfast Atrazine COC 28% UAN	5.5 75 4 L L	L WG L L L	1.03 0.035 1.0 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.75 1.0 1.0 2.5	QT/A OZ WT/A QT/A % V/V % V/V	PRE A POST B POST B POST B POST B	27	0	60	53
10	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5 DF	SC SL DF	1.4 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.0 0.665 17.0	QT/A QT/A LB/100 GAL	PRE A POST B POST B	29	0	78	60
11	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.56 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	0.665 17.0 0.5 17.0	QT/A LB/100 GAL QT/A LB/100 GAL	POST B POST B DPOST C DPOST C	28	0	0	0
12	Basis Gold Clarity NIS 28% UAN	89.5 4 L L	WG SL L L	0.78 0.125 0.25 2.5	LB A/A LB A/A % V/V % V/V	14.0 4.0 0.25 2.5	OZ WT/A FL OZ/A % V/V % V/V	POST B POST B POST B POST B	28	0	0	0
13	Celebrity Plus NIS 28% UAN	70 L L	WG L L	0.206 0.25 2.5	LB A/A % V/V % V/V	4.7 0.25 2.5	OZ WT/A % V/V % V/V	POST B POST B POST B	27	0	0	0
14	Steadfast Atrazine Callisto COC 28% UAN	75 4 4 L L	WG L SC L L	0.035 0.5 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.5 3.0 1.0 2.5	OZ WT/A QT/A FL OZ/A % V/V % V/V	POST B POST B POST B POST B POST B	28	0	0	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 07-30-03 70 DA-A	ZEAMD PHYGEN PERCENT 06-11-03 0 DA-B	SETFA CONTROL PERCENT 06-11-03 0 DA-B	ABUTH CONTROL PERCENT 06-11-03 0 DA-B	AMATA CONTROL PERCENT 06-11-03 0 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	29	0	0	0	0
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	POST	B					
	Clarity	4	SL	0.0625	LB A/A	2.0	FL OZ/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	28	0	0	0	0
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										2.4	0.0	4.2	14.1	5.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 06-11-03 0 DA-B	ZEAMD PHYGEN PERCENT 06-16-03 5 DA-B	ZEAMD PHYGEN PERCENT 06-27-03 16 DA-B	ZEAMD PHYGEN PERCENT 07-11-03 30 DA-B	SETFA CONTROL PERCENT 07-11-03 30 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	83	0	0	0	75
3	Lumax Atrazine	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	0	0	0	75
		4	L	1.0	LB A/A	1.0	QT/A	PRE	A					
4	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	96	0	0	0	87
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
5	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A	99	20	10	3	80
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
6	Outlook	6	EC	0.98	LB A/A	0.656	QT/A	PRE	A	33	5	10	3	88
	Marksman	3.2	FL	1.4	LB A/A	1.75	QT/A	POST	B					
	NIS		L	0.125	% V/V	0.125	% V/V	POST	B					
7	Guardman Max	5	SC	2.87	LB A/A	2.3	QT/A	PRE	A	96	5	5	0	95
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
8	Keystone	5.25	SE	4.2	LB A/A	3.2	QT/A	PRE	A	99	13	7	0	87
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
9	Cinch ATZ	5.5	L	1.03	LB A/A	0.75	QT/A	PRE	A	57	12	5	0	93
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B					
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
10	Harness Xtra	5.6	SC	1.4	LB A/A	1.0	QT/A	PRE	A	90	0	0	0	99
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
11	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	0	0	0	0	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
	Roundup WeatherMAX	4.5	SL	0.56	LB AE/A	0.5	QT/A	DPOST	C					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	DPOST	C					
12	Basis Gold	89.5	WG	0.78	LB A/A	14.0	OZ WT/A	POST	B	0	12	5	3	80
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
13	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	POST	B	0	7	5	3	78
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	0	10	3	0	87
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B					
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 06-11-03 0 DA-B	ZEAMD PHYGEN PERCENT 06-16-03 5 DA-B	ZEAMD PHYGEN PERCENT 06-27-03 16 DA-B	ZEAMD PHYGEN PERCENT 07-11-03 30 DA-B	SETFA CONTROL PERCENT 07-11-03 30 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	0	7	3	0	88
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	POST	B					
	Clarity	4	SL	0.0625	LB A/A	2.0	FL OZ/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	0	20	7	5	85
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										11.2	2.7	3.0	2.5	6.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-11-03 30 DA-B	AMATA CONTROL PERCENT 07-11-03 30 DA-B	CHEAL CONTROL PERCENT 07-11-03 30 DA-B	ZEAMD PHYGEN PERCENT 07-30-03 49 DA-B	SETFA CONTROL PERCENT 07-30-03 49 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	96	99	81	0	73
3	Lumax Atrazine	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	98	99	99	0	73
4	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	L SC L L L	3.58 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6 3.0 0.5 1.0 2.5	QT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	98	99	99	0	87
5	Degree Xtra Yukon COC 28% UAN	4.04 67.5 L L	CS WG L L	3.74 0.169 1.0 2.5	LB A/A LB A/A % V/V % V/V	3.7 4.0 1.0 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	96	99	98	0	82
6	Outlook Marksman NIS	6 3.2 L	EC FL L	0.98 1.4 0.125	LB A/A LB A/A % V/V	0.656 1.75 0.125	QT/A QT/A % V/V	PRE POST POST	A B B	96	99	99	0	88
7	Guardman Max Distinct NIS 28% UAN	5 70 L L	SC WG L L	2.87 0.175 0.25 2.5	LB A/A LB A/A % V/V % V/V	2.3 4.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	92	99	99	0	95
8	Keystone Hornet WDG NIS 28% UAN	5.25 68.5 L L	SE WG L L	4.2 0.128 0.25 2.5	LB A/A LB AE/A % V/V % V/V	3.2 3.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	87	99	99	0	88
9	Cinch ATZ Steadfast Atrazine COC 28% UAN	5.5 75 4 L L	L WG L L L	1.03 0.035 1.0 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.75 1.0 1.0 2.5	QT/A OZ WT/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	95	98	99	0	92
10	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5 DF	SC SL DF	1.4 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.0 0.665 17.0	QT/A QT/A LB/100 GAL	PRE POST POST	A B B	96	99	99	0	88
11	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.56 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	0.665 17.0 0.5 17.0	QT/A LB/100 GAL QT/A LB/100 GAL	POST POST DPOST DPOST	B B C C	99	99	99	0	92
12	Basis Gold Clarity NIS 28% UAN	89.5 4 L L	WG SL L L	0.78 0.125 0.25 2.5	LB A/A LB A/A % V/V % V/V	14.0 4.0 0.25 2.5	OZ WT/A FL OZ/A % V/V % V/V	POST POST POST POST	B B B B	96	96	99	0	77
13	Celebrity Plus NIS 28% UAN	70 L L	WG L L	0.206 0.25 2.5	LB A/A % V/V % V/V	4.7 0.25 2.5	OZ WT/A % V/V % V/V	POST POST POST	B B B	95	93	99	0	73
14	Steadfast Atrazine Callisto COC 28% UAN	75 4 4 L L	WG L SC L L	0.035 0.5 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.5 3.0 1.0 2.5	OZ WT/A QT/A FL OZ/A % V/V % V/V	POST POST POST POST POST	B B B B B	98	99	99	0	80

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-11-03 30 DA-B	AMATA CONTROL PERCENT 07-11-03 30 DA-B	CHEAL CONTROL PERCENT 07-11-03 30 DA-B	ZEAMD PHYGEN PERCENT 07-30-03 49 DA-B	SETFA CONTROL PERCENT 07-30-03 49 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	96	98	99	0	82
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	POST	B					
	Clarity	4	SL	0.0625	LB A/A	2.0	FL OZ/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	83	42	96	0	83
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										7.0	3.0	6.6	0.0	8.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-30-03 49 DA-B	AMATA CONTROL PERCENT 07-30-03 49 DA-B	CHEAL CONTROL PERCENT 07-30-03 49 DA-B	ZEAMD YIELD BU/A 10-15-03 147 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	87
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	95	99	77	176
3	Lumax Atrazine	3.95 4	SE L	2.96 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	98	99	99	186
4	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	L SC L L L	3.58 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6 3.0 0.5 1.0 2.5	QT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	94	99	99	183
5	Degree Xtra Yukon COC 28% UAN	4.04 67.5 L L	CS WG L L	3.74 0.169 1.0 2.5	LB A/A LB A/A % V/V % V/V	3.7 4.0 1.0 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	85	99	98	179
6	Outlook Marksman NIS	6 3.2 L	EC FL L	0.98 1.4 0.125	LB A/A LB A/A % V/V	0.656 1.75 0.125	QT/A QT/A % V/V	PRE POST POST	A B B	95	99	99	200
7	Guardman Max Distinct NIS 28% UAN	5 70 L L	SC WG L L	2.87 0.175 0.25 2.5	LB A/A LB A/A % V/V % V/V	2.3 4.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	73	99	99	199
8	Keystone Hornet WDG NIS 28% UAN	5.25 68.5 L L	SE WG L L	4.2 0.128 0.25 2.5	LB A/A LB AE/A % V/V % V/V	3.2 3.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	68	99	99	179
9	Cinch ATZ Steadfast Atrazine COC 28% UAN	5.5 75 4 L L	L WG L L L	1.03 0.035 1.0 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.75 1.0 1.0 2.5	QT/A OZ WT/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	77	98	99	183
10	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5 DF	SC SL DF	1.4 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.0 0.665 17.0	QT/A QT/A LB/100 GAL	PRE POST POST	A B B	67	98	99	205
11	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.56 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	0.665 17.0 0.5 17.0	QT/A LB/100 GAL QT/A LB/100 GAL	POST POST DPOST DPOST	B B C C	91	99	99	209
12	Basis Gold Clarity NIS 28% UAN	89.5 4 L L	WG SL L L	0.78 0.125 0.25 2.5	LB A/A LB A/A % V/V % V/V	14.0 4.0 0.25 2.5	OZ WT/A FL OZ/A % V/V % V/V	POST POST POST POST	B B B B	88	96	99	190
13	Celebrity Plus NIS 28% UAN	70 L L	WG L L	0.206 0.25 2.5	LB A/A % V/V % V/V	4.7 0.25 2.5	OZ WT/A % V/V % V/V	POST POST POST	B B B	83	92	98	193
14	Steadfast Atrazine Callisto COC 28% UAN	75 4 4 L L	WG L SC L L	0.035 0.5 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.5 3.0 1.0 2.5	OZ WT/A QT/A FL OZ/A % V/V % V/V	POST POST POST POST POST	B B B B B	93	99	99	200

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-30-03 49 DA-B	AMATA CONTROL PERCENT 07-30-03 49 DA-B	CHEAL CONTROL PERCENT 07-30-03 49 DA-B	ZEAMD YIELD BU/A 10-15-03 147 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	80	98	99	213
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	POST	B				
	Clarity	4	SL	0.0625	LB A/A	2.0	FL OZ/A	POST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	82	42	96	198
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B				
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
LSD (P=.05)										13.4	2.6	6.9	38.2

Iowa State University

Effect of postemergence applied herbicides on crop phytotoxicity and yield of eight popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-22-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The objective of this study was to evaluate the effect of postemergence applied herbicides on eight popcorn varieties. Varieties are listed under the treatment application comment section. Popcorn stand, phytotoxicity, yield, and popping characteristics were evaluated.

Conclusions: Data were subjected to a split-plot analysis, and tables contain treatment means. Popcorn stand differences observed on June 20 were caused by variety. Herbicide treatment did not affect corn stand. Herbicide by variety interaction for herbicide injury was significant for each evaluation date at the 0.05 level. Herbicide injury averaged across varieties ranged from 0% to 38% five days after application to 0 to 14% four weeks after application. Callisto injury was consistently greater than other herbicide injury. However, 28% UAN was included with the Callisto treatment in this experiment. The current Callisto label restricts the use UAN with Callisto because of injury potential to yellow popcorn. Spirit and Beacon demonstrated higher injury (15 to 18%), averaged across varieties, in comparison to most of the other herbicide treatments on June 21. However, Spirit and Beacon injury was significantly diminished, relative to other herbicide treatments, with subsequent evaluations. Injury caused by Aim was relatively high, by comparison, at all evaluation dates. Distinct did not cause as much injury at June 21, relative to other treatments, when compared to evaluations on June 30, July 9, and July 17. Buctril + Atrazine, Northstar, and Accent did not demonstrate more than 10% injury, averaged across varieties, for any evaluation date. Laddok S12 did not cause any injury.

There was no herbicide by variety interaction for popcorn yield. There were no significant yield differences between herbicide treatments, averaged across varieties. (Dept. of Agronomy, Iowa State University, Ames)

Crop 1: ZEAME POPCORN

Variety: 8 VARIETIES

Planting Date: 05-22-03

Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

Emergence Date: 05-28-03

SITE AND DESIGN

Plot Width, Unit: 20 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: Dual II Magnum was applied preemergence to the entire experiment at 2.0 pts/A on May 22 to control grass and small seeded broadleaf weeds. Fertilization included 127 lb/A of actual N applied as urea in the spring of 2003. The study area was maintained weed free.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-16-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	83 F
% Relative Humidity:	46
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	80 F
Soil Moisture:	DRY
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAME V2-V4
Stage Scale:	DESC
Height, Unit:	8 IN

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	14 GPA

Trt No	Treatment Application Comment
	Eight popcorn hybrids per plot
	Row 1 = M2101
	Row 2 = VYP212
	Row 3 = HW331
	Row 4 = VEXP94294
	Row 5 = VEXP972968R
	Row 6 = VYP321
	Row 7 = VWP211
	Row 8 = VXP 210

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEA var8 STAND 17.42 FT 06-20-03 29 DA-A	ZEA var1 INJURY PERCENT 06-21-03 5 DA-B	ZEA var2 INJURY PERCENT 06-21-03 5 DA-B	ZEA var3 INJURY PERCENT 06-21-03 5 DA-B	ZEA var4 INJURY PERCENT 06-21-03 5 DA-B	ZEA var5 INJURY PERCENT 06-21-03 5 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	15	7	5	13	12	12
			L	0.25	% V/V	0.25	% V/V	POST A	A						
			DF	2.5	LB A/A	2.5	LB/A	POST A	A						
2	Spirit COC	57	WG	0.0356	LB A/A	1.0	OZ WT/A	POST A	A	20	18	12	20	17	17
			L	1.0	QT/A	1.0	QT/A	POST A	A						
3	Northstar NIS	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST A	A	21	7	2	7	7	7
			L	0.25	% V/V	0.25	% V/V	POST A	A						
4	Aim NIS	2	EW	0.0297	LB A/A	1.9	FL OZ/A	POST A	A	12	18	18	22	17	18
			L	0.25	% V/V	0.25	% V/V	POST A	A						
5	Buctril + Atrazine	3	SC	1.13	LB A/A	3.0	PT/A	POST A	A	22	10	8	12	8	10
6	2, 4-D LV4	4	SL	0.335	LB A/A	0.67	PT/A	POST A	A	15	0	0	0	0	0
7	Laddok S12 AMS	5	FL	1.46	LB A/A	2.33	PT/A	POST A	A	18	0	0	0	0	0
			DF	2.5	LB/A	2.5	LB/A	POST A	A						
8	Callisto COC 28% UAN	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	A	21	27	23	42	37	43
			L	1.0	% V/V	1.0	% V/V	POST A	A						
			L	2.5	% V/V	2.5	% V/V	POST A	A						
9	Accent COC	75	DG	0.031	LB A/A	0.66	OZ WT/A	POST A	A	15	5	0	7	7	5
			L	1.0	% V/V	1.0	% V/V	POST A	A						
10	Beacon NIS	75	DF	0.0356	LB A/A	0.76	OZ WT/A	POST A	A	22	18	5	15	13	12
			L	0.25	% V/V	0.25	% V/V	POST A	A						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								var4 INJURY PERCENT 06-30-03 14 DA-B	var5 INJURY PERCENT 06-30-03 14 DA-B	var6 INJURY PERCENT 06-30-03 14 DA-B	var7 INJURY PERCENT 06-30-03 14 DA-B	var8 INJURY PERCENT 06-30-03 14 DA-B	var1 INJURY PERCENT 07-09-03 23 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Distinct NIS AMS	70	WG L DF	0.262 0.25 2.5	LB A/A % V/V LB A/A	6.0 0.25 2.5	OZ WT/A % V/V LB/A	POST A POST A POST A		10	7	12	8	10	5
2	Spirit COC	57	WG L	0.0356 1.0	LB A/A QT/A	1.0 1.0	OZ WT/A QT/A	POST A POST A		7	3	3	2	7	2
3	Northstar NIS	47.4	WG L	0.148 0.25	LB A/A % V/V	5.0 0.25	OZ WT/A % V/V	POST A POST A		3	2	2	2	2	0
4	Aim NIS	2	EW L	0.0297 0.25	LB A/A % V/V	1.9 0.25	FL OZ/A % V/V	POST A POST A		10	12	12	8	12	5
5	Buctril + Atrazine	3	SC	1.13	LB A/A	3.0	PT/A	POST A		3	5	5	5	5	3
6	2, 4-D LV4	4	SL	0.335	LB A/A	0.67	PT/A	POST A		0	0	2	2	0	0
7	Laddok S12 AMS	5	FL DF	1.46 2.5	LB A/A LB/A	2.33 2.5	PT/A LB/A	POST A POST A		0	0	0	0	0	0
8	Callisto COC 28% UAN	4	SC L L	0.094 1.0 2.5	LB A/A % V/V % V/V	3.0 1.0 2.5	FL OZ/A % V/V % V/V	POST A POST A POST A		17	25	30	23	30	8
9	Accent COC	75	DG L	0.031 1.0	LB A/A % V/V	0.66 1.0	OZ WT/A % V/V	POST A POST A		0	0	0	0	0	0
10	Beacon NIS	75	DF L	0.0356 0.25	LB A/A % V/V	0.76 0.25	OZ WT/A % V/V	POST A POST A		2	0	0	2	3	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										var2 INJURY PERCENT 07-09-03 23 DA-B	var3 INJURY PERCENT 07-09-03 23 DA-B	var4 INJURY PERCENT 07-09-03 23 DA-B	var5 INJURY PERCENT 07-09-03 23 DA-B	var6 INJURY PERCENT 07-09-03 23 DA-B	var7 INJURY PERCENT 07-09-03 23 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	5	8	10	7	10	8
			L	0.25	% V/V	0.25	% V/V	POST A	A						
			DF	2.5	LB A/A	2.5	LB/A	POST A	A						
2	Spirit COC	57	WG	0.0356	LB A/A	1.0	OZ WT/A	POST A	A	0	2	5	3	2	2
			L	1.0	QT/A	1.0	QT/A	POST A	A						
3	Northstar NIS	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST A	A	0	0	3	3	2	0
			L	0.25	% V/V	0.25	% V/V	POST A	A						
4	Aim NIS	2	EW	0.0297	LB A/A	1.9	FL OZ/A	POST A	A	8	7	8	7	8	5
			L	0.25	% V/V	0.25	% V/V	POST A	A						
5	Buctril + Atrazine	3	SC	1.13	LB A/A	3.0	PT/A	POST A	A	5	7	3	3	5	5
6	2, 4-D LV4	4	SL	0.335	LB A/A	0.67	PT/A	POST A	A	0	0	2	0	0	2
7	Laddok S12 AMS	5	FL	1.46	LB A/A	2.33	PT/A	POST A	A	0	0	0	0	0	0
			DF	2.5	LB/A	2.5	LB/A	POST A	A						
8	Callisto COC 28% UAN	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	A	12	17	12	18	25	18
			L	1.0	% V/V	1.0	% V/V	POST A	A						
			L	2.5	% V/V	2.5	% V/V	POST A	A						
9	Accent COC	75	DG	0.031	LB A/A	0.66	OZ WT/A	POST A	A	0	0	0	0	0	0
			L	1.0	% V/V	1.0	% V/V	POST A	A						
10	Beacon NIS	75	DF	0.0356	LB A/A	0.76	OZ WT/A	POST A	A	0	0	2	0	0	0
			L	0.25	% V/V	0.25	% V/V	POST A	A						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										var8 INJURY PERCENT 07-09-03 23 DA-B	var1 INJURY PERCENT 07-17-03 31 DA-B	var2 INJURY PERCENT 07-17-03 31 DA-B	var3 INJURY PERCENT 07-17-03 31 DA-B	var4 INJURY PERCENT 07-17-03 31 DA-B	var5 INJURY PERCENT 07-17-03 31 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	10	3	3	5	7	7
			L	0.25	% V/V	0.25	% V/V	POST A							
			DF	2.5	LB A/A	2.5	LB/A	POST A							
2	Spirit COC	57	WG	0.0356	LB A/A	1.0	OZ WT/A	POST A	A	7	2	0	0	3	2
			L	1.0	QT/A	1.0	QT/A	POST A							
3	Northstar NIS	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST A	A	2	0	0	0	2	3
			L	0.25	% V/V	0.25	% V/V	POST A							
4	Aim NIS	2	EW	0.0297	LB A/A	1.9	FL OZ/A	POST A	A	8	5	8	7	7	7
			L	0.25	% V/V	0.25	% V/V	POST A							
5	Buctril + Atrazine	3	SC	1.13	LB A/A	3.0	PT/A	POST A	A	5	3	3	3	2	0
6	2, 4-D LV4	4	SL	0.335	LB A/A	0.67	PT/A	POST A	A	0	0	0	0	2	0
7	Laddok S12 AMS	5	FL	1.46	LB A/A	2.33	PT/A	POST A	A	0	0	0	0	0	0
			DF	2.5	LB/A	2.5	LB/A	POST A							
8	Callisto COC 28% UAN	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	A	23	7	12	17	12	15
			L	1.0	% V/V	1.0	% V/V	POST A							
			L	2.5	% V/V	2.5	% V/V	POST A							
9	Accent COC	75	DG	0.031	LB A/A	0.66	OZ WT/A	POST A	A	0	0	0	0	0	0
			L	1.0	% V/V	1.0	% V/V	POST A							
10	Beacon NIS	75	DF	0.0356	LB A/A	0.76	OZ WT/A	POST A	A	3	0	0	0	0	0
			L	0.25	% V/V	0.25	% V/V	POST A							

Iowa State University

Weed Code										var5	var6	var7	var8
Rating Data Type										YIELD	YIELD	YIELD	YIELD
Rating Unit										LBS/A	LBS/A	LBS/A	LBS/A
Rating Date										10-08-03	10-08-03	10-08-03	10-08-03
Trt-Eval Interval										139 DA-A	139 DA-A	139 DA-A	139 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	3305	2861	3316	3174
			L	0.25	% V/V	0.25	% V/V	POST A					
			DF	2.5	LB A/A	2.5	LB/A	POST A					
2	Spirit COC	57	WG	0.0356	LB A/A	1.0	OZ WT/A	POST A	A	3397	3747	3531	3273
			L	1.0	QT/A	1.0	QT/A	POST A					
3	Northstar NIS	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST A	A	4023	4142	3513	3354
			L	0.25	% V/V	0.25	% V/V	POST A					
4	Aim NIS	2	EW	0.0297	LB A/A	1.9	FL OZ/A	POST A	A	3983	3450	3012	3011
			L	0.25	% V/V	0.25	% V/V	POST A					
5	Buctril + Atrazine	3	SC	1.13	LB A/A	3.0	PT/A	POST A	A	4700	4754	3699	3973
6	2, 4-D LV4	4	SL	0.335	LB A/A	0.67	PT/A	POST A	A	4520	4005	3209	3492
7	Laddok S12 AMS	5	FL	1.46	LB A/A	2.33	PT/A	POST A	A	4694	3726	3273	3752
			DF	2.5	LB/A	2.5	LB/A	POST A					
8	Callisto COC 28% UAN	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	A	4733	4340	3590	3921
			L	1.0	% V/V	1.0	% V/V	POST A					
			L	2.5	% V/V	2.5	% V/V	POST A					
9	Accent COC	75	DG	0.031	LB A/A	0.66	OZ WT/A	POST A	A	3938	4498	3066	3577
			L	1.0	% V/V	1.0	% V/V	POST A					
10	Beacon NIS	75	DF	0.0356	LB A/A	0.76	OZ WT/A	POST A	A	4394	4172	3832	3560
			L	0.25	% V/V	0.25	% V/V	POST A					

Iowa State University

Effect of preemergence applied herbicides on crop phytotoxicity and yield of eight popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 2
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-22-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The objective of this study was to evaluate the effect of preemergence applied herbicides on eight popcorn varieties. Varieties are listed under the treatment application comment section. Popcorn stand, crop phytotoxicity, yield, and popping characteristics were evaluated.

Conclusions: Data were subjected to a split-plot analysis, and tables contain treatment means. Popcorn stand differences observed on June 23 were caused by variety. Herbicide treatment did not affect corn stand. No herbicide injury was apparent at the three observation dates for any of the herbicide treatments. There was no herbicide by variety interaction for popcorn yield. There were no significant yield differences between herbicide treatments, averaged across varieties. (Dept. of Agronomy, Iowa State University, Ames)

Crop 1: ZEAME POPCORN Variety: 8 VARIETIES
Planting Date: 05-22-03 Planting Method: DIRECT DRILLED
Rate: 30200 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: CLODDY
Soil Moisture: SLIGHTLY WET Emergence Date: 05-28-03

SITE AND DESIGN

Plot Width, Unit: 20 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 127 lb/A of actual N applied as urea in the spring of 2003.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-24-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	63 F
% Relative Humidity:	52
Wind Velocity, Unit:	2 MPH
Soil Temp., Unit:	58 F
Soil Moisture:	DAMP
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAME -
Stage Scale:	-
	-

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Trt No	Treatment Application Comment
	Eight popcorn hybrids per plot
	Row 1 = M2101
	Row 2 = VYP212
	Row 3 = HW331
	Row 4 = VEXP94294
	Row 5 = VEXP972968R
	Row 6 = VYP321
	Row 7 = VWP211
	Row 8 = VXP 210

Iowa State University

Effect of preemergence applied herbicides on crop phytotoxicity and yield of eight popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 2
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEA var1	ZEA var2	ZEA var3	ZEA var4	ZEA var5	ZEA var6	ZEA var7	ZEA var8	
Rating Data Type									STAND	STAND	STAND	STAND	STAND	STAND	STAND	STAND	
Rating Unit									17.42 FT	17.42 FT	17.42 FT	17.42 FT	17.42 FT	17.42 FT	17.42 FT	17.42 FT	
Rating Date									06-23-03	06-23-03	06-23-03	06-23-03	06-23-03	06-23-03	06-23-03	06-23-03	
Trt-Eval Interval									30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	19	25	25	26	21	29	31	20
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	25	26	29	29	17	24	29	19
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	25	27	29	26	18	24	24	21
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	28	25	27	29	22	26	29	21
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	21	24	21	21	16	22	24	23

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEA var1 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var2 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var3 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var4 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var5 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var6 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var7 PHYGEN PERCENT 06-06-03 13 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	0	0	0	0	0	0
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	0	0	0	0	0	0
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	0	0	0	0	0	0
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	0	0	0	0	0
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	0	0	0	0	0	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEA var8 PHYGEN PERCENT 06-06-03 13 DA-A	ZEA var1 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var2 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var3 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var4 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var5 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var6 PHYGEN PERCENT 06-21-03 28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	0	0	0	0	0	0
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	0	0	0	0	0	0
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	0	0	0	0	0	0
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	0	0	0	0	0
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	0	0	0	0	0	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEA var7 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var8 PHYGEN PERCENT 06-21-03 28 DA-A	ZEA var1 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var2 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var3 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var4 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var5 PHYGEN PERCENT 07-02-03 39 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	0	0	0	0	0	0
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	0	0	0	0	0	0
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	0	0	0	0	0	0
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	0	0	0	0	0
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	0	0	0	0	0	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEA var6 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var7 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var8 PHYGEN PERCENT 07-02-03 39 DA-A	ZEA var1 YIELD LBS/A 10-10-03 139 DA-A	ZEA var2 YIELD LBS/A 10-10-03 139 DA-A	ZEA var3 YIELD LBS/A 10-10-03 139 DA-A	ZEA var4 YIELD LBS/A 10-10-03 139 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	0	0	0	2883	5000	4586	3915
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	0	0	0	3213	4191	5435	4727
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	0	0	0	3424	4599	4869	4153
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	0	0	3904	4566	4973	5084
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	0	0	0	3059	4944	4075	4321

Iowa State University

Weed Code									ZEA var5	ZEA var6	ZEA var7	ZEA var8	
Rating Data Type									YIELD	YIELD	YIELD	YIELD	
Rating Unit									LBS/A	LBS/A	LBS/A	LBS/A	
Rating Date									10-10-03	10-10-03	10-10-03	10-10-03	
Trt-Eval Interval									139 DA-A	139 DA-A	139 DA-A	139 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code				
1	Leadoff	5	SL	3.13	LB A/A	5.0	PT/A	PRE	A	4516	5257	4145	3762
2	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	3806	4321	3977	4175
3	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	4234	4497	3350	4021
4	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	4467	4331	4259	3800
5	Balance Pro	4	SC	0.14	LB A/A	4.5	FL OZ/A	PRE	A	4417	5012	4251	4365

Iowa State University

Effect of 1X rates of postemergence applied herbicides on crop phytotoxicity and yield of five popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-22-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The objective of this study was to evaluate the effect of 1X rates of postemergence applied herbicides on five popcorn varieties. Popcorn stand, phytotoxicity, and yield were evaluated.

Conclusions: Data were subjected to a split-plot analysis, and tables contain treatment means. Popcorn stand differences existed only between varieties. There were no significant stand differences between herbicide treatments, averaged across varieties, nor were there significant herbicide and variety interactions. Crop injury observed approximately 1 and 2 weeks after application (WAA) revealed significant variety by herbicide interactions. Injury resulting from Callisto and Distinct varied significantly for different popcorn varieties at both observation dates. Option, conversely, demonstrated injury that was consistently near 20% at 1 WAA and between 15 and 20% at 2 WAA. Callisto and Option demonstrated the highest injury across varieties at 1 WAA. Callisto injury at 1 WAA ranged from 17 to 28% and was characterized by chlorotic upper leaves. Callisto was applied with 28% UAN in this experiment. The current Callisto label restricts the use of UAN with Callisto because of injury potential to yellow popcorn. Option and Distinct injury ranged from 18 to 22% and 8 to 18%, respectively, at 1 WAA. Injury from both herbicides appeared as shortening of upper internodes and chlorosis. Callisto injury was greatly reduced from 1 to 2 WAA, while Option and Distinct injury was more persistent. Injury across varieties was highest with Option at 2 WAA, followed by Distinct and Callisto.

There was no significant variety by herbicide interaction for injury observations approximately 3 and 5 WAA. At 3 WAA, Option again demonstrated the highest injury across varieties. Distinct and Callisto were similar for injury severity. There were no differences in injury between herbicide treatments at 5 WAA.

No variety and herbicide interaction was detected for stalk lodging. There were significant variety and herbicide differences. Distinct, caused more lodging than Option when averaged across varieties. However, no herbicide treatment had significantly more lodging than the untreated control. Lodging differences between treatments were more often a variety effect.

There were no significant differences or variety and herbicide interactions for popcorn yield. Herbicide injury did not affect yield. (Dept. of Agronomy, Iowa State University, Ames)

Crop 1: ZEAME POPCORN Variety: 5 VARIETIES
Planting Date: 05-22-03 Planting Method: DIRECT DRILLED
Rate: 30200 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: CLODDY
Soil Moisture: SLIGHTLY WET Emergence Date: 05-28-03

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: Dual II Magnum was applied preemergence to the entire experiment at 2.0 pts/A on May 22 to control grass and small seeded broadleaf weeds. Fertilization included 127 lb/A of actual N applied as urea in the spring of 2003.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-16-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	83 F
% Relative Humidity:	46
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	80 F
Soil Moisture:	DRY
% Cloud Cover:	10

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAME V2-V4
Stage Scale:	DESC
Height, Unit:	8 IN

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Effect of 1X rates of postemergence applied herbicides on crop phytotoxicity and yield of five popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code							ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD		
Rating Data Type							STAND	PHYGEN	PHYGEN	PHYGEN	PHYGEN		
Rating Unit							17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date							06-23-03	06-21-03	06-30-03	07-08-03	07-23-03		
Trt-Eval Interval							32 DA-A	5 DA-B	14 DA-B	22 DA-B	37 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Unit	Grow Stg	Appl Code					
1	Crookham R-98114W variety Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	29	18	18	8	3
	NIS	L		0.25	% V/V	0.25	% V/V	POST A					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST A					
2	Crookham R-98114W variety Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	29	22	10	8	8
	COC	L		1.0	% V/V	1.0	% V/V	POST A					
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST A					
3	Crookham R-98114W variety Untreated control								29	0	0	0	0
4	Crookham R-98114W variety Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST A	30	22	15	13	8
	MSO	L		1.5	PT/A	1.5	PT/A	POST A					
	AMS	DF		1.5	LB/A	1.5	LB/A	POST A					
5	Iowa Acres A-3035 variety Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	25	8	10	8	7
	NIS	L		0.25	% V/V	0.25	% V/V	POST A					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST A					
6	Iowa Acres A-3035 variety Untreated control								25	0	0	0	0
7	Iowa Acres A-3035 variety Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST A	26	20	15	12	2
	MSO	L		1.5	PT/A	1.5	PT/A	POST A					
	AMS	DF		1.5	LB/A	1.5	LB/A	POST A					
8	Iowa Acres A-3035 variety Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	24	17	12	7	3
	COC	L		1.0	% V/V	1.0	% V/V	POST A					
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST A					
9	Zangger N-11649 variety Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST A	28	22	18	13	5
	MSO	L		1.5	PT/A	1.5	PT/A	POST A					
	AMS	DF		1.5	LB/A	1.5	LB/A	POST A					
10	Zangger N-11649 variety Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	27	18	20	15	8
	NIS	L		0.25	% V/V	0.25	% V/V	POST A					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST A					
11	Zangger N-11649 variety Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	31	17	8	5	3
	COC	L		1.0	% V/V	1.0	% V/V	POST A					
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST A					
12	Zangger N-11649 variety Untreated control								30	0	0	0	0
13	Ag-Alumni variety Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	27	28	15	5	2
	COC	L		1.0	% V/V	1.0	% V/V	POST A					
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST A					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 06-23-03 32 DA-A	ZEAMD PHYGEN PERCENT 06-21-03 5 DA-B	ZEAMD PHYGEN PERCENT 06-30-03 14 DA-B	ZEAMD PHYGEN PERCENT 07-08-03 22 DA-B	ZEAMD PHYGEN PERCENT 07-23-03 37 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
14	Ag-Alumni variety Option MSO AMS	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST A	A	24	22	20	15	7
			L	1.5	PT/A	1.5	PT/A	POST A	A					
			DF	1.5	LB/A	1.5	LB/A	POST A	A					
15	Ag-Alumni variety Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	26	15	8	5	0
			L	0.25	% V/V	0.25	% V/V	POST A	A					
			DF	2.5	LB/A	2.5	LB/A	POST A	A					
16	Ag-Alumni variety Untreated control									27	0	0	0	0
17	Schlessman SH4862 variety Untreated control									29	0	0	0	0
18	Schlessman SH4862 variety Option MSO AMS	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST A	A	28	18	18	15	8
			L	1.5	PT/A	1.5	PT/A	POST A	A					
			DF	1.5	LB/A	1.5	LB/A	POST A	A					
19	Schlessman SH4862 variety Distinct NIS AMS	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST A	A	28	12	18	8	2
			L	0.25	% V/V	0.25	% V/V	POST A	A					
			DF	2.5	LB/A	2.5	LB/A	POST A	A					
20	Schlessman SH4862 variety Callisto COC 28% UAN	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST A	A	28	25	12	8	0
			L	1.0	% V/V	1.0	% V/V	POST A	A					
			L	2.5	% V/V	2.5	% V/V	POST A	A					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STALK LODGE PERCENT 10-03-03 134 DA-A	ZEAMD YIELD LBS/A 10-21-03 152 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	Crookham R-98114W variety Distinct NIS AMS	70	WG L DF	0.262 0.25 2.5	LB A/A % V/V LB/A	6.0 0.25 2.5	OZ WT/A % V/V LB/A	POST POST POST	A A A	20	4030
2	Crookham R-98114W variety Callisto COC 28% UAN	4	SC L L	0.094 1.0 2.5	LB A/A % V/V % V/V	3.0 1.0 2.5	FL OZ/A % V/V % V/V	POST POST POST	A A A	19	3693
3	Crookham R-98114W variety Untreated control									30	3612
4	Crookham R-98114W variety Option MSO AMS	35	WG L DF	0.0328 1.5 1.5	LB A/A PT/A LB/A	1.5 1.5 1.5	OZ WT/A PT/A LB/A	POST POST POST	A A A	22	3810
5	Iowa Acres A-3035 variety Distinct NIS AMS	70	WG L DF	0.262 0.25 2.5	LB A/A % V/V LB/A	6.0 0.25 2.5	OZ WT/A % V/V LB/A	POST POST POST	A A A	6	4047
6	Iowa Acres A-3035 variety Untreated control									4	4059
7	Iowa Acres A-3035 variety Option MSO AMS	35	WG L DF	0.0328 1.5 1.5	LB A/A PT/A LB/A	1.5 1.5 1.5	OZ WT/A PT/A LB/A	POST POST POST	A A A	2	4509
8	Iowa Acres A-3035 variety Callisto COC 28% UAN	4	SC L L	0.094 1.0 2.5	LB A/A % V/V % V/V	3.0 1.0 2.5	FL OZ/A % V/V % V/V	POST POST POST	A A A	8	4651
9	Zangger N-11649 variety Option MSO AMS	35	WG L DF	0.0328 1.5 1.5	LB A/A PT/A LB/A	1.5 1.5 1.5	OZ WT/A PT/A LB/A	POST POST POST	A A A	9	5883
10	Zangger N-11649 variety Distinct NIS AMS	70	WG L DF	0.262 0.25 2.5	LB A/A % V/V LB/A	6.0 0.25 2.5	OZ WT/A % V/V LB/A	POST POST POST	A A A	14	6024
11	Zangger N-11649 variety Callisto COC 28% UAN	4	SC L L	0.094 1.0 2.5	LB A/A % V/V % V/V	3.0 1.0 2.5	FL OZ/A % V/V % V/V	POST POST POST	A A A	13	6224
12	Zangger N-11649 variety Untreated control									5	6495
13	Ag-Alumni variety Callisto COC 28% UAN	4	SC L L	0.094 1.0 2.5	LB A/A % V/V % V/V	3.0 1.0 2.5	FL OZ/A % V/V % V/V	POST POST POST	A A A	12	4147
14	Ag-Alumni variety Option MSO AMS	35	WG L DF	0.0328 1.5 1.5	LB A/A PT/A LB/A	1.5 1.5 1.5	OZ WT/A PT/A LB/A	POST POST POST	A A A	5	4146

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STALK LODGE PERCENT 10-03-03 134 DA-A	ZEAMD YIELD LBS/A 10-21-03 152 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
15	Ag-Alumni variety	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	A	13	4282
	Distinct										
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	A		
16	Ag-Alumni variety									8	4113
	Untreated control										
17	Schlessman SH4862 variety									13	3958
	Untreated control										
18	Schlessman SH4862 variety	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	A	19	4040
	Option										
	MSO		L	1.5	PT/A	1.5	PT/A	POST	A		
	AMS		DF	1.5	LB/A	1.5	LB/A	POST	A		
19	Schlessman SH4862 variety	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	A	27	3970
	Distinct										
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	A		
20	Schlessman SH4862 variety	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	A	10	4406
	Callisto										
	COC		L	1.0	% V/V	1.0	% V/V	POST	A		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	A		

Iowa State University

Effect of 2X rates of postemergence applied herbicides on crop phytotoxicity of five popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 4
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-22-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The objective of this study was to evaluate the effect of 2X rates of postemergence applied herbicides on five popcorn varieties. Relative emergence, popcorn stand, and phytotoxicity were evaluated.

Conclusions: Data were subjected to a split-plot analysis, and tables contain treatment means. Popcorn stand was not affected by variety, and there was no interaction between variety and herbicide treatment. Popcorn stand for Distinct and the untreated control, averaged across varieties, was significantly lower than Callisto. However, Distinct stands were not significantly lower than the untreated control.

Popcorn injury was affected by variety and herbicide treatment. There was also significant interaction at the 0.05 level between the two treatment factors for each observation date. When averaged across herbicide treatments, the Ag Alumni and Iowa Acres varieties demonstrated the highest and lowest injury for all three observation dates, respectively. There were no differences in popcorn injury between Crookham, Schlessman, and Zangger when averaged across herbicide treatments. Option caused significantly higher injury than Callisto and Distinct when observed on June 24, 6 days after application. Injury averaged across popcorn varieties on June 24 was 34, 25, and 23% for Option, Callisto, and Distinct, respectively. Average popcorn injury for Option and Distinct ranged from 17 to 22% on July 4 and July 9. Callisto injury during that time ranged from 12 to 15%.

Popcorn stalk lodging was evaluated on October 28. Stalk lodging, averaged across herbicide treatments, was significantly lower for Zangger than the other varieties, at 25%. Lodging for the other varieties ranged from 38 to 47%. There was a significant interaction at the 0.05 level between variety and herbicide treatment. Average stalk lodging for Distinct was significantly higher than all other herbicide treatments. Stalk lodging observed for Option, which was similar to the untreated control, was significantly higher than Callisto. (Dept. of Agronomy, Iowa State University, Ames)

Crop 1: ZEAME POPCORN Variety: 5 VARIETIES
Planting Date: 05-22-03 Planting Method: DIRECT DRILLED
Rate: 30200 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: CLODDY
Soil Moisture: SLIGHTLY WET Emergence Date: 05-28-03

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	FRONTIER, BASAGRAN, SELECT	2002

MAINTENANCE

Field Prep./Maintenance: Dual II Magnum was applied preemergence to the entire experiment at 2.0 pts/A on May 22 to control grass and small seeded broadleaf weeds. Fertilization included 127 lb/A of actual N applied as urea in the spring of 2003.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-18-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	82 F
% Relative Humidity:	65
Wind Velocity, Unit:	10 MPH
Soil Temp., Unit:	76 F
Soil Moisture:	DAMP
% Cloud Cover:	80

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAME V4-V5
Stage Scale:	DESC
Height, Unit:	8 IN

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Effect of 2X rates of postemergence applied herbicides on crop phytotoxicity of five popcorn varieties, Ames, IA, 2003.

Trial ID: ACP 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

							ZEAMD STAND	ZEAMD PHYGEN	ZEAMD PHYGEN	ZEAMD PHYGEN	ZEAMD STALK LODGE		
							17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT		
							06-20-03	06-24-03	07-04-03	07-09-03	10-28-03		
							29 DA-A	6 DA-B	16 DA-B	21 DA-B	159 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Crookham R-98114W variety Distinct NIS AMS	70	WG L DF	0.525 0.25 2.5	LB A/A % V/V LB/A	12.0 0.25 2.5	OZ WT/A % V/V LB/A	POST A POST A POST A	27	22	18	18	41
2	Crookham R-98114W variety Callisto COC 28% UAN	4	SC L L	0.187 1.0 2.5	LB A/A % V/V % V/V	6.0 1.0 2.5	FL OZ/A % V/V % V/V	POST A POST A POST A	27	30	17	15	31
3	Crookham R-98114W variety Untreated control								25	0	0	0	38
4	Crookham R-98114W variety Option MSO AMS	35	WG L DF	0.0656 1.5 1.5	LB A/A PT/A LB/A	3.0 1.5 1.5	OZ WT/A PT/A LB/A	POST A POST A POST A	29	33	20	20	52
5	Iowa Acres A-3035 variety Distinct NIS AMS	70	WG L DF	0.525 0.25 2.5	LB A/A % V/V LB/A	12.0 0.25 2.5	OZ WT/A % V/V LB/A	POST A POST A POST A	24	17	17	13	43
6	Iowa Acres A-3035 variety Untreated control								21	0	0	0	31
7	Iowa Acres A-3035 variety Option MSO AMS	35	WG L DF	0.0656 1.5 1.5	LB A/A PT/A LB/A	3.0 1.5 1.5	OZ WT/A PT/A LB/A	POST A POST A POST A	22	28	13	13	60
8	Iowa Acres A-3035 variety Callisto COC 28% UAN	4	SC L L	0.187 1.0 2.5	LB A/A % V/V % V/V	6.0 1.0 2.5	FL OZ/A % V/V % V/V	POST A POST A POST A	26	15	10	7	31
9	Zangger N-11649 variety Option MSO AMS	35	WG L DF	0.0656 1.5 1.5	LB A/A PT/A LB/A	3.0 1.5 1.5	OZ WT/A PT/A LB/A	POST A POST A POST A	28	35	20	15	19
10	Zangger N-11649 variety Distinct NIS AMS	70	WG L DF	0.525 0.25 2.5	LB A/A % V/V LB/A	12.0 0.25 2.5	OZ WT/A % V/V LB/A	POST A POST A POST A	25	30	27	20	49
11	Zangger N-11649 variety Callisto COC 28% UAN	4	SC L L	0.187 1.0 2.5	LB A/A % V/V % V/V	6.0 1.0 2.5	FL OZ/A % V/V % V/V	POST A POST A POST A	30	20	10	7	18
12	Zangger N-11649 variety Untreated control								25	0	0	0	12
13	Ag-Alumni variety Callisto COC 28% UAN	4	SC L L	0.187 1.0 2.5	LB A/A % V/V % V/V	6.0 1.0 2.5	FL OZ/A % V/V % V/V	POST A POST A POST A	26	38	27	20	31

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 06-20-03 29 DA-A	ZEAMD PHYGEN PERCENT 06-24-03 6 DA-B	ZEAMD PHYGEN PERCENT 07-04-03 16 DA-B	ZEAMD PHYGEN PERCENT 07-09-03 21 DA-B	ZEAMD STALK LODGE PERCENT 10-28-03 159 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
14	Ag-Alumni variety Option MSO AMS	35	WG	0.0656	LB A/A	3.0	OZ WT/A	POST A	A	25	42	37	30	39
			L	1.5	PT/A	1.5	PT/A	POST A	A					
			DF	1.5	LB/A	1.5	LB/A	POST A	A					
15	Ag-Alumni variety Distinct NIS AMS	70	WG	0.525	LB A/A	12.0	OZ WT/A	POST A	A	23	27	20	15	43
			L	0.25	% V/V	0.25	% V/V	POST A	A					
			DF	2.5	LB/A	2.5	LB/A	POST A	A					
16	Ag-Alumni variety Untreated control									27	0	0	0	39
17	Schlessman SH4862 variety Untreated control									27	0	0	0	47
18	Schlessman SH4862 variety Option MSO AMS	35	WG	0.0656	LB A/A	3.0	OZ WT/A	POST A	A	28	32	20	20	33
			L	1.5	PT/A	1.5	PT/A	POST A	A					
			DF	1.5	LB/A	1.5	LB/A	POST A	A					
19	Schlessman SH4862 variety Distinct NIS AMS	70	WG	0.525	LB A/A	12.0	OZ WT/A	POST A	A	23	20	23	20	77
			L	0.25	% V/V	0.25	% V/V	POST A	A					
			DF	2.5	LB/A	2.5	LB/A	POST A	A					
20	Schlessman SH4862 variety Callisto COC 28% UAN	4	SC	0.187	LB A/A	6.0	FL OZ/A	POST A	A	27	23	13	13	31
			L	1.0	% V/V	1.0	% V/V	POST A	A					
			L	2.5	% V/V	2.5	% V/V	POST A	A					

Iowa State University

Early preplant applications of Aim and Spartan with Roundup WeatherMAX or Weedone LV4 for weed control in no-tillage soybean, Ames, IA, 2003.

Trial ID: ASN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-25-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate preplant applications of Aim plus Weedone LV4 and Aim or Spartan with Roundup WeatherMAX for crop phytotoxicity and burndown weed control in no-tillage soybean.

Conclusions: Weed control observations five days after EPP applications on May 30, revealed better control for all weed species when Aim, Spartan, or Aim plus Weedone LV4 were added to Roundup WeatherMAX. Control was above 90% for all weeds with tank-mixed treatments except horseweed and common dandelion. Giant foxtail control was improved from 5 to 8%, and improvement in control ranged from approximately 10 to 15% for velvetleaf, common waterhemp, common lambsquarters, and horseweed. Additionally, control improved approximately 40% for Pennsylvania smartweed and common dandelion. On June 12, control of all weeds except Pennsylvania smartweed was similar for Roundup WeatherMAX alone or when part of a tank mixture. On June 20, control was similar among treatments for all weeds. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.
6.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.
7.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2601

Planting Date: 06-05-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: The experiment area was left un-tilled from the corn cropping year 2002. Crop residue on the soil surface was 80% at planting.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	05-25-03
Application Method:	SPRAY
Application Timing:	EPP
Applic. Placement:	BROSOI
Air Temp., Unit:	65 F
% Relative Humidity:	49
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	61 F
Soil Moisture:	DRY
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 LEAF
Stage Scale:	0.5-3 IN
Density, Unit:	0-10 FT2
Weed 2 Code, Stage:	ABUTH COTYL-2
Stage Scale:	0.5 IN
Density, Unit:	0-1 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	0-5-1 IN
Density, Unit:	0-1 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	0.5-5 IN
Density, Unit:	0-10 FT2
Weed 5 Code, Stage:	ERICA NUMEROUS
Stage Scale:	2-6 IN
Density, Unit:	0-1 FT2
Weed 6 Code, Stage:	POLPY 2-6 LEAF
Stage Scale:	1-3 IN
Density, Unit:	0-1 FT2
Weed 7 Code, Stage:	TAROF NUMEROUS
Stage Scale:	1-2 IN
Density, Unit:	0-1 FT2

Iowa State University

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11003
Spray Volume, Unit:	20 GPA

Iowa State University

Early preplant applications of Aim and Spartan with Roundup WeatherMAX or Weedone LV4 for weed control in no-tillage soybean, Ames, IA, 2003.

Trial ID: ASN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code							SETFA	ABUTH	AMATA	CHEAL	ERICA
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date							05-30-03	05-30-03	05-30-03	05-30-03	05-30-03
Tri-Eval Interval							5 DA-A	5 DA-A	5 DA-A	5 DA-A	5 DA-A
Tri No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Unit	Grow Stg	Appl Code			
1	Untreated								0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5 FL OZ/A	EPP	A	95	99	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0 FL OZ/A	EPP	A			
	AMS		DF	17.0	LB/100 GAL	17.0 LB/100 GAL	EPP	A			77
3	Aim	2	EW	0.0078	LB A/A	0.5 FL OZ/A	EPP	A	98	99	96
	Weedone LV4	3.8	EC	0.237	LB A/A	8.0 FL OZ/A	EPP	A			
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0 FL OZ/A	EPP	A			
	AMS		DF	17.0	LB/100 GAL	17.0 LB/100 GAL	EPP	A			
4	Spartan	75	DF	0.25	LB A/A	5.33 OZ WT/A	EPP	A	96	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0 FL OZ/A	EPP	A			
	AMS		DF	17.0	LB/100 GAL	17.0 LB/100 GAL	EPP	A			
5	Spartan	75	DF	0.32	LB A/A	6.8 OZ WT/A	EPP	A	96	99	96
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0 FL OZ/A	EPP	A			
	AMS		DF	17.0	LB/100 GAL	17.0 LB/100 GAL	EPP	A			
6	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0 FL OZ/A	EPP	A	90	85	83
	AMS		DF	17.0	LB/100 GAL	17.0 LB/100 GAL	EPP	A			
LSD (P=.05)							3.9	3.7	3.1	3.2	13.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								POLPY CONTROL PERCENT 05-30-03 5 DA-A	TAROF CONTROL PERCENT 05-30-03 5 DA-A	SETFA CONTROL PERCENT 06-12-03 18 DA-A	ABUTH CONTROL PERCENT 06-12-03 18 DA-A	AMATA CONTROL PERCENT 06-12-03 18 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	95	78	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	95	83	99	99	99
	Weedone LV4	3.8	EC	0.237	LB A/A	8.0	FL OZ/A	EPP	A					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
4	Spartan	75	DF	0.25	LB A/A	5.33	OZ WT/A	EPP	A	95	78	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
5	Spartan	75	DF	0.32	LB A/A	6.8	OZ WT/A	EPP	A	95	77	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
6	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	52	37	99	99	96
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
LSD (P=.05)										15.0	7.0	0.0	0.0	1.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 06-12-03 18 DA-A	ERICA CONTROL PERCENT 06-12-03 18 DA-A	POLPY CONTROL PERCENT 06-12-03 18 DA-A	TAROF CONTROL PERCENT 06-12-03 18 DA-A	SETFA CONTROL PERCENT 06-20-03 26 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	98	93	98	98	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	96	99	99	99
	Weedone LV4	3.8	EC	0.237	LB A/A	8.0	FL OZ/A	EPP	A					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
4	Spartan	75	DF	0.25	LB A/A	5.33	OZ WT/A	EPP	A	98	98	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
5	Spartan	75	DF	0.32	LB A/A	6.8	OZ WT/A	EPP	A	99	93	99	96	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
6	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	98	95	87	98	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
LSD (P=.05)										3.0	9.8	2.6	4.7	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ABUTH CONTROL PERCENT 06-20-03 26 DA-A	AMATA CONTROL PERCENT 06-20-03 26 DA-A	CHEAL CONTROL PERCENT 06-20-03 26 DA-A	ERICA CONTROL PERCENT 06-20-03 26 DA-A	POLPY CONTROL PERCENT 06-20-03 26 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	98	98	99	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	99	99	95	99
	Weedone LV4	3.8	EC	0.237	LB A/A	8.0	FL OZ/A	EPP	A					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
4	Spartan	75	DF	0.25	LB A/A	5.33	OZ WT/A	EPP	A	99	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
5	Spartan	75	DF	0.32	LB A/A	6.8	OZ WT/A	EPP	A	99	99	99	96	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
6	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	99	96	96	98	96
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
LSD (P=.05)										0.0	2.3	2.7	5.2	3.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								TAROF CONTROL PERCENT 06-20-03 26 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A	
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99
	Weedone LV4	3.8	EC	0.237	LB A/A	8.0	FL OZ/A	EPP	A	
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A	
4	Spartan	75	DF	0.25	LB A/A	5.33	OZ WT/A	EPP	A	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A	
5	Spartan	75	DF	0.32	LB A/A	6.8	OZ WT/A	EPP	A	95
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A	
6	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A	
LSD (P=.05)										3.5

Iowa State University

Prowl formulations applied preplant incorporated and preemergence, and followed by Roundup WeatherMAX for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-27-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate Prowl H20 and Prowl 3.3 EC formulations applied preplant incorporated and preemergence and followed by postemergence applications of Roundup WeatherMAX for crop injury and weed control in soybean.

Conclusions: Serious soybean injury resulted from PRE applied treatments of Prowl H20 and Prowl EC. Soybean stunting, stem brittleness and scarring was apparent on June 17 and June 28, 21 and 32 days after application, respectively. There were no significant differences in injury between the Prowl formulations when applied at the 1.25 lb A/A rate. However, significant differences in injury occurred between the formulations when applied at the 2.5 lb A/A rate. At the 2.5 lb A/A rate the Prowl EC formulation caused more injury. Overall, the PPI treatments of the two formulations caused the least amount of soybean injury.

No significant differences in giant foxtail control occurred between Prowl H20 and Prowl EC when observed on June 17 and 28. Both formulations provided good to excellent control. Common waterhemp and common lambsquarters control was good to excellent with all treatments on June 17 and 28. Control of venice mallow was fair with the 1.25 lb A/A rates of PRE applied Prowl H20 and Prowl EC, and the 1.43 lb A/A rates of both applied PPI. No Prowl treatment provided control of common cocklebur. The postemergence application of Roundup WeatherMAX following each of the PPI and PRE applied treatments was very effective and achieved excellent overall control when evaluated on July 22.

Soybean stem brittleness measurements were taken around the R8 stage of growth. Significant differences were determined between treatments in the number of plant stems snapped/20 plants measured. Significant differences were also determined in soybean yield between the treatments. (Dept. of Agronomy, Iowa State University).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-27-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 0.75 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Site Type: FIELD

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

Iowa State University

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting. Preplant treatments were incorporated one pass with a field cultivator operating 2 to 3 inches deep.

SOIL DESCRIPTION

% Sand: 39.8 **% OM:** 5.3 **Texture:** CLAY LOAM
% Silt: 35.1 **pH:** 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
% Clay: 25.1 **Fert. Level:** EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B
Application Date:	05-27-03	06-30-03
Time of Day:	10:00 AM	1:30 PM
Application Method:	SPRAY	SPRAY
Application Timing:	PPI, PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	78 F	80 F
% Relative Humidity:	28	42
Wind Velocity, Unit:	2 MPH	3 MPH
Soil Temp., Unit:	65 F	73 F
Soil Moisture:	ADEQUATE	DRY
% Cloud Cover:	5	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA -	GLXMA V3-V4
Stage Scale:	-	DESC
Height, Unit:	-	5 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4LF, 2T
Stage Scale:	-	0.5-6 IN
Density, Unit:	- -	1-10 FT2
Weed 2 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.5-6 IN
Density, Unit:	- -	0-5 FT2
Weed 3 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	1-6 IN
Density, Unit:	- -	0-2 FT2
Weed 4 Code, Stage:	HIBTR -	HIBTR 1-4 LF
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	0-5 FT2
Weed 5 Code, Stage:	XANST -	XANST 4-9 LF
Stage Scale:	-	4-10 IN
Density, Unit:	- -	0-5 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	25
Nozzle Type:	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN
Spray Volume, Unit:	20 GPA	14 GPA

Iowa State University

Prowl formulations applied preplant incorporated and preemergence, and followed by Roundup WeatherMAX for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLYMA	SETFA	AMATA	CHEAL	HIBTR	XANST	
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-17-03	06-17-03	06-17-03	06-17-03	06-17-03	06-17-03	
Trt-Eval Interval								21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 2.5 LB/A	22.0 FL OZ/A 2.5 LB/A	POST POST	C C		0	0	0	0	0	0
3	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.25 LB AE/A 0.77 LB AE/A 2.5 LB/A	42.2 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PRE POST POST	B C C		15	93	96	96	73	5
4	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.25 LB AE/A 0.77 LB AE/A 2.5 LB/A	48.5 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PRE POST POST	B C C		18	92	96	95	75	5
5	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	2.5 LB A/A 0.77 LB AE/A 2.5 LB/A	84.4 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PRE POST POST	B C C		27	96	99	98	82	5
6	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	2.5 LB A/A 0.77 LB AE/A 2.5 LB/A	97.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PRE POST POST	B C C		33	96	99	98	82	5
7	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.43 LB A/A 0.77 LB AE/A 2.5 LB/A	48.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PPI POST POST	A C C		7	93	95	95	67	3
8	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.44 LB A/A 0.77 LB AE/A 2.5 LB/A	56.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A	PPI POST POST	A C C		10	93	96	95	70	5
LSD (P=.05)									6.6	5.4	2.5	2.6	5.3	1.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										GLYMA PHYGEN PERCENT 06-28-03 32 DA-A	SETFA CONTROL PERCENT 06-28-03 32 DA-A	AMATA CONTROL PERCENT 06-28-03 32 DA-A	CHEAL CONTROL PERCENT 06-28-03 32 DA-A	HIBTR CONTROL PERCENT 06-28-03 32 DA-A	XANST CONTROL PERCENT 06-28-03 32 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								0	0	0	0	0	0	
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 2.5 LB/A	22.0 FL OZ/A 2.5 LB/A		POST C POST C		0	0	0	0	0	0	
3	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.25 LB A/A 0.77 LB AE/A 2.5 LB/A	42.2 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PRE B POST C POST C		8	93	96	96	68	5	
4	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.25 LB A/A 0.77 LB AE/A 2.5 LB/A	48.5 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PRE B POST C POST C		12	90	95	93	72	5	
5	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	2.5 LB A/A 0.77 LB AE/A 2.5 LB/A	84.4 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PRE B POST C POST C		23	96	99	98	82	5	
6	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	2.5 LB A/A 0.77 LB AE/A 2.5 LB/A	97.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PRE B POST C POST C		32	96	99	98	82	5	
7	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.43 LB A/A 0.77 LB AE/A 2.5 LB/A	48.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PPI A POST C POST C		2	93	95	95	65	3	
8	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.44 LB A/A 0.77 LB AE/A 2.5 LB/A	56.0 FL OZ/A 22.0 FL OZ/A 2.5 LB/A		PPI A POST C POST C		2	93	96	93	67	5	
LSD (P=.05)										6.2	5.1	2.1	3.6	8.6	1.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										GLYMA PHYGEN PERCENT 07-22-03 56 DA-A	SETFA CONTROL PERCENT 07-22-03 56 DA-A	AMATA CONTROL PERCENT 07-22-03 56 DA-A	CHEAL CONTROL PERCENT 07-22-03 56 DA-A	HIBTR CONTROL PERCENT 07-22-03 56 DA-A	XANST CONTROL PERCENT 07-22-03 56 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code							
1	Untreated										0	0	0	0	0	0	
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB LB/A	AE/A 2.5	22.0 2.5	FL LB/A	OZ/A POST	C C	0	99	95	99	96	99	
3	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.25 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	42.2 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PRE C C	B C C	0	99	99	99	96	98
4	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.25 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	48.5 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PRE C C	B C C	3	99	99	99	96	99
5	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	2.5 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	84.4 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PRE C C	B C C	17	99	99	99	99	99
6	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	2.5 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	97.0 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PRE C C	B C C	32	99	99	99	96	98
7	Prowl H2O Roundup WeatherMAX AMS	3.8 4.5	EC SL DF	1.43 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	48.0 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PPI C C	A C C	0	99	99	99	95	98
8	Prowl Roundup WeatherMAX AMS	3.3 4.5	EC SL DF	1.44 0.77 2.5	LB LB/A LB/A	A/A AE/A 2.5	56.0 22.0 2.5	FL FL LB/A	OZ/A OZ/A POST	PPI C C	A C C	0	99	99	99	96	98
LSD (P=.05)											5.4	0.0	0.0	0.0	3.4	2.7	

Iowa State University

Weed Code										GLYMA	GLYMA	
Rating Data Type										GREEN SNAP	YIELD	
Rating Unit										#/20 PLA	BU/A	
Rating Date										08-28-03	10-07-03	
Trt-Eval Interval										93 DA-A	133 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code		
1	Untreated										0	15
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C	0	35
			DF	2.5	LB/A	2.5	LB/A		POST	C		
3	Prowl H2O	3.8	EC	1.25	LB A/A	42.2	FL OZ/A		PRE	B	1	39
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
4	Prowl	3.3	EC	1.25	LB A/A	48.5	FL OZ/A		PRE	B	3	36
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
5	Prowl H2O	3.8	EC	2.5	LB A/A	84.4	FL OZ/A		PRE	B	3	29
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
6	Prowl	3.3	EC	2.5	LB A/A	97.0	FL OZ/A		PRE	B	5	24
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
7	Prowl H2O	3.8	EC	1.43	LB A/A	48.0	FL OZ/A		PPI	A	0	35
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
8	Prowl	3.3	EC	1.44	LB A/A	56.0	FL OZ/A		PPI	A	1	41
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A		POST	C		
			DF	2.5	LB/A	2.5	LB/A		POST	C		
LSD (P=.05)											2.8	6.8

Iowa State University

Domain and Canopy XL applied at various rates and as early preplant and preemergence timings for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 04-25-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to assess crop phytotoxicity and weed control from various Domain and Canopy XL application rates and timings. Assessments were made at planting, crop emergence, prior to and following Roundup WeatherMAX postemergence applications.

Conclusions: No treatments in this experiment caused soybean injury. EPP1 treatments observed on May 21 provided at least 92% control of giant foxtail, velvetleaf, common waterhemp, and common lambsquarters. EPP2 treatments observed on the same date demonstrated similar control, with the exception of 85% control of giant foxtail for treatments with Canopy XL. Also on May 21, EPP Canopy XL treatments provided 78% control of common cocklebur, and Domain provided 50 to 62% control.

On June 6 Canopy XL EPP treatments demonstrated 85% control of giant foxtail, and all other treatments, provided at least 92% control. All treatments provided excellent control of velvetleaf, common waterhemp, and common lambsquarters. PRE treatments provided from 80 to 95% control of common cocklebur.

Canopy XL treatments controlled giant foxtail at 72 to 80% on June 23, and Domain treatments controlled giant foxtail at 85 to 88%. Canopy XL and Domain treatments provided good to excellent control of common waterhemp and common lambsquarters. However, velvetleaf control broke, but was similar for both herbicides. Common cocklebur control was unacceptable for all treatments on June 23.

All treatments provided excellent weed control on July 22, following the June 23 MPOST applications of Roundup WeatherMAX. However, control of common waterhemp began to break for many treatments on August 18. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW RR 2403

Planting Date: 05-21-03

Planting Method: DIRECT DRILLED

Rate: 154000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: SLIGHTLY WET

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	04-25-03	05-02-03	05-21-03	06-23-03
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP1	EPP2	PRE	MPOST
Applic. Placement:	BROSOI	BROSOI	BROSOI	BROFOL
Air Temp., Unit:	65 F	64 F	59 F	87 F
% Relative Humidity:	29	62	53	64
Wind Velocity, Unit:	13 MPH	3 MPH	2 MPH	3 MPH
Soil Temp., Unit:	51 F	56 F	56 F	79 F
Soil Moisture:	DAMP	DAMP	ADEQUATE	DRY
% Cloud Cover:	20	80	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GLXMA -	GLXMA -	GLXMA -	GLXMA V3-V4
Stage Scale:	-	-	-	DESC
Height, Unit:	-	-	-	4 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA 1 LEAF	SETFA 1-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	0.25 IN	0.5-2 IN	1-9 IN
Density, Unit:	- -	0-5 FT2	0-5 FT2	2-25 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYLEDON	ABUTH COTYL-4	ABUTH 2-6 LEAF
Stage Scale:	-	0.25 IN	0.5 IN	2-5 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	-	0.5 IN	1-6 IN
Density, Unit:	- -	- -	0-5 FT2	0-5 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	-	0.5 IN	1-4 IN
Density, Unit:	- -	- -	0-1 FT2	0-1 FT2
Weed 5 Code, Stage:	HIBTR -	HIBTR -	HIBTR COTYL-3	HIBTR COTYL-4
Stage Scale:	-	-	0.5-2 IN	0.5-5 IN
Density, Unit:	- -	- -	0-1 FT2	0-4 FT2
Weed 6 Code, Stage:	XANST -	XANST -	XANST COTYL-3	XANST 2-10 LEAF
Stage Scale:	-	-	0.5-2 IN	2-9 IN
Density, Unit:	- -	- -	0-2 FT2	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM	TERRA PRO
Operating Pressure:	25	25	25	25
Nozzle Type:	11003	11003	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	14 GPA

Iowa State University

Domain and Canopy XL applied at various rates and as early preplant and preemergence timings for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								SETFA	ABUTH	AMATA	CHEAL	XANST	
Rating Data Type								CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								05-21-03	05-21-03	05-21-03	05-21-03	05-21-03	
Trt-Eval Interval								26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	PRE	C		0	0	0	0	0
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	PRE	C						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
3	Canopy XL	56.3	WG	0.158 LB A/A	4.5 OZ WT/A	EPP1	A		92	98	99	99	78
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPP1	A						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP1	A						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
4	Canopy XL	56.3	WG	0.106 LB A/A	3.0 OZ WT/A	EPP2	B		85	96	99	99	78
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPP2	B						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP2	B						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
5	Canopy XL	56.3	WG	0.088 LB A/A	2.5 OZ WT/A	PRE	C		0	0	0	0	0
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	PRE	C						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	PRE	C						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
6	Domain	60	DF	0.6 LB A/A	16.0 OZ WT/A	EPP1	A		96	96	99	99	50
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPP1	A						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP1	A						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
7	Domain	60	DF	0.487 LB A/A	13.0 OZ WT/A	EPP2	B		99	96	99	99	62
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	EPP2	B						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP2	B						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
8	Domain	60	DF	0.375 LB A/A	10.0 OZ WT/A	PRE	C		0	0	0	0	0
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	PRE	C						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	PRE	C						
	Roundup WeatherMAX AMS	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	MPOST	D						
	Roundup WeatherMAX AMS	4.5	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	MPOST	D						
LSD (P=.05)									3.8	3.0	0.0	0.0	24.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 06-06-03 16 DA-C	ABUTH CONTROL PERCENT 06-06-03 16 DA-C	AMATA CONTROL PERCENT 06-06-03 16 DA-C	CHEAL CONTROL PERCENT 06-06-03 16 DA-C	XANST CONTROL PERCENT 06-06-03 16 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C	95	99	96	99	95
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A	85	93	98	99	62
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B	85	96	99	99	62
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C	95	99	95	99	80
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A	93	95	98	99	45
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B	92	96	99	99	57
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C	92	96	95	98	92
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
LSD (P=.05)										4.6	6.1	2.4	1.4	16.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									GLXMA PHYGEN PERCENT 06-23-03 0 DA-D	SETFA CONTROL PERCENT 06-23-03 0 DA-D	ABUTH CONTROL PERCENT 06-23-03 0 DA-D	AMATA CONTROL PERCENT 06-23-03 0 DA-D	CHEAL CONTROL PERCENT 06-23-03 0 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C	0	55	68	47	78
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A	0	73	73	93	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B	0	72	80	93	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C	0	80	88	87	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A	0	87	72	87	96
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B	0	88	77	95	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C	0	85	90	90	95
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
LSD (P=.05)										0.0	9.6	31.4	7.3	7.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									HIBTR CONTROL PERCENT 06-23-03 0 DA-D	XANST CONTROL PERCENT 06-23-03 0 DA-D	GLXMA PHYGEN PERCENT 07-22-03 29 DA-D	SETFA CONTROL PERCENT 07-22-03 29 DA-D	ABUTH CONTROL PERCENT 07-22-03 29 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C	30	50	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A	82	48	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B	90	45	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C	80	53	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A	65	13	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B	82	33	0	99	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C	88	52	0	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
LSD (P=.05)										19.4	17.0	0.0	0.0	1.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 07-22-03 29 DA-D	CHEAL CONTROL PERCENT 07-22-03 29 DA-D	HIBTR CONTROL PERCENT 07-22-03 29 DA-D	XANST CONTROL PERCENT 07-22-03 29 DA-D	GLXMA PHYGEN PERCENT 08-18-03 56 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C	92	99	96	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A	98	99	98	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B	98	99	99	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C	99	99	99	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A	95	99	99	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B	96	99	99	96	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C	98	99	99	99	0
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
LSD (P=.05)										2.9	0.0	1.9	1.4	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 08-18-03 56 DA-D	ABUTH CONTROL PERCENT 08-18-03 56 DA-D	AMATA CONTROL PERCENT 08-18-03 56 DA-D	CHEAL CONTROL PERCENT 08-18-03 56 DA-D	HIBTR CONTROL PERCENT 08-18-03 56 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C	87	96	67	98	95
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A	90	98	92	99	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B	88	98	91	99	98
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C	92	99	99	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A	92	99	82	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B	92	98	87	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C	88	99	91	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C					
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D					
	Roundup WeatherMAX AMS	4.5	DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D					
LSD (P=.05)										6.8	4.2	10.7	1.4	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								XANST CONTROL PERCENT 08-18-03 56 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code
1	Untreated								0
2	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
3	Canopy XL	56.3	WG	0.158	LB A/A	4.5	OZ WT/A	EPP1	A
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
4	Canopy XL	56.3	WG	0.106	LB A/A	3.0	OZ WT/A	EPP2	B
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
5	Canopy XL	56.3	WG	0.088	LB A/A	2.5	OZ WT/A	PRE	C
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
6	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	EPP1	A
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP1	A
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
7	Domain	60	DF	0.487	LB A/A	13.0	OZ WT/A	EPP2	B
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP2	B
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
8	Domain	60	DF	0.375	LB A/A	10.0	OZ WT/A	PRE	C
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	PRE	C
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	PRE	C
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	D
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	D
LSD (P=.05)									12.5

Iowa State University

Evaluation of herbicide programs for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 Initiation Date: 05-28-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the crop safety, efficacy and yield from preemergence and postemergence applied herbicides in soybean.
Conclusions: All PRE treatments demonstrated excellent crop safety on July 3. On July 15, POST1 applied Flexstar and Flexstar plus Touchdown KPMG demonstrated 15 and 22% injury, respectively. Injury by other postemergence treatments was inconsistent and less than 5%.

On July 3, PRE Dual Magnum and Boundary treatments demonstrated at least 90% control of giant foxtail, while control ranged from 68 to 83% for other PRE treatments. PRE Prowl treatments provided 82 and 87% control of common waterhemp. Common waterhemp control by other treatments was at least 90%. Dual Magnum provided only 58% control of common lambsquarters. However, the remaining treatments demonstrated at least 93% control. PRE treatment control of velvetleaf, common ragweed, and common cocklebur was generally unacceptable.

Weed control noted on July 15 was excellent for postemergence treatments with Touchdown KPMG and Flexstar plus Touchdown KPMG. Flexstar provided excellent broadleaf weed control, but unacceptable giant foxtail control. PRE Boundary followed by POST2 applied Flexstar plus Fusion did not provide adequate control of velvetleaf, common ragweed and common cocklebur. PRE applied Prowl and Authority also failed to control the same weeds. Trends in weed control were similar when noted on July 28 and August 25. However, common waterhemp and common cocklebur control began to diminish towards August with new weed seed germination.

Soybean yields were highest for treatments with preemergence applications followed by postemergence applications that included Touchdown KPMG. Yields for these treatments ranged from 33 to 39 bu/A. The remaining treatments yielded between 11 and 31 bu/A. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG 2403
Planting Date: 05-28-03 Planting Method: DIRECT DRILLED
Rate: 151000 SEEDS/A Depth: 1.25 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-29-03	06-30-03	07-03-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST1	POST2
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	80 F	80 F	92 F
% Relative Humidity:	30	42	72
Wind Velocity, Unit:	3 MPH	3 MPH	0 MPH
Soil Temp., Unit:	67 F	73 F	81 F
Soil Moisture:	ADEQUATE	MOIST	DRY
% Cloud Cover:	75	0	20

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA -	GLXMA V3	GLXMA V4
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	9 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 2-5 LEAF
Stage Scale:	-	1-6 IN	1-7 IN
Density, Unit:	- -	55 FT2	0-25 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-2 L	ABUTH COTYL-7 L
Stage Scale:	-	0.25-2 IN	0.5-6 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-NUM	AMATA COTYL-NUM
Stage Scale:	-	0.25-6 IN	0.5-3 IN
Density, Unit:	- -	0-8 FT2	0-1 FT2
Weed 4 Code, Stage:	AMBEL -	AMBEL NUMEROUS	AMBEL NUMEROUS
Stage Scale:	-	5-6 IN	1-12 IN
Density, Unit:	- -	0-2 FT2	0-5 FT2
Weed 5 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	1-6 IN	1.5-5 IN
Density, Unit:	- -	0-15 FT2	0-2 FT2
Weed 6 Code, Stage:	XANST -	XANST NUMEROUS	XANST NUMEROUS
Stage Scale:	-	5-8 IN	3-11 IN
Density, Unit:	- -	0-2 FT2	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	25	25	25
Nozzle Type:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of herbicide programs for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 3
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	AMBEL
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								06-21-03	07-03-03	07-03-03	07-03-03	07-03-03	07-03-03
Tri-Eval Interval								23 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST1 POST1	B B	0	0	0	0
3	Touchdown KPMG AMS	4.17	SL DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST2 POST2	C C	0	0	0	0
4	Authority	75	WG	0.25	LB A/A	5.33	OZ WT/A	PRE	A	0	0	72	50
5	Authority Touchdown KPMG AMS	75 4.17	WG SL DF	0.25 0.75 2.0	LB A/A LB AE/A % W/V	5.33 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	68	60
6	Dual Magnum Touchdown KPMG AMS	7.62 4.17	EC SL DF	1.43 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	92	13
7	Prowl	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	0	0	83	55
8	Prowl Touchdown KPMG AMS	3.3 4.17	EC SL DF	1.24 0.75 2.0	LB A/A LB AE/A % W/V	3.0 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	78	40
9	Domain Touchdown KPMG AMS	60 4.17	DF SL DF	0.45 0.75 2.0	LB A/A LB AE/A % W/V	12.0 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	78	63
10	Dual Magnum Authority Touchdown KPMG AMS	7.62 75 4.17	EC WG SL DF	1.43 0.1875 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 4.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	0	0	92	47
11	Dual Magnum Canopy XL Touchdown KPMG AMS	7.62 56.3 4.17	EC WG SL DF	1.43 0.211 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 6.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	0	0	90	72
12	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.22 0.75 2.0	LB A/A LB AE/A % W/V	1.25 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	92	57
13	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.46 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	0	0	95	63
14	Boundary Flexstar Fusion COC 28% UAN	7.8 1.88 2.56	EC SL EC L L	1.22 0.294 0.2078 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	1.25 1.25 10.4 1.0 2.0	PT/A PT/A FL OZ/A % V/V QT/A	PRE POST2 POST2 POST2 POST2	A C C C C	0	0	93	65
15	Flexstar COC 28% UAN	1.88	SL L L	0.294 1.0 2.0	LB A/A % V/V QT/A	1.25 1.0 2.0	PT/A % V/V QT/A	POST1 POST1 POST1	B B B	0	0	0	0
16	Flexstar Touchdown KPMG	1.88 4.17	SL SL	0.176 0.75	LB A/A LB AE/A	0.75 23.0	PT/A FL OZ/A	POST1 POST1	B B	0	0	0	0
LSD (P=.05)								0.0	0.0	12.2	21.4	4.4	29.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										CHEAL CONTROL PERCENT 07-03-03 35 DA-A	XANST CONTROL PERCENT 07-03-03 35 DA-A	GLXMA PHYGEN PERCENT 07-15-03 15 DA-B	SETFA CONTROL PERCENT 07-15-03 15 DA-B	ABUTH CONTROL PERCENT 07-15-03 15 DA-B	AMATA CONTROL PERCENT 07-15-03 15 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75	LB AE/A % W/V	23.0	FL OZ/A % W/V	POST1	B	0	0	0	99	98	98
3	Touchdown KPMG AMS	4.17	SL DF	0.75	LB AE/A % W/V	23.0	FL OZ/A % W/V	POST2	C	0	0	2	99	93	95
4	Authority	75	WG	0.25	LB A/A	5.33	OZ WT/A	PRE	A	98	23	0	68	42	88
5	Authority Touchdown KPMG AMS	75 4.17	WG SL DF	0.25 0.75	LB A/A LB AE/A % W/V	5.33 23.0	OZ WT/A FL OZ/A % W/V	PRE POST2	A C	99	17	0	99	98	99
6	Dual Magnum Touchdown KPMG AMS	7.62 4.17	EC SL DF	1.43 0.75	LB A/A LB AE/A % W/V	1.5 23.0	PT/A FL OZ/A % W/V	PRE POST2	A C	58	5	0	99	98	99
7	Prowl	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	95	13	0	80	55	87
8	Prowl Touchdown KPMG AMS	3.3 4.17	EC SL DF	1.24 0.75	LB A/A LB AE/A % W/V	3.0 23.0	PT/A FL OZ/A % W/V	PRE POST2	A C	93	7	0	69	98	98
9	Domain Touchdown KPMG AMS	60 4.17	DF SL DF	0.45 0.75	LB A/A LB AE/A % W/V	12.0 23.0	OZ WT/A FL OZ/A % W/V	PRE POST2	A C	93	38	0	99	96	98
10	Dual Magnum Authority Touchdown KPMG AMS	7.62 75 4.17	EC WG SL DF	1.43 0.1875 0.75	LB A/A LB A/A LB AE/A % W/V	1.5 4.0 23.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2	A A C	99	22	0	99	96	99
11	Dual Magnum Canopy XL Touchdown KPMG AMS	7.62 56.3 4.17	EC WG SL DF	1.43 0.211 0.75	LB A/A LB A/A LB AE/A % W/V	1.5 6.0 23.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2	A A C	99	37	0	99	98	99
12	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.22 0.75	LB A/A LB AE/A % W/V	1.25 23.0	PT/A FL OZ/A % W/V	PRE POST2	A C	96	42	2	99	96	99
13	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.46 0.75	LB A/A LB AE/A % W/V	1.5 23.0	PT/A FL OZ/A % W/V	PRE POST2	A C	98	32	0	99	95	98
14	Boundary Flexstar Fusion COC 28% UAN	7.8 1.88 2.56	EC SL EC L L	1.22 0.294 0.2078 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	1.25 1.25 10.4 1.0 2.0	PT/A PT/A FL OZ/A % V/V QT/A	PRE POST2 POST2 POST2	A C C C	98	45	5	90	53	85
15	Flexstar COC 28% UAN	1.88	SL L L	0.294	LB A/A % V/V QT/A	1.25	PT/A % V/V QT/A	POST1	B	0	0	15	47	98	99
16	Flexstar Touchdown KPMG	1.88 4.17	SL SL	0.176 0.75	LB A/A LB AE/A	0.75 23.0	PT/A FL OZ/A	POST1	B	0	0	22	99	98	98
LSD (P=.05)										5.5	19.3	5.6	23.1	20.5	10.2

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMBEL CONTROL PERCENT 07-15-03 15 DA-B	CHEAL CONTROL PERCENT 07-15-03 15 DA-B	XANST CONTROL PERCENT 07-15-03 15 DA-B	GLXMA PHYGEN PERCENT 07-28-03 28 DA-B	SETFA CONTROL PERCENT 07-28-03 28 DA-B	ABUTH CONTROL PERCENT 07-28-03 28 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST1 POST1	B B	98	99	98	0	98	98
3	Touchdown KPMG AMS	4.17	SL DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST2 POST2	C C	98	99	99	2	99	90
4	Authority	75	WG	0.25	LB A/A	5.33	OZ WT/A	PRE	A	23	98	25	0	62	42
5	Authority Touchdown KPMG AMS	75 4.17	WG SL DF	0.25 0.75 2.0	LB A/A LB AE/A % W/V	5.33 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	99	99	99	0	99	96
6	Dual Magnum Touchdown KPMG AMS	7.62 4.17	EC SL DF	1.43 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	96	99	96	0	99	96
7	Prowl	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	8	95	8	0	75	55
8	Prowl Touchdown KPMG AMS	3.3 4.17	EC SL DF	1.24 0.75 2.0	LB A/A LB AE/A % W/V	3.0 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	98	99	95	3	99	95
9	Domain Touchdown KPMG AMS	60 4.17	DF SL DF	0.45 0.75 2.0	LB A/A LB AE/A % W/V	12.0 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	98	99	98	0	98	95
10	Dual Magnum Authority Touchdown KPMG AMS	7.62 75 4.17	EC WG SL DF	1.43 0.1875 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 4.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	98	99	99	0	99	94
11	Dual Magnum Canopy XL Touchdown KPMG AMS	7.62 56.3 4.17	EC WG SL DF	1.43 0.211 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 6.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	99	99	99	0	99	98
12	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.22 0.75 2.0	LB A/A LB AE/A % W/V	1.25 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	99	99	98	2	98	96
13	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.46 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	99	99	95	0	99	93
14	Boundary Flexstar Fusion COC 28% UAN	7.8 1.88 2.56	EC SL EC L L	1.22 0.294 0.2078 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	1.25 1.25 10.4 1.0 2.0	PT/A PT/A FL OZ/A % V/V QT/A	PRE POST2 POST2 POST2 POST2	A C C C C	57	98	55	2	88	50
15	Flexstar COC 28% UAN	1.88	SL L L	0.294 1.0 2.0	LB A/A % V/V QT/A	1.25 1.0 2.0	PT/A % V/V QT/A	POST1 POST1 POST1	B B B	98	93	98	8	40	93
16	Flexstar Touchdown KPMG	1.88 4.17	SL SL	0.176 0.75	LB A/A LB AE/A	0.75 23.0	PT/A FL OZ/A	POST1 POST1	B B	98	99	99	15	98	95
LSD (P=.05)										13.7	3.2	15.5	5.4	10.3	22.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMATA CONTROL PERCENT 07-28-03 28 DA-B	AMBEL CONTROL PERCENT 07-28-03 28 DA-B	CHEAL CONTROL PERCENT 07-28-03 28 DA-B	XANST CONTROL PERCENT 07-28-03 28 DA-B	GLXMA PHYGEN PERCENT 08-25-03 56 DA-B	SETFA CONTROL PERCENT 08-25-03 56 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST1 POST1	B B	92	96	99	75	0	95
3	Touchdown KPMG AMS	4.17	SL DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST2 POST2	C C	83	96	98	92	0	98
4	Authority	75	WG	0.25	LB A/A	5.33	OZ WT/A	PRE	A	88	23	98	25	0	57
5	Authority Touchdown KPMG AMS	75 4.17	WG SL DF	0.25 0.75 2.0	LB A/A LB AE/A % W/V	5.33 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	96	96	99	88	0	96
6	Dual Magnum Touchdown KPMG AMS	7.62 4.17	EC SL DF	1.43 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	98	94	98	88	0	96
7	Prowl	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	82	0	95	0	0	72
8	Prowl Touchdown KPMG AMS	3.3 4.17	EC SL DF	1.24 0.75 2.0	LB A/A LB AE/A % W/V	3.0 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	92	96	99	92	2	99
9	Domain Touchdown KPMG AMS	60 4.17	DF SL DF	0.45 0.75 2.0	LB A/A LB AE/A % W/V	12.0 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	92	98	99	92	0	98
10	Dual Magnum Authority Touchdown KPMG AMS	7.62 75 4.17	EC WG SL DF	1.43 0.1875 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 4.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	98	98	99	90	0	98
11	Dual Magnum Canopy XL Touchdown KPMG AMS	7.62 56.3 4.17	EC WG SL DF	1.43 0.211 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 6.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	99	99	99	85	0	99
12	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.22 0.75 2.0	LB A/A LB AE/A % W/V	1.25 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	99	98	99	93	0	98
13	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.46 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	96	98	99	90	0	99
14	Boundary Flexstar Fusion COC 28% UAN	7.8 1.88 2.56	EC SL EC L L	1.22 0.294 0.2078 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	1.25 1.25 10.4 1.0 2.0	PT/A PT/A FL OZ/A % V/V QT/A	PRE POST2 POST2 POST2 POST2	A C C C C	82	55	98	47	2	85
15	Flexstar COC 28% UAN	1.88	SL L L	0.294 1.0 2.0	LB A/A % V/V QT/A	1.25 1.0 2.0	PT/A % V/V QT/A	POST1 POST1 POST1	B B B	96	98	87	95	5	37
16	Flexstar Touchdown KPMG	1.88 4.17	SL SL	0.176 0.75	LB A/A LB AE/A	0.75 23.0	PT/A FL OZ/A	POST1 POST1	B B	87	96	99	77	5	96
LSD (P=.05)										10.5	12.9	6.1	17.7	3.5	12.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ABUTH CONTROL PERCENT 08-25-03 56 DA-B	AMATA CONTROL PERCENT 08-25-03 56 DA-B	AMBEL CONTROL PERCENT 08-25-03 56 DA-B	CHEAL CONTROL PERCENT 08-25-03 56 DA-B	XANST CONTROL PERCENT 08-25-03 56 DA-B	GLYMA YIELD BU/A 10-07-03 131 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	9
2	Touchdown KPMG AMS	4.17	L DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST1 POST1	B B	96	87	95	99	63	30
3	Touchdown KPMG AMS	4.17	SL DF	0.75 2.0	LB AE/A % W/V	23.0 2.0	FL OZ/A % W/V	POST2 POST2	C C	87	78	95	98	87	31
4	Authority	75	WG	0.25	LB A/A	5.33	OZ WT/A	PRE	A	42	88	22	98	23	14
5	Authority Touchdown KPMG AMS	75 4.17	WG SL DF	0.25 0.75 2.0	LB A/A LB AE/A % W/V	5.33 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	96	96	96	99	88	33
6	Dual Magnum Touchdown KPMG AMS	7.62 4.17	EC SL DF	1.43 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	96	98	94	98	85	36
7	Prowl	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	50	82	0	95	0	11
8	Prowl Touchdown KPMG AMS	3.3 4.17	EC SL DF	1.24 0.75 2.0	LB A/A LB AE/A % W/V	3.0 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	95	92	96	98	92	33
9	Domain Touchdown KPMG AMS	60 4.17	DF SL DF	0.45 0.75 2.0	LB A/A LB AE/A % W/V	12.0 23.0 2.0	OZ WT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	95	92	98	99	90	39
10	Dual Magnum Authority Touchdown KPMG AMS	7.62 75 4.17	EC WG SL DF	1.43 0.1875 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 4.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	94	98	98	99	87	36
11	Dual Magnum Canopy XL Touchdown KPMG AMS	7.62 56.3 4.17	EC WG SL DF	1.43 0.211 0.75 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 6.0 23.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PRE PRE POST2 POST2	A A C C	98	99	99	99	85	33
12	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.22 0.75 2.0	LB A/A LB AE/A % W/V	1.25 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	95	99	98	99	92	38
13	Boundary Touchdown KPMG AMS	7.8 4.17	EC SL DF	1.46 0.75 2.0	LB A/A LB AE/A % W/V	1.5 23.0 2.0	PT/A FL OZ/A % W/V	PRE POST2 POST2	A C C	93	96	98	99	88	36
14	Boundary Flexstar Fusion COC 28% UAN	7.8 1.88 2.56	EC SL EC L L	1.22 0.294 0.2078 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	1.25 1.25 10.4 1.0 2.0	PT/A PT/A FL OZ/A % V/V QT/A	PRE POST2 POST2 POST2 POST2	A C C C C	50	82	50	98	38	18
15	Flexstar COC 28% UAN	1.88	SL L L	0.294 1.0 2.0	LB A/A % V/V QT/A	1.25 1.0 2.0	PT/A % V/V QT/A	POST1 POST1 POST1	B B B	91	96	96	83	92	14
16	Flexstar Touchdown KPMG	1.88 4.17	SL SL	0.176 0.75	LB A/A LB AE/A	0.75 23.0	PT/A FL OZ/A	POST1 POST1	B B	88	77	96	98	63	25
LSD (P=.05)										22.8	12.0	11.9	8.6	18.2	4.7

Iowa State University

Preemergence applied Valor and FirstRate followed by postemergence applications of Phoenix, FirstRate, Select or Glyphomax Plus in soybean, Ames, IA, 2003.

Trial ID: ASC 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate soil applied Valor and FirstRate followed by postemergence applications of FirstRate, Phoenix, Select or Glyphomax Plus for crop phytotoxicity and weed control in soybean.

Conclusions: Soybean injury by PRE treatments on June 21 did not exceed 5% for any treatments. By June 30, injury from PRE treatments was no longer visible. Treatments with POST1 Phoenix and POST1 plus POST2 Glyphomax Plus caused 10 to 12% soybean injury on July 17. Injury by other treatments at that date did not exceed 5%. Soybean injury did not exceed 7% for any treatments on July 28.

PRE Valor plus FirstRate treatments provided similar weed control regardless of application rates on June 30, with the exception of significantly less control with 1.0 oz wt and 0.19 oz wt/A of Valor and FirstRate, respectively. Giant foxtail pressure was extremely heavy in this experiment. Domain provided 67% control of giant foxtail and Valor plus FirstRate provided from 47 to 60% control, depending on herbicide rate. The four highest rates of Valor plus FirstRate demonstrated 70 to 77% and 85 to 93% control of velvetleaf and Pennsylvania smartweed, respectively. Control of these weeds was significantly lower for the lowest rate and for the Domain treatment.

POST2 Glyphomax Plus treatments provided at least 92 and 87% control of giant foxtail, velvetleaf, common waterhemp, and common lambsquarters on July 17 and 28, respectively. Control was at least 98% when a PRE application or POST1 Glyphomax Plus preceded the POST2 application. PRE Valor plus FirstRate with POST1 Phoenix plus Select or POST1 Phoenix plus Select plus FirstRate demonstrated at least 90% control of giant foxtail, common waterhemp, and common lambsquarters. However, velvetleaf control did not exceed 88%. Pennsylvania smartweed control on July 17 was at least 91% for PRE Valor plus FirstRate followed by POST1 Phoenix plus Select or POST1 Phoenix plus FirstRate plus Select. No other treatments exceeded 85%.

PRE Domain with POST1 Glyphomax Plus demonstrated soybean yield of 48 bu/A. Other treatments with postemergence timings ranged from 34 to 39 bu/A. Treatments with only preemergence applications yielded 11 to 14 bu/A. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

Iowa State University

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-29-03	06-30-03	07-07-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST1	POST2
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	80 F	80 F	85 F
% Relative Humidity:	30	42	74
Wind Velocity, Unit:	3 MPH	3 MPH	7 MPH
Soil Temp., Unit:	67 F	73 F	77 F
Soil Moisture:	ADEQUATE	MOIST	MOIST
% Cloud Cover:	95	0	50

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA -	GLXMA V3-V4	GLXMA V4-V5
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	11 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 2-4 L, 3T
Stage Scale:	-	0.5-6 IN	3-15 IN
Density, Unit:	- -	5-35 FT2	0-60 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH 2-5 LEAF	ABUTH 3-6 LEAF
Stage Scale:	-	2-6 IN	7-14 IN
Density, Unit:	- -	0-8 FT2	0-5 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	2-6.5 IN	1-14 IN
Density, Unit:	- -	0-2 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	1-5 IN	0.5-5 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 5 Code, Stage:	POLPY -	POLPY 2-8 LEAF	POLPY NUMEROUS
Stage Scale:	-	3-6 IN	5-10 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	25	25
Nozzle Type:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Preemergence applied Valor and FirstRate followed by postemergence applications of Phoenix, FirstRate, Select or Glyphomax Plus in soybean, Ames, IA, 2003.

Trial ID: ASC 4

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-21-03	06-30-03	06-30-03	06-30-03	06-30-03	06-30-03	
Trt-Eval Interval								23 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	
2	Valor	51	WG	0.078 LB A/A	2.45 OZ WT/A		PRE	A	0	0	58	77	96	
	FirstRate	84	WG	0.025 LB A/A	0.476 OZ WT/A		PRE	A						
3	Valor	51	WG	0.094 LB A/A	2.95 OZ WT/A		PRE	A	3	0	55	73	96	
	FirstRate	84	WG	0.031 LB A/A	0.59 OZ WT/A		PRE	A						
4	Valor	51	WG	0.078 LB A/A	2.45 OZ WT/A		PRE	A	5	0	58	73	95	
	FirstRate	84	WG	0.012 LB A/A	0.229 OZ WT/A		PRE	A						
	Phoenix	2	EC	0.125 LB A/A	8.0 FL OZ/A		POST1	B						
	FirstRate	84	WG	0.012 LB A/A	0.229 OZ WT/A		POST1	B						
	Select	2	EC	0.125 LB A/A	8.0 FL OZ/A		POST1	B						
	Between	L		2.5 PT/100 GAL	2.5 PT/100 GAL		POST1	B						
5	Valor	51	WG	0.078 LB A/A	2.45 OZ WT/A		PRE	A	2	0	57	77	99	
	FirstRate	84	WG	0.025 LB A/A	0.476 OZ WT/A		PRE	A						
	Phoenix	2	EC	0.125 LB A/A	8.0 FL OZ/A		POST1	B						
	Select	2	EC	0.125 LB A/A	8.0 FL OZ/A		POST1	B						
	Between	L		2.5 PT/100 GAL	2.5 PT/100 GAL		POST1	B						
6	Glyphomax Plus AMS	3	SL DF	0.75 LB AE/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST2	C	0	0	0	0	0	
7	Valor	51	WG	0.032 LB A/A	1.0 OZ WT/A		PRE	A	2	0	47	38	88	
	FirstRate	84	WG	0.01 LB A/A	0.19 OZ WT/A		PRE	A						
	Glyphomax Plus AMS	3	SL DF	0.75 LB AE/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST2	C						
8	Valor	51	WG	0.048 LB A/A	1.5 OZ WT/A		PRE	A	3	0	60	70	92	
	FirstRate	84	WG	0.016 LB A/A	0.305 OZ WT/A		PRE	A						
	Glyphomax Plus AMS	3	SL DF	0.75 LB AE/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST2	C						
9	Domain	60	DF	0.6 LB A/A	16.0 OZ WT/A		PRE	A	3	0	67	42	95	
	Glyphomax Plus AMS	3	SL DF	0.75 LB AE/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST2	C						
10	Glyphomax Plus AMS	3	SL DF	0.75 LB AE/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST1	B	0	0	0	0	0	
	Glyphomax Plus AMS	3	SL DF	0.56 LB AE/A 17.0 LB/100 GAL	24.0 FL OZ/A 17.0 LB/100 GAL		POST2	C						
LSD (P=.05)									3.2	0.0	8.1	13.1	3.8	4.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 06-30-03 32 DA-A	GLXMA PHYGEN PERCENT 07-17-03 17 DA-B	SETFA CONTROL PERCENT 07-17-03 17 DA-B	ABUTH CONTROL PERCENT 07-17-03 17 DA-B	AMATA CONTROL PERCENT 07-17-03 17 DA-B	CHEAL CONTROL PERCENT 07-17-03 17 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Valor FirstRate	51 84	WG WG	0.078 0.025	LB A/A LB A/A	2.45 0.476	OZ WT/A OZ WT/A	PRE PRE	A A	88	0	50	75	96	98
3	Valor FirstRate	51 84	WG WG	0.094 0.031	LB A/A LB A/A	2.95 0.59	OZ WT/A OZ WT/A	PRE PRE	A A	87	0	50	70	96	98
4	Valor FirstRate Phoenix FirstRate Select Between	51 84 2 84 2	WG WG EC WG EC	0.078 0.012 0.125 0.012 0.125	LB A/A LB A/A LB A/A LB A/A LB A/A	2.45 0.229 8.0 0.229 8.0	OZ WT/A OZ WT/A FL OZ/A OZ WT/A FL OZ/A	PRE PRE POST1 POST1 POST1	A A B B B	93	12	90	83	99	96
5	Valor FirstRate Phoenix Select Between	51 84 2 2	WG WG EC EC	0.078 0.025 0.125 0.125	LB A/A LB A/A LB A/A LB A/A	2.45 0.476 8.0 8.0	OZ WT/A OZ WT/A FL OZ/A FL OZ/A	PRE PRE POST1 POST1	A A B B	96	10	90	88	99	98
6	Glyphomax Plus AMS	3	SL DF	0.75 17.0	LB AE/A LB/100 GAL	32.0 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	0	5	99	99	96	96
7	Valor FirstRate Glyphomax Plus AMS	51 84 3	WG WG SL	0.032 0.01 0.75	LB A/A LB A/A LB AE/A	1.0 0.19 32.0	OZ WT/A OZ WT/A FL OZ/A	PRE PRE POST2	A A C	45	2	99	99	99	99
8	Valor FirstRate Glyphomax Plus AMS	51 84 3	WG WG SL	0.048 0.016 0.75	LB A/A LB A/A LB AE/A	1.5 0.305 32.0	OZ WT/A OZ WT/A FL OZ/A	PRE PRE POST2	A A C	85	2	99	99	99	99
9	Domain Glyphomax Plus AMS	60 3	DF SL	0.6 0.75	LB A/A LB AE/A	16.0 32.0	OZ WT/A FL OZ/A	PRE POST2	A C	30	0	99	99	99	99
10	Glyphomax Plus AMS Glyphomax Plus AMS	3 3	SL DF SL	0.75 17.0 0.56	LB AE/A LB/100 GAL LB AE/A	32.0 17.0 24.0	FL OZ/A LB/100 GAL FL OZ/A	POST1 POST1 POST2	B B C	0	12	99	99	99	99
LSD (P=.05)										11.3	3.0	3.7	4.6	2.2	2.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 07-17-03 17 DA-B	GLXMA PHYGEN PERCENT 07-28-03 21 DA-C	SETFA CONTROL PERCENT 07-28-03 21 DA-C	ABUTH CONTROL PERCENT 07-28-03 21 DA-C	AMATA CONTROL PERCENT 07-28-03 21 DA-C	CHEAL CONTROL PERCENT 07-28-03 21 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								0	0	0	0	0	0	
2	Valor FirstRate	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	75	0	48	70	93	95
		84	WG	0.025	LB A/A	0.476	OZ WT/A	PRE	A						
3	Valor FirstRate	51	WG	0.094	LB A/A	2.95	OZ WT/A	PRE	A	75	0	48	67	95	96
		84	WG	0.031	LB A/A	0.59	OZ WT/A	PRE	A						
4	Valor FirstRate Phoenix FirstRate Select Between	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	94	7	90	78	99	95
		84	WG	0.012	LB A/A	0.229	OZ WT/A	PRE	A						
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B						
		84	WG	0.012	LB A/A	0.229	OZ WT/A	POST1	B						
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B						
		L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST1	B						
5	Valor FirstRate Phoenix Select Between	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	91	5	90	83	98	95
		84	WG	0.025	LB A/A	0.476	OZ WT/A	PRE	A						
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B						
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B						
		L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST1	B						
6	Glyphomax Plus AMS	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C	55	5	99	93	93	92
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C							
7	Valor FirstRate Glyphomax Plus AMS	51	WG	0.032	LB A/A	1.0	OZ WT/A	PRE	A	67	3	99	99	98	99
		84	WG	0.01	LB A/A	0.19	OZ WT/A	PRE	A						
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C						
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C							
8	Valor FirstRate Glyphomax Plus AMS	51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE	A	83	2	99	99	99	99
		84	WG	0.016	LB A/A	0.305	OZ WT/A	PRE	A						
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C						
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C							
9	Domain Glyphomax Plus AMS	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	57	0	99	99	99	99
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C						
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C							
10	Glyphomax Plus AMS Glyphomax Plus AMS	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST1	B	85	5	99	99	99	99
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	B							
		3	SL	0.56	LB AE/A	24.0	FL OZ/A	POST2	C						
		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C							
LSD (P=.05)									21.1	2.8	2.3	9.4	2.8	3.7	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 07-28-03 21 DA-C	GLXMA PHYGEN PERCENT 08-25-03 49 DA-C	SETFA CONTROL PERCENT 08-25-03 49 DA-C	ABUTH CONTROL PERCENT 08-25-03 49 DA-C	AMATA CONTROL PERCENT 08-25-03 49 DA-C	CHEAL CONTROL PERCENT 08-25-03 49 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	Valor FirstRate	51 WG	0.078 LB A/A	2.45 OZ WT/A	PRE	A			70	0	43	70	90	95
		84 WG	0.025 LB A/A	0.476 OZ WT/A	PRE	A								
3	Valor FirstRate	51 WG	0.094 LB A/A	2.95 OZ WT/A	PRE	A			73	0	42	65	93	96
		84 WG	0.031 LB A/A	0.59 OZ WT/A	PRE	A								
4	Valor FirstRate Phoenix FirstRate Select Between	51 WG	0.078 LB A/A	2.45 OZ WT/A	PRE	A			88	0	90	75	96	90
		84 WG	0.012 LB A/A	0.229 OZ WT/A	PRE	A								
		2 EC	0.125 LB A/A	8.0 FL OZ/A	POST1	B								
		84 WG	0.012 LB A/A	0.229 OZ WT/A	POST1	B								
		2 EC	0.125 LB A/A	8.0 FL OZ/A	POST1	B								
	L	2.5 PT/100 GAL	2.5 PT/100 GAL	POST1	B									
5	Valor FirstRate Phoenix Select Between	51 WG	0.078 LB A/A	2.45 OZ WT/A	PRE	A			80	0	90	77	98	95
		84 WG	0.025 LB A/A	0.476 OZ WT/A	PRE	A								
		2 EC	0.125 LB A/A	8.0 FL OZ/A	POST1	B								
		2 EC	0.125 LB A/A	8.0 FL OZ/A	POST1	B								
		L	2.5 PT/100 GAL	2.5 PT/100 GAL	POST1	B								
6	Glyphomax Plus AMS	3 SL	0.75 LB AE/A	32.0 FL OZ/A	POST2	C			65	0	96	90	88	87
		DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST2	C								
7	Valor FirstRate Glyphomax Plus AMS	51 WG	0.032 LB A/A	1.0 OZ WT/A	PRE	A			72	0	98	99	98	99
		84 WG	0.01 LB A/A	0.19 OZ WT/A	PRE	A								
		3 SL	0.75 LB AE/A	32.0 FL OZ/A	POST2	C								
	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST2	C									
8	Valor FirstRate Glyphomax Plus AMS	51 WG	0.048 LB A/A	1.5 OZ WT/A	PRE	A			85	0	99	99	99	99
		84 WG	0.016 LB A/A	0.305 OZ WT/A	PRE	A								
		3 SL	0.75 LB AE/A	32.0 FL OZ/A	POST2	C								
		DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST2	C								
9	Domain Glyphomax Plus AMS	60 DF	0.6 LB A/A	16.0 OZ WT/A	PRE	A			65	0	99	99	99	99
		3 SL	0.75 LB AE/A	32.0 FL OZ/A	POST2	C								
	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST2	C									
10	Glyphomax Plus AMS Glyphomax Plus AMS	3 SL	0.75 LB AE/A	32.0 FL OZ/A	POST1	B			90	0	96	98	95	99
		DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST1	B								
		3 SL	0.56 LB AE/A	24.0 FL OZ/A	POST2	C								
	DF	17.0 LB/100 GAL	17.0 LB/100 GAL	POST2	C									
LSD (P=.05)									19.1	0.0	3.1	11.5	4.8	5.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 08-25-03 49 DA-C	GLYMA YIELD BU/A 10-07-03 131 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	13
2	Valor FirstRate	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	70	14
		84	WG	0.025	LB A/A	0.476	OZ WT/A	PRE	A		
3	Valor FirstRate	51	WG	0.094	LB A/A	2.95	OZ WT/A	PRE	A	73	11
		84	WG	0.031	LB A/A	0.59	OZ WT/A	PRE	A		
4	Valor FirstRate Phoenix FirstRate Select Between	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	85	37
		84	WG	0.012	LB A/A	0.229	OZ WT/A	PRE	A		
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B		
		84	WG	0.012	LB A/A	0.229	OZ WT/A	POST1	B		
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B		
		L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST1	B		
5	Valor FirstRate Phoenix Select Between	51	WG	0.078	LB A/A	2.45	OZ WT/A	PRE	A	78	36
		84	WG	0.025	LB A/A	0.476	OZ WT/A	PRE	A		
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B		
		2	EC	0.125	LB A/A	8.0	FL OZ/A	POST1	B		
			L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST1		
6	Glyphomax Plus AMS	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C	77	34
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C		
7	Valor FirstRate Glyphomax Plus AMS	51	WG	0.032	LB A/A	1.0	OZ WT/A	PRE	A	80	36
		84	WG	0.01	LB A/A	0.19	OZ WT/A	PRE	A		
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C		
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C		
8	Valor FirstRate Glyphomax Plus AMS	51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE	A	90	39
		84	WG	0.016	LB A/A	0.305	OZ WT/A	PRE	A		
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C		
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C		
9	Domain Glyphomax Plus AMS	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	77	48
		3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST2	C		
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C		
10	Glyphomax Plus AMS Glyphomax Plus AMS	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST1	B	98	38
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	B		
		3	SL	0.56	LB AE/A	24.0	FL OZ/A	POST2	C		
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C		
LSD (P=.05)									19.0	7.5	

Iowa State University

Gangster, Pendimax, Python, FirstRate, Glyphomax Plus and Glyphomax HC used in one or two-pass programs in soybean, Ames, IA, 2003.

Trial ID: ASC 5

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate one-pass preemergence and postemergence and two-pass preemergence followed by postemergence programs for crop safety and weed control in soybean.

Conclusions: Soybean injury did not exceed 12% for any treatments when observed on July 1, 15 and 28.

Giant foxtail pressure was light (less than 18/ft²) in this experiment. Control of giant foxtail, observed on July 1, was at least 82% for PRE Pendimax alone or tank-mixed with Gangster, or Python. PRE Gangster, alone demonstrated 78 to 88% control. PRE FirstRate and FirstRate plus Python control of giant foxtail was 65 and 68%, respectively. Python alone and with Valor provided 47 and 75% control, respectively.

PRE Gangster, alone, or with Pendimax demonstrated at least 90% control of velvetleaf on July 1. PRE treatments with Python, alone, or combined with Pendimax, Valor, or FirstRate provided variable velvetleaf control, ranging from 67 to 98%. FirstRate applied PRE, alone, gave 70% control of velvetleaf. PRE Python, or FirstRate alone or combined gave 63 to 70% control of common waterhemp. All other PRE treatments provided at least 87% control. All PRE treatments demonstrated at least 93% common lambsquarters control. PRE treatments containing Gangster provided at least 88% control of common ragweed. Common ragweed control was 88% or less for the remaining PRE treatments. Common cocklebur control was variable and not rate responsive for any PRE treatments.

Treatments with POST Glyphomax Plus provided excellent weed control through August. PRE Python plus Pendimax followed by EPOST FirstRate plus Select provided excellent weed control with the exception of common waterhemp. However, common waterhemp control was at least 90% with the addition of Flexstar. PRE Gangster plus Pendimax, without a postemergence timing, demonstrated excellent weed control with the exception of common cocklebur. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

Iowa State University

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

SOIL DESCRIPTION

% OM: 4.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-29-03	06-29-03	07-01-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	80 F	75 F	83 F
% Relative Humidity:	30	65	61
Wind Velocity, Unit:	3 MPH	8 MPH	8 MPH
Soil Temp., Unit:	67 F	71 F	76 F
Soil Moisture:	ADEQUATE	WET	DAMP
% Cloud Cover:	75	50	50

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA -	GLXMA V2-V3	GLXMA V3
Stage Scale:	-	DESC	DESC
Height, Unit:	-	6 IN	6 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	0.25-4 IN	0.25-6 IN
Density, Unit:	- -	0-1 FT2	0-18 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH 1-3 LEAF	ABUTH 1-4 LEAF
Stage Scale:	-	0.5-3 IN	0.5-3
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.5-2 IN	0.5-4 IN
Density, Unit:	- -	0-1 FT2	0-5 FT2
Weed 4 Code, Stage:	AMBEL -	AMBEL NUMEROUS	AMBEL NUMEROUS
Stage Scale:	-	1-5 IN	1-8 IN
Density, Unit:	- -	0-3 FT2	0-3 FT2
Weed 5 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-2 IN	0.5-4 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 6 Code, Stage:	XANST -	XANST 2-10 LEAF	XANST 4-10 LEAF
Stage Scale:	-	1-8 IN	3-8 IN
Density, Unit:	- -	0-1 FT2	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	25	25
Nozzle Type:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Gangster, Pendimax, Python, FirstRate, Glyphomax Plus and Glyphomax HC used in one or two-pass programs in soybean, Ames, IA, 2003.

Trial ID: ASC 5
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	AMBEL	
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-21-03	07-01-03	07-01-03	07-01-03	07-01-03	07-01-03	
Tri-Eval Interval								23 DA-A	33 DA-A	33 DA-A	33 DA-A	33 DA-A	33 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Grow Unit Stg	Appl Code						
1	Untreated								0	0	0	0	0	
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6 OZ WT/A 3.0 PT/A	PRE PRE	A A	2	0	93	99	98	98
3	Pendimax FirstRate Flexstar Select 28% UAN NIS	3.3 84 1.88 2 L L	EC WG SL EC L L	1.24 0.0157 0.176 0.094 2.5 0.125	LB A/A LB A/A LB A/A LB A/A % V/V % V/V	3.0 PT/A 0.3 OZ WT/A 12.0 FL OZ/A 6.0 FL OZ/A 2.5 % V/V 0.125 % V/V	PRE EPOST EPOST EPOST EPOST EPOST	A B B B B B	0	8	93	77	93	67
4	Python Pendimax	80 3.3	WG EC	0.06 1.24	LB A/A LB A/A	1.2 OZ WT/A 3.0 PT/A	PRE PRE	A A	0	0	95	87	93	77
5	Python Pendimax FirstRate Select 28% UAN NIS	80 3.3 84 2 L L	WG EC WG EC L L	0.05 1.24 0.0157 0.094 2.5 0.125	LB A/A LB A/A LB A/A LB A/A % V/V % V/V	1.0 OZ WT/A 3.0 PT/A 0.3 OZ WT/A 6.0 FL OZ/A 2.5 % V/V 0.125 % V/V	PRE PRE EPOST EPOST EPOST EPOST	A A B B B B	2	7	93	98	92	88
6	Gangster Glyphomax Plus AMS					1.8 OZ WT/A 1.5 PT/A 2.5 LB/A	PRE POST POST	A C C	0	0	85	90	96	88
7	Gangster Glyphomax Plus AMS					2.4 OZ WT/A 1.5 PT/A 2.5 LB/A	PRE POST POST	A C C	0	0	78	94	95	90
8	Gangster Glyphomax Plus AMS					3.6 OZ WT/A 1.5 PT/A 2.5 LB/A	PRE POST POST	A C C	2	0	88	98	96	93
9	Python Valor Glyphomax Plus AMS	80 51 4	WG WG SL DF	0.033 0.048 0.375 2.5	LB A/A LB A/A LB A/A LB/A	0.66 OZ WT/A 1.5 OZ WT/A 0.75 PT/A 2.5 LB/A	PRE PRE POST POST	A A C C	0	0	75	96	92	73
10	Python Glyphomax Plus AMS	80 4	WG SL DF	0.05 1.0 2.5	LB A/A LB A/A LB/A	1.0 OZ WT/A 2.0 PT/A 2.5 LB/A	PRE POST POST	A C C	0	0	47	68	67	37
11	Pendimax Glyphomax Plus AMS	3.3 4	EC SL DF	1.24 1.0 2.5	LB A/A LB A/A LB/A	3.0 PT/A 2.0 PT/A 2.5 LB/A	PRE POST POST	A C C	5	0	92	62	93	35
12	Python Pendimax Glyphomax Plus AMS	80 3.3 4	WG EC SL DF	0.04 1.24 0.75 2.5	LB A/A LB A/A LB A/A LB/A	0.8 OZ WT/A 3.0 PT/A 1.5 PT/A 2.5 LB/A	PRE PRE POST POST	A A C C	3	2	95	95	95	60
13	FirstRate Glyphomax Plus AMS	84 4	WG SL DF	0.0315 0.75 2.5	LB A/A LB A/A LB/A	0.6 OZ WT/A 1.5 PT/A 2.5 LB/A	PRE POST POST	A C C	2	0	65	70	70	80
14	FirstRate Python Glyphomax Plus AMS	84 80 4	WG WG SL DF	0.021 0.025 0.75 2.5	LB A/A LB A/A LB A/A LB/A	0.4 OZ WT/A 0.5 OZ WT/A 1.5 PT/A 2.5 LB/A	PRE PRE POST POST	A A C C	2	0	68	72	63	75

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										GLXMA PHYGEN PERCENT 06-21-03 23 DA-A	GLXMA PHYGEN PERCENT 07-01-03 33 DA-A	SETFA CONTROL PERCENT 07-01-03 33 DA-A	ABUTH CONTROL PERCENT 07-01-03 33 DA-A	AMATA CONTROL PERCENT 07-01-03 33 DA-A	AMBEL CONTROL PERCENT 07-01-03 33 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
15	Pendimax	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	2	2	82	47	87	28
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	C						
	Glyphomax Plus	4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C						
16	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	C	0	0	0	0	0	0
	Glyphomax Plus	4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C						
17	Glyphomax Plus	4	SL	1	LB A/A	2.0	PT/A	POST	C	0	0	0	0	0	0
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C						
18	Glyphomax HC 5.4	5.4	SL	1.01	LB A/A	1.5	PT/A	POST	C	0	0	0	0	0	0
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C						
LSD (P=.05)										3.0	3.7	20.8	24.4	8.0	19.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										CHEAL CONTROL PERCENT 07-01-03 33 DA-A	XANST CONTROL PERCENT 07-01-03 33 DA-A	GLXMA PHYGEN PERCENT 07-15-03 14 DA-C	SETFA CONTROL PERCENT 07-15-03 14 DA-C	ABUTH CONTROL PERCENT 07-15-03 14 DA-C	AMATA CONTROL PERCENT 07-15-03 14 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6	OZ WT/A	PRE	A	98	65	0	93	99	98
3	Pendimax FirstRate Flexstar Select 28% UAN NIS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	94	65	12	98	99	96
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B						
		1.88	SL	0.176	LB A/A	12.0	FL OZ/A	EPOST	B						
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B						
			L	2.5	% V/V	2.5	% V/V	EPOST	B						
			L	0.125	% V/V	0.125	% V/V	EPOST	B						
4	Python Pendimax	80	WG	0.06	LB A/A	1.2	OZ WT/A	PRE	A	99	88	2	95	88	83
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
5	Python Pendimax FirstRate Select 28% UAN NIS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	99	68	0	98	99	60
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B						
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B						
			L	2.5	% V/V	2.5	% V/V	EPOST	B						
			L	0.125	% V/V	0.125	% V/V	EPOST	B						
6	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	1.8	OZ WT/A	PRE	A	99	90	0	99	99	98
			DF	2.5	LB/A	1.5	PT/A	POST	C						
				2.5	LB/A	2.5	LB/A	POST	C						
7	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	2.4	OZ WT/A	PRE	A	99	82	0	99	99	98
			DF	2.5	LB/A	1.5	PT/A	POST	C						
				2.5	LB/A	2.5	LB/A	POST	C						
8	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	3.6	OZ WT/A	PRE	A	99	93	3	99	99	99
			DF	2.5	LB/A	1.5	PT/A	POST	C						
				2.5	LB/A	2.5	LB/A	POST	C						
9	Python Valor Glyphomax Plus AMS	80	WG	0.033	LB A/A	0.66	OZ WT/A	PRE	A	98	60	2	99	99	98
		51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE	A						
		4	SL	0.375	LB A/A	0.75	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
10	Python Glyphomax Plus AMS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	93	48	2	99	99	98
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
11	Pendimax Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	93	42	5	99	99	99
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
12	Python Pendimax Glyphomax Plus AMS	80	WG	0.04	LB A/A	0.8	OZ WT/A	PRE	A	99	83	3	99	99	99
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
13	FirstRate Glyphomax Plus AMS	84	WG	0.0315	LB A/A	0.6	OZ WT/A	PRE	A	98	71	3	99	99	93
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
14	FirstRate Python Glyphomax Plus AMS	84	WG	0.021	LB A/A	0.4	OZ WT/A	PRE	A	96	70	3	99	99	88
		80	WG	0.025	LB A/A	0.5	OZ WT/A	PRE	A						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
15	Pendimax FirstRate Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	98	88	0	99	98	99
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	C						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										CHEAL CONTROL PERCENT 07-01-03 33 DA-A	XANST CONTROL PERCENT 07-01-03 33 DA-A	GLXMA PHYGEN PERCENT 07-15-03 14 DA-C	SETFA CONTROL PERCENT 07-15-03 14 DA-C	ABUTH CONTROL PERCENT 07-15-03 14 DA-C	AMATA CONTROL PERCENT 07-15-03 14 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
16	FirstRate Glyphomax Plus AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB A/A LB/A	0.3 1.5 2.5	OZ WT/A PT/A LB/A	POST POST POST	C C C	0	0	2	99	99	93
17	Glyphomax Plus AMS	4	SL DF	1 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	C C	0	0	2	99	99	93
18	Glyphomax HC 5.4 AMS	5.4	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	0	0	3	99	99	95
LSD (P=.05)										6.2	37.9	5.8	1.8	4.7	9.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMBEL CONTROL PERCENT 07-15-03 14 DA-C	CHEAL CONTROL PERCENT 07-15-03 14 DA-C	XANST CONTROL PERCENT 07-15-03 14 DA-C	GLXMA PHYGEN PERCENT 07-28-03 27 DA-C	SETFA CONTROL PERCENT 07-28-03 27 DA-C	ABUTH CONTROL PERCENT 07-28-03 27 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6	OZ WT/A	PRE	A	93	98	65	0	92	99
3	Pendimax FirstRate Flexstar Select 28% UAN NIS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	96	98	95	5	95	99
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B						
		1.88	SL	0.176	LB A/A	12.0	FL OZ/A	EPOST	B						
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B						
			L	2.5	% V/V	2.5	% V/V	EPOST	B						
			L	0.125	% V/V	0.125	% V/V	EPOST	B						
4	Python Pendimax	80	WG	0.06	LB A/A	1.2	OZ WT/A	PRE	A	70	99	88	0	88	88
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
5	Python Pendimax FirstRate Select 28% UAN NIS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	99	99	98	0	98	99
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B						
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B						
			L	2.5	% V/V	2.5	% V/V	EPOST	B						
			L	0.125	% V/V	0.125	% V/V	EPOST	B						
6	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	1.8	OZ WT/A	PRE	A	96	99	99	0	99	98
			DF	2.5	LB/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
7	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	2.4	OZ WT/A	PRE	A	99	99	96	0	99	99
			DF	2.5	LB/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
8	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	3.6	OZ WT/A	PRE	A	99	99	98	2	99	99
			DF	2.5	LB/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
9	Python Valor Glyphomax Plus AMS	80	WG	0.033	LB A/A	0.66	OZ WT/A	PRE	A	93	99	90	2	99	99
		51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE	A						
		4	SL	0.375	LB A/A	0.75	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
10	Python Glyphomax Plus AMS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	99	99	93	2	98	99
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
11	Pendimax Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	95	99	95	3	99	99
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
12	Python Pendimax Glyphomax Plus AMS	80	WG	0.04	LB A/A	0.8	OZ WT/A	PRE	A	95	99	99	0	99	99
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
13	FirstRate Glyphomax Plus AMS	84	WG	0.0315	LB A/A	0.6	OZ WT/A	PRE	A	99	99	98	2	99	99
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
14	FirstRate Python Glyphomax Plus AMS	84	WG	0.021	LB A/A	0.4	OZ WT/A	PRE	A	96	99	98	3	99	99
		80	WG	0.025	LB A/A	0.5	OZ WT/A	PRE	A						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						
15	Pendimax FirstRate Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	95	99	99	0	99	99
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	C						
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C						
			DF	2.5	LB/A	2.5	LB/A	POST	C						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMBEL CONTROL PERCENT 07-15-03 14 DA-C	CHEAL CONTROL PERCENT 07-15-03 14 DA-C	XANST CONTROL PERCENT 07-15-03 14 DA-C	GLXMA PHYGEN PERCENT 07-28-03 27 DA-C	SETFA CONTROL PERCENT 07-28-03 27 DA-C	ABUTH CONTROL PERCENT 07-28-03 27 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
16	FirstRate Glyphomax Plus AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB A/A LB/A	0.3 1.5 2.5	OZ WT/A PT/A LB/A	POST POST POST	C C C	98	99	99	0	99	99
17	Glyphomax Plus AMS	4	SL DF	1 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	C C	96	98	99	2	99	99
18	Glyphomax HC 5.4 AMS	5.4	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	96	99	99	3	99	99
LSD (P=.05)										7.8	1.6	15.3	5.0	2.5	4.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMATA CONTROL PERCENT 07-28-03 27 DA-C	AMBEL CONTROL PERCENT 07-28-03 27 DA-C	CHEAL CONTROL PERCENT 07-28-03 27 DA-C	XANST CONTROL PERCENT 07-28-03 27 DA-C	SETFA CONTROL PERCENT 08-25-03 55 DA-C	ABUTH CONTROL PERCENT 08-25-03 55 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6	OZ WT/A PT/A	PRE PRE	A A	95	90	98	62	92	99
3	Pendimax FirstRate Flexstar Select 28% UAN NIS	3.3 84 1.88 2	EC WG SL EC	1.24 0.0157 0.176 0.094	LB A/A LB A/A LB A/A LB A/A	3.0 0.3 12.0 6.0	PT/A OZ WT/A FL OZ/A FL OZ/A	PRE EPOST EPOST EPOST	A B B B	90	96	96	95	95	99
4	Python Pendimax	80 3.3	WG EC	0.06 1.24	LB A/A LB A/A	1.2 3.0	OZ WT/A PT/A	PRE PRE	A A	77	65	99	85	88	88
5	Python Pendimax FirstRate Select 28% UAN NIS	80 3.3 84 2	WG EC WG EC	0.05 1.24 0.0157 0.094	LB A/A LB A/A LB A/A LB A/A	1.0 3.0 0.3 6.0	OZ WT/A PT/A OZ WT/A FL OZ/A	PRE PRE EPOST EPOST	A A B B	57	99	99	95	98	99
6	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	1.8 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	A C C	99	98	99	95	99	98
7	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	2.4 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	A C C	99	99	99	95	99	99
8	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	3.6 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	A C C	99	99	99	96	99	99
9	Python Valor Glyphomax Plus AMS	80 51 4	WG WG SL	0.033 0.048 0.375	LB A/A LB A/A LB A/A	0.66 1.5 0.75	OZ WT/A OZ WT/A PT/A	PRE PRE POST	A A C	96	95	99	83	99	99
10	Python Glyphomax Plus AMS	80 4	WG SL	0.05 1.0	LB A/A LB A/A	1.0 2.0 2.5	OZ WT/A PT/A LB/A	PRE POST POST	A C C	91	99	99	81	98	99
11	Pendimax Glyphomax Plus AMS	3.3 4	EC SL	1.24 1.0	LB A/A LB A/A	3.0 2.0 2.5	PT/A PT/A LB/A	PRE POST POST	A C C	98	96	99	85	99	99
12	Python Pendimax Glyphomax Plus AMS	80 3.3 4	WG EC SL	0.04 1.24 0.75	LB A/A LB A/A LB A/A	0.8 3.0 1.5	OZ WT/A PT/A PT/A	PRE PRE POST	A A C	99	98	99	96	99	99
13	FirstRate Glyphomax Plus AMS	84 4	WG SL	0.0315 0.75	LB A/A LB A/A	0.6 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	A C C	93	99	99	95	99	99
14	FirstRate Python Glyphomax Plus AMS	84 80 4	WG WG SL	0.021 0.025 0.75	LB A/A LB A/A LB A/A	0.4 0.5 1.5	OZ WT/A OZ WT/A PT/A	PRE PRE POST	A A C	90	98	99	96	99	99
15	Pendimax FirstRate Glyphomax Plus AMS	3.3 84 4	EC WG SL	1.24 0.0157 0.75	LB A/A LB A/A LB A/A	3.0 0.3 1.5	PT/A OZ WT/A PT/A	PRE POST POST	A C C	99	98	99	98	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMATA CONTROL PERCENT 07-28-03 27 DA-C	AMBEL CONTROL PERCENT 07-28-03 27 DA-C	CHEAL CONTROL PERCENT 07-28-03 27 DA-C	XANST CONTROL PERCENT 07-28-03 27 DA-C	SETFA CONTROL PERCENT 08-25-03 55 DA-C	ABUTH CONTROL PERCENT 08-25-03 55 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
16	FirstRate Glyphomax Plus AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB A/A LB/A	0.3 1.5 2.5	OZ WT/A PT/A LB/A	POST POST POST	C C C	93	99	99	96	99	99
17	Glyphomax Plus AMS	4	SL DF	1 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	C C	93	96	99	96	99	99
18	Glyphomax HC 5.4 AMS	5.4	SL DF	1.01 2.5	LB A/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	90	96	99	95	99	98
LSD (P=.05)										10.2	7.3	1.3	20.3	2.5	4.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMATA CONTROL PERCENT 08-25-03 55 DA-C	AMBEL CONTROL PERCENT 08-25-03 55 DA-C	CHEAL CONTROL PERCENT 08-25-03 55 DA-C	XANST CONTROL PERCENT 08-25-03 55 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6	OZ WT/A	PRE	A	95	88	98	60
3	Pendimax FirstRate Flexstar Select 28% UAN NIS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	90	96	96	95
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B				
		1.88	SL	0.176	LB A/A	12.0	FL OZ/A	EPOST	B				
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B				
		L		2.5	% V/V	2.5	% V/V	EPOST	B				
		L		0.125	% V/V	0.125	% V/V	EPOST	B				
4	Python Pendimax	80	WG	0.06	LB A/A	1.2	OZ WT/A	PRE	A	73	60	99	80
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A				
5	Python Pendimax FirstRate Select 28% UAN NIS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	57	99	99	95
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A				
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	B				
		2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	B				
		L		2.5	% V/V	2.5	% V/V	EPOST	B				
		L		0.125	% V/V	0.125	% V/V	EPOST	B				
6	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	1.8	OZ WT/A	PRE	A	99	98	99	95
		DF		2.5	LB/A	1.5	PT/A	POST	C				
				2.5	LB/A	2.5	LB/A	POST	C				
7	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	2.4	OZ WT/A	PRE	A	99	99	99	95
		DF		2.5	LB/A	1.5	PT/A	POST	C				
				2.5	LB/A	2.5	LB/A	POST	C				
8	Gangster Glyphomax Plus AMS	4	SL	0.75	LB A/A	3.6	OZ WT/A	PRE	A	99	99	99	96
		DF		2.5	LB/A	1.5	PT/A	POST	C				
				2.5	LB/A	2.5	LB/A	POST	C				
9	Python Valor Glyphomax Plus AMS	80	WG	0.033	LB A/A	0.66	OZ WT/A	PRE	A	96	93	99	78
		51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE	A				
		4	SL	0.375	LB A/A	0.75	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
10	Python Glyphomax Plus AMS	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A	91	98	99	81
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
11	Pendimax Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	98	96	99	80
		4	SL	1.0	LB A/A	2.0	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
12	Python Pendimax Glyphomax Plus AMS	80	WG	0.04	LB A/A	0.8	OZ WT/A	PRE	A	99	98	99	96
		3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A				
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
13	FirstRate Glyphomax Plus AMS	84	WG	0.0315	LB A/A	0.6	OZ WT/A	PRE	A	93	99	99	95
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
14	FirstRate Python Glyphomax Plus AMS	84	WG	0.021	LB A/A	0.4	OZ WT/A	PRE	A	90	98	99	96
		80	WG	0.025	LB A/A	0.5	OZ WT/A	PRE	A				
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				
15	Pendimax FirstRate Glyphomax Plus AMS	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	98	98	99	98
		84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	C				
		4	SL	0.75	LB A/A	1.5	PT/A	POST	C				
		DF		2.5	LB/A	2.5	LB/A	POST	C				

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 08-25-03 55 DA-C	AMBEL CONTROL PERCENT 08-25-03 55 DA-C	CHEAL CONTROL PERCENT 08-25-03 55 DA-C	XANST CONTROL PERCENT 08-25-03 55 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
16	FirstRate Glyphomax Plus AMS	84	WG SL DF	0.0157	LB A/A	0.3	OZ WT/A	POST	C	93	99	99	96
17	Glyphomax Plus AMS	4	SL DF	1	LB A/A	2.0	PT/A	POST	C	93	96	99	94
18	Glyphomax HC 5.4 AMS	5.4	SL DF	1.01	LB A/A	1.5	PT/A	POST	C	88	96	99	95
LSD (P=.05)										10.3	7.4	1.3	22.6

Iowa State University

Postemergence applied Select, Assure, and others in combination with Roundup WeatherMAX for glyphosate tolerant corn control in soybean, Ames, IA, 2003.

Trial ID: ASC 6

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate reduced rates of postemergence applied Select and other grass herbicides in combination with Roundup WeatherMAX for control of volunteer glyphosate tolerant corn.

Conclusions: No treatments caused soybean injury at any of the observation dates. All treatments provided generally more than 90% broadleaf weed control. There were only slight differences between treatments in giant foxtail control within postemergence application timings.

POST1 V10137 provided 77% control of glyphosate tolerant corn compared to 80 to 83% control by other POST1 treatments on July 9. On July 15, 24, and August 1, Assure II demonstrated more glyphosate tolerant corn control than the remaining POST1 treatments. On August 11, control was similar for all POST1 treatments.

POST2 treatments revealed that Assure II provided higher control of glyphosate tolerant corn than the remaining treatments at all observation dates. V10139 consistently demonstrated the least amount of control. Select and V10137 provided similar control. Assure II provided nearly perfect control on August 11, regardless of application timing. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ZEAMD	CORN	ZEAMAYS
2.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
5.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
6.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
7.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting. Glyphosate resistant corn variety Dekalb DKC58-24 was planted in the study on May 30.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B
Application Date:	07-01-03	07-07-03
Application Method:	SPRAY	SPRAY
Application Timing:	POST1	POST2
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	83 F	85 F
% Relative Humidity:	61	74
Wind Velocity, Unit:	5 MPH	6 MPH
Soil Temp., Unit:	76 F	77 F
Soil Moisture:	DRY	MOIST
% Cloud Cover:	50	50

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA V3	GLXMA V4-V5
Stage Scale:	DESC	DESC
Height, Unit:	6 IN	8 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ZEAMD V4	ZEAMD V6
Stage Scale:	10-12 IN	16-18 IN
Density, Unit:	1.6 ROWFT	1.6 ROWFT
Weed 2 Code, Stage:	SETFA 1-4 LEAF	SETFA 2-4LF, 3T
Stage Scale:	0.5-7 IN	5-13 IN
Density, Unit:	75 FT2	30 FT2
Weed 3 Code, Stage:	ABUTH 1-3 LEAF	ABUTH 3-5 LEAF
Stage Scale:	2-3 IN	3-8 IN
Density, Unit:	0-1 FT2	0-1 FT2
Weed 4 Code, Stage:	AMATA COTYL-8	AMATA NUMEROUS
Stage Scale:	0.5-5 IN	1-6 IN
Density, Unit:	0-10 FT2	0-15 FT2
Weed 5 Code, Stage:	AMBEL 2-8 LEAF	AMBEL NUMEROUS
Stage Scale:	4-10 IN	4-15 IN
Density, Unit:	0-5 FT2	0-2 FT2
Weed 6 Code, Stage:	CHEAL COTYL-8	CHEAL NUMEROUS
Stage Scale:	0.5-4 IN	1-7 IN
Density, Unit:	0-10 FT2	0-10 FT2
Weed 7 Code, Stage:	XANST 3-8 LEAF	XANST NUMEROUS
Stage Scale:	4-11 IN	8-16 IN
Density, Unit:	0-8 FT2	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	25	25
Nozzle Type:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Postemergence applied Select, Assure, and others in combination with Roundup WeatherMAX for glyphosate tolerant corn control in soybean, Ames, IA, 2003.

Trial ID: ASC 6

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	ZEAMD	SETFA	ABUTH	AMATA	
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-09-03	07-09-03	07-09-03	07-09-03	07-09-03	
Trt-Eval Interval								8 DA-A	8 DA-A	8 DA-A	8 DA-A	8 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Select	2	EC	0.0625	LB A/A	4.0	FL OZ/A	POST1	A	0	80	99	96
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST1	A				
	NIS		L	0.125	% V/V	0.125	% V/V	POST1	A				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	A				
3	V10137	0.94	EC	0.0624	LB A/A	8.5	FL OZ/A	POST1	A	0	77	99	91
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST1	A				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	A				
4	Assure II	0.88	EC	0.0275	LB A/A	4.0	FL OZ/A	POST1	A	0	82	99	90
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST1	A				
	NIS		L	0.125	% V/V	0.125	% V/V	POST1	A				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	A				
5	V10139	1.6	EC	0.05	LB A/A	4.0	FL OZ/A	POST1	A	0	83	99	93
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST1	A				
	NIS		L	0.125	% V/V	0.125	% V/V	POST1	A				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1	A				
6	Select	2	EC	0.078	LB A/A	5.0	FL OZ/A	POST2	B	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	B				
	NIS		L	0.125	% V/V	0.125	% V/V	POST2	B				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	B				
7	V10137	0.94	EC	0.078	LB A/A	10.6	FL OZ/A	POST2	B	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	B				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	B				
8	Assure II	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST2	B	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	B				
	NIS		L	0.125	% V/V	0.125	% V/V	POST2	B				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	B				
9	V10139	1.6	EC	0.0625	LB A/A	5.0	FL OZ/A	POST2	B	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	B				
	NIS		L	0.125	% V/V	0.125	% V/V	POST2	B				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	B				
10	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	B	0	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	B				
LSD (P=.05)								0.0	5.2	0.0	4.9	7.5	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMBEL CONTROL PERCENT 07-09-03 8 DA-A	CHEAL CONTROL PERCENT 07-09-03 8 DA-A	XANST CONTROL PERCENT 07-09-03 8 DA-A	GLXMA PHYGEN PERCENT 07-15-03 14 DA-A	ZEAMD CONTROL PERCENT 07-15-03 14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	98	99	0	90
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
3	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.0624 0.75	LB A/A LB AE/A	8.5 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	98	99	0	92
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
4	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0275 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	98	99	0	96
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
5	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.05 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	98	98	99	0	90
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
6	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	0	0	0	0	68
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
7	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	10.6 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	0	0	0	0	73
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
8	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0344 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	0	0	0	0	80
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
9	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	0	0	0	0	67
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
10	Roundup WeatherMAX AMS	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2 B	B	0	0	0	0	0
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
LSD (P=.05)										1.3	2.0	0.0	0.0	5.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 07-15-03 14 DA-A	ABUTH CONTROL PERCENT 07-15-03 14 DA-A	AMATA CONTROL PERCENT 07-15-03 14 DA-A	AMBEL CONTROL PERCENT 07-15-03 14 DA-A	CHEAL CONTROL PERCENT 07-15-03 14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	99	99	96	99	98
		L		0.125	% V/V	0.125	% V/V	POST1 A	A					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
3	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.0624 0.75	LB A/A LB AE/A	8.5 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	99	96	95	99	98
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
4	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0275 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	99	96	93	99	99
		L		0.125	% V/V	0.125	% V/V	POST1 A	A					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
5	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.05 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	99	99	95	98	99
		L		0.125	% V/V	0.125	% V/V	POST1 A	A					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
6	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	98	98	87	92	96
		L		0.125	% V/V	0.125	% V/V	POST2 B	B					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
7	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	10.6 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	98	95	95	95	98
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
8	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0344 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	99	98	92	96	98
		L		0.125	% V/V	0.125	% V/V	POST2 B	B					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
9	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	98	96	93	95	98
		L		0.125	% V/V	0.125	% V/V	POST2 B	B					
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
10	Roundup WeatherMAX AMS	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2 B	B	92	94	93	92	92
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
LSD (P=.05)										2.8	6.0	7.8	4.7	3.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									XANST CONTROL PERCENT 07-15-03 14 DA-A	GLXMA PHYGEN PERCENT 07-24-03 23 DA-A	ZEAMD CONTROL PERCENT 07-24-03 23 DA-A	SETFA CONTROL PERCENT 07-24-03 23 DA-A	ABUTH CONTROL PERCENT 07-24-03 23 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	0	93	99	99
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
3	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.0624 0.75	LB A/A LB AE/A	8.5 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	0	95	99	96
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A					
4	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0275 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	0	99	99	98
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
5	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.05 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	99	0	93	99	99
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST1 A POST1 A	A A					
6	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	87	0	82	99	98
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
7	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	10.6 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	87	0	82	99	93
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
8	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0344 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	93	0	92	99	98
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
9	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	90	0	75	99	95
		L DF		0.125 17.0	% V/V LB/100 GAL	0.125 17.0	% V/V LB/100 GAL	POST2 B POST2 B	B B					
10	Roundup WeatherMAX AMS	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2 B	B	85	0	0	98	94
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B					
LSD (P=.05)										4.8	0.0	4.6	1.3	6.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 07-24-03 23 DA-A	AMBEL CONTROL PERCENT 07-24-03 23 DA-A	CHEAL CONTROL PERCENT 07-24-03 23 DA-A	XANST CONTROL PERCENT 07-24-03 23 DA-A	ZEAMD CONTROL PERCENT 08-01-03 31 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	93	98	98	99	93
		L		0.125	% V/V		0.125 % V/V	POST1 A						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST1 A						
3	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.0624 0.75	LB A/A LB AE/A	8.5 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	95	99	98	99	95
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST1 A						
4	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0275 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	92	99	99	99	99
		L		0.125	% V/V		0.125 % V/V	POST1 A						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST1 A						
5	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.05 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A	93	98	99	99	93
		L		0.125	% V/V		0.125 % V/V	POST1 A						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST1 A						
6	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	85	93	96	96	85
		L		0.125	% V/V		0.125 % V/V	POST2 B						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST2 B						
7	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	10.6 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	92	95	98	96	83
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST2 B						
8	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0344 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	90	96	98	99	95
		L		0.125	% V/V		0.125 % V/V	POST2 B						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST2 B						
9	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B	93	95	98	98	78
		L		0.125	% V/V		0.125 % V/V	POST2 B						
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST2 B						
10	Roundup WeatherMAX AMS	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2 B	B	92	95	93	98	0
		DF		17.0	LB/100 GAL		17.0 LB/100 GAL	POST2 B						
LSD (P=.05)										6.5	3.8	3.5	3.4	3.3

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 08-01-03 31 DA-A	ZEAMD CONTROL PERCENT 08-11-03 41 DA-A	SETFA CONTROL PERCENT 08-11-03 41 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	98	96	98
			L	0.125	% V/V	0.125	% V/V	POST1 A	A			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A			
3	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.0624 0.75	LB A/A LB AE/A	8.5 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	96	98	95
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A			
4	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0275 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	96	99	96
			L	0.125	% V/V	0.125	% V/V	POST1 A	A			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A			
5	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.05 0.75	LB A/A LB AE/A	4.0 21.3	FL OZ/A FL OZ/A	POST1 A POST1 A	A A	96	98	96
			L	0.125	% V/V	0.125	% V/V	POST1 A	A			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST1 A	A			
6	Select Roundup WeatherMAX NIS AMS	2 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	99	90	99
			L	0.125	% V/V	0.125	% V/V	POST2 B	B			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B			
7	V10137 Roundup WeatherMAX AMS	0.94 4.5	EC SL	0.078 0.75	LB A/A LB AE/A	10.6 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	96	88	96
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B			
8	Assure II Roundup WeatherMAX NIS AMS	0.88 4.5	EC SL	0.0344 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	98	98	98
			L	0.125	% V/V	0.125	% V/V	POST2 B	B			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B			
9	V10139 Roundup WeatherMAX NIS AMS	1.6 4.5	EC SL	0.0625 0.75	LB A/A LB AE/A	5.0 21.3	FL OZ/A FL OZ/A	POST2 B POST2 B	B B	99	83	99
			L	0.125	% V/V	0.125	% V/V	POST2 B	B			
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2 B	B			
10	Roundup WeatherMAX AMS	4.5	SL DF	0.75	LB AE/A LB/100 GAL	21.3	FL OZ/A LB/100 GAL	POST2 B POST2 B	B B	98	0	98
LSD (P=.05)										3.3	3.5	2.6

Iowa State University

Preemergence applied Axiom, Dual II Magnum and Authority and postemergence applied Ultra Blazer, Roundup WeatherMAX and Extreme in soybean, Ames, IA, 2003.

Trial ID: ASC 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for soybean phytotoxicity and weed control in soybean.

Conclusions: No soybean injury was apparent on June 21, and injury of up to only 5% was observed on July 1. MPOST Ultra Blazer treatments with 28% UAN caused injury ranging from 15 to 17% as observed on July 11. Injury was 25% on that date when MSO was included with the Ultra Blazer treatment. The remaining treatments on July 11 demonstrated no more than 7% injury. On July 9, soybean injury by MPOST Ultra Blazer with MSO was diminished to 12%.

Giant foxtail control ranged from 87 to 95% as observed on July 1. Control improved to a range of 90 to 99% on July 11. All treatments provided good to excellent giant foxtail control through July 29. Velvetleaf control by PRE treatments on July 1 was above 90% for Dual II Magnum plus Authority and Axiom plus Sencor plus Authority. The remaining treatments provided 85% and less. On July 11, treatments with PRE Authority maintained at least 85% control. PRE Domain plus Prowl followed by MPOST Ultra Blazer and treatments with MPOST Roundup WeatherMAX, Raptor plus Ultra Blazer, or Extreme provided at least 93% control. By July 29, the same treatments maintained at least 83% control of velvetleaf. All treatments provided at least 87% control of common waterhemp on July 1, 11, and 29. No PRE treatments provided adequate control of common ragweed as observed on July 1. MPOST Ultra Blazer and Roundup WeatherMAX treatments demonstrated at least 91% common ragweed control. MPOST Extreme and Ultra Blazer with Raptor provided 83 and 82% control, respectively. All MPOST treatments provided excellent control of common lambsquarters and venice mallow. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
7.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 4.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B
Application Date:	05-29-03	07-01-03
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	MPOST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	80 F	83 F
% Relative Humidity:	30	61
Wind Velocity, Unit:	3 MPH	6 MPH
Soil Temp., Unit:	67 F	76 F
Soil Moisture:	ADEQUATE	DRY
% Cloud Cover:	75	50

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA -	GLXMA V3
Stage Scale:	-	DESC
Height, Unit:	-	5 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-6 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-8
Stage Scale:	-	0.5-5IN
Density, Unit:	- -	0-5 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-10
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-3 FT2
Weed 4 Code, Stage:	AMBEL -	AMBEL 2-8 LEAF
Stage Scale:	-	2-6 IN
Density, Unit:	- -	0-2 FT2
Weed 5 Code, Stage:	CHEAL -	CHEAL COTYL-12
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-1 FT2
Weed 6 Code, Stage:	HIBTR -	HIBTR 2-8 LEAF
Stage Scale:	-	1-6 IN
Density, Unit:	- -	0-1 FT2
Weed 7 Code, Stage:	XANST -	XANST 4-10 LEAF
Stage Scale:	-	3-8 IN
Density, Unit:	- -	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Type:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Preemergence applied Axiom, Dual II Magnum and Authority and postemergence applied Ultra Blazer, Roundup WeatherMAX and Extreme in soybean, Ames, IA, 2003.

Trial ID: ASC 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								06-21-03	07-01-03	07-01-03	07-01-03	07-01-03
Trt-Eval Interval								23 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Dual II Magnum	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	0	0	93
3	Dual II Magnum Authority	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	0	5	93
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A			92
4	Axiom	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	0	0	93
5	Axiom Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	0	2	93
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A			85
6	Axiom Sencor Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	0	2	95
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A			92
		75	DF	0.14	LB A/A	3.0	OZ WT/A	PRE	A			98
7	Axiom Sencor	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	0	2	95
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A			73
8	Domain Prowl Ultra Blazer 28% UAN	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	0	3	93
		3.3	EC	1.03	LB A/A	2.5	PT/A	PRE	A			85
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B			95
		L		2.0	QT/A	2.0	QT/A	MPOST	B			
9	Axiom Ultra Blazer 28% UAN	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	0	2	95
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B			48
		L		2.0	QT/A	2.0	QT/A	MPOST	B			95
10	Axiom Ultra Blazer 28% UAN	68	DF	0.55	LB A/A	13.0	OZ WT/A	PRE	A	0	2	92
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B			33
		L		2.0	QT/A	2.0	QT/A	MPOST	B			92
11	Domain Roundup WeatherMAX AMS	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	0	3	90
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B			75
		DF		2.0	% W/V	2.0	% W/V	MPOST	B			95
12	Boundary Roundup WeatherMAX AMS	7.8	EC	1.46	LB A/A	1.5	PT/A	PRE	A	0	2	92
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B			75
		DF		2.0	% W/V	2.0	% W/V	MPOST	B			95
13	Prowl H2O Raptor Ultra Blazer MSO 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	0	2	88
		1	SL	0.0312	LB A/A	4.0	FL OZ/A	MPOST	B			35
		2	SL	0.187	LB A/A	12.0	FL OZ/A	MPOST	B			90
		L		1.0	% V/V	1.0	% V/V	MPOST	B			
		L		2.0	QT/A	2.0	QT/A	MPOST	B			
14	Prowl H2O Extreme NIS 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	0	2	87
		2.17	SL	0.81	LB A/A	3.0	PT/A	MPOST	B			33
		L		0.125	% V/V	0.125	% V/V	MPOST	B			87
		L		2.0	QT/A	2.0	QT/A	MPOST	B			
LSD (P=.05)								0.0	3.7	5.2	19.6	3.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMBEL CONTROL PERCENT 07-01-03 0 DA-B	CHEAL CONTROL PERCENT 07-01-03 0 DA-B	HIBTR CONTROL PERCENT 07-01-03 0 DA-B	XANST CONTROL PERCENT 07-01-03 0 DA-B	GLXMA PHYGEN PERCENT 07-11-03 10 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Dual II Magnum	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	18	62	17	10	0
3	Dual II Magnum Authority	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	52	99	85	37	5
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
4	Axiom	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	47	95	63	23	0
5	Axiom Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	75	99	85	32	2
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
6	Axiom Sencor Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	83	98	90	33	2
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
		75	DF	0.14	LB A/A	3.0	OZ WT/A	PRE	A					
7	Axiom Sencor	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	68	99	90	32	0
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
8	Domain Prowl Ultra Blazer 28% UAN	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	73	95	93	37	17
		3.3	EC	1.03	LB A/A	2.5	PT/A	PRE	A					
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
9	Axiom Ultra Blazer 28% UAN	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	53	96	55	28	15
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
10	Axiom Ultra Blazer 28% UAN	68	DF	0.55	LB A/A	13.0	OZ WT/A	PRE	A	25	95	65	27	15
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
11	Domain Roundup WeatherMAX AMS	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	53	96	92	33	2
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B					
			DF	2.0	% W/V	2.0	% W/V	MPOST	B					
12	Boundary Roundup WeatherMAX AMS	7.8	EC	1.46	LB A/A	1.5	PT/A	PRE	A	48	98	87	53	0
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B					
			DF	2.0	% W/V	2.0	% W/V	MPOST	B					
13	Prowl H2O Raptor Ultra Blazer MSO 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	35	80	45	33	25
		1	SL	0.0312	LB A/A	4.0	FL OZ/A	MPOST	B					
		2	SL	0.187	LB A/A	12.0	FL OZ/A	MPOST	B					
			L	1.0	% V/V	1.0	% V/V	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
14	Prowl H2O Extreme NIS 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	32	90	45	32	7
		2.17	SL	0.81	LB A/A	3.0	PT/A	MPOST	B					
			L	0.125	% V/V	0.125	% V/V	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
LSD (P=.05)										28.5	10.3	21.2	21.3	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-11-03 10 DA-B	ABUTH CONTROL PERCENT 07-11-03 10 DA-B	AMATA CONTROL PERCENT 07-11-03 10 DA-B	AMBEL CONTROL PERCENT 07-11-03 10 DA-B	CHEAL CONTROL PERCENT 07-11-03 10 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Dual II Magnum	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	93	3	92	13	62
3	Dual II Magnum Authority	7.64 75	EC DF	1.43 0.234	LB A/A LB A/A	1.5 5.0	PT/A OZ WT/A	PRE PRE	A A	93	92	95	52	99
4	Axiom	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	93	52	87	45	95
5	Axiom Authority	68 75	DF DF	0.72 0.234	LB A/A LB A/A	17.0 5.0	OZ WT/A OZ WT/A	PRE PRE	A A	93	85	95	75	99
6	Axiom Sencor Authority	68 75 75	DF DF DF	0.72 0.234 0.14	LB A/A LB A/A LB A/A	17.0 5.0 3.0	OZ WT/A OZ WT/A OZ WT/A	PRE PRE PRE	A A A	92	92	96	78	98
7	Axiom Sencor	68 75	DF DF	0.72 0.234	LB A/A LB A/A	17.0 5.0	OZ WT/A OZ WT/A	PRE PRE	A A	95	73	93	65	99
8	Domain Prowl Ultra Blazer 28% UAN	60 3.3 2	DF EC SL	0.6 1.03 0.375	LB A/A LB A/A LB A/A	16.0 2.5 1.5	OZ WT/A PT/A PT/A	PRE PRE MPOST	A A B	92	93	99	95	98
9	Axiom Ultra Blazer 28% UAN	68 2	DF SL	0.72 0.375	LB A/A LB A/A	17.0 1.5	OZ WT/A PT/A	PRE MPOST	A B	95	67	99	91	98
10	Axiom Ultra Blazer 28% UAN	68 2	DF SL	0.55 0.375	LB A/A LB A/A	13.0 1.5	OZ WT/A PT/A	PRE MPOST	A B	92	70	99	92	99
11	Domain Roundup WeatherMAX AMS	60 4.5	DF SL	0.6 0.77	LB A/A LB AE/A	16.0 22.0	OZ WT/A FL OZ/A	PRE MPOST	A B	99	96	99	93	99
12	Boundary Roundup WeatherMAX AMS	7.8 4.5	EC SL	1.46 0.77	LB A/A LB AE/A	1.5 22.0	PT/A FL OZ/A	PRE MPOST	A B	99	95	99	96	99
13	Prowl H2O Raptor Ultra Blazer MSO 28% UAN	3.8 1 2	EC SL	1.19 0.0312 0.187	LB A/A LB A/A LB A/A	2.5 4.0 12.0	PT/A FL OZ/A FL OZ/A	PRE MPOST MPOST	A B B	90	95	98	82	98
14	Prowl H2O Extreme NIS 28% UAN	3.8 2.17	EC SL	1.19 0.81	LB A/A LB A/A	2.5 3.0	PT/A PT/A	PRE MPOST	A B	99	95	90	83	98
LSD (P=.05)										4.2	14.9	4.4	22.8	9.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								HIBTR CONTROL PERCENT 07-11-03 10 DA-B	XANST CONTROL PERCENT 07-11-03 10 DA-B	GLXMA PHYGEN PERCENT 07-29-03 28 DA-B	SETFA CONTROL PERCENT 07-29-03 28 DA-B	ABUTH CONTROL PERCENT 07-29-03 28 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Dual II Magnum	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	17	0	0	92	3
3	Dual II Magnum Authority	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	85	37	0	93	83
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
4	Axiom	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	67	20	0	92	48
5	Axiom Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	85	32	0	93	77
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
6	Axiom Sencor Authority	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	90	30	0	92	90
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
		75	DF	0.14	LB A/A	3.0	OZ WT/A	PRE	A					
7	Axiom Sencor	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	90	28	0	95	73
		75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A					
8	Domain Prowl Ultra Blazer 28% UAN	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	98	73	2	88	90
		3.3	EC	1.03	LB A/A	2.5	PT/A	PRE	A					
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
9	Axiom Ultra Blazer 28% UAN	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	96	72	2	93	52
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
10	Axiom Ultra Blazer 28% UAN	68	DF	0.55	LB A/A	13.0	OZ WT/A	PRE	A	93	73	2	88	60
		2	SL	0.375	LB A/A	1.5	PT/A	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
11	Domain Roundup WeatherMAX AMS	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	98	98	0	99	99
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B					
			DF	2.0	% W/V	2.0	% W/V	MPOST	B					
12	Boundary Roundup WeatherMAX AMS	7.8	EC	1.46	LB A/A	1.5	PT/A	PRE	A	99	99	0	99	98
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	B					
			DF	2.0	% W/V	2.0	% W/V	MPOST	B					
13	Prowl H2O Raptor Ultra Blazer MSO 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	95	85	12	93	90
		1	SL	0.0312	LB A/A	4.0	FL OZ/A	MPOST	B					
		2	SL	0.187	LB A/A	12.0	FL OZ/A	MPOST	B					
			L	1.0	% V/V	1.0	% V/V	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
14	Prowl H2O Extreme NIS 28% UAN	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A	96	95	2	99	92
		2.17	SL	0.81	LB A/A	3.0	PT/A	MPOST	B					
			L	0.125	% V/V	0.125	% V/V	MPOST	B					
			L	2.0	QT/A	2.0	QT/A	MPOST	B					
LSD (P=.05)										10.9	18.5	2.9	5.5	17.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 07-29-03 28 DA-B	AMBEL CONTROL PERCENT 07-29-03 28 DA-B	CHEAL CONTROL PERCENT 07-29-03 28 DA-B	HIBTR CONTROL PERCENT 07-29-03 28 DA-B	XANST CONTROL PERCENT 07-29-03 28 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Dual II Magnum	7.64	EC	1.43	LB A/A	1.5	PT/A	PRE	A	87	13	57	17	0
3	Dual II Magnum Authority	7.64 75	EC DF	1.43 0.234	LB A/A LB A/A	1.5 5.0	PT/A OZ WT/A	PRE PRE	A A	95	47	99	85	37
4	Axiom	68	DF	0.72	LB A/A	17.0	OZ WT/A	PRE	A	87	42	95	65	20
5	Axiom Authority	68 75	DF DF	0.72 0.234	LB A/A LB A/A	17.0 5.0	OZ WT/A OZ WT/A	PRE PRE	A A	93	65	99	85	30
6	Axiom Sencor Authority	68 75 75	DF DF DF	0.72 0.234 0.14	LB A/A LB A/A LB A/A	17.0 5.0 3.0	OZ WT/A OZ WT/A OZ WT/A	PRE PRE PRE	A A A	95	70	98	90	27
7	Axiom Sencor	68 75	DF DF	0.72 0.234	LB A/A LB A/A	17.0 5.0	OZ WT/A OZ WT/A	PRE PRE	A A	92	63	99	90	28
8	Domain Prowl Ultra Blazer 28% UAN	60 3.3 2	DF EC SL	0.6 1.03 0.375	LB A/A LB A/A LB A/A	16.0 2.5 1.5	OZ WT/A PT/A PT/A	PRE PRE MPOST	A A B	98	95	98	98	63
9	Axiom Ultra Blazer 28% UAN	68 2	DF SL	0.72 0.375	LB A/A LB A/A	17.0 1.5	OZ WT/A PT/A	PRE MPOST	A B	99	91	98	96	48
10	Axiom Ultra Blazer 28% UAN	68 2	DF SL	0.55 0.375	LB A/A LB A/A	13.0 1.5	OZ WT/A PT/A	PRE MPOST	A B	99	92	99	93	55
11	Domain Roundup WeatherMAX AMS	60 4.5	DF SL	0.6 0.77	LB A/A LB AE/A	16.0 22.0	OZ WT/A FL OZ/A	PRE MPOST	A B	99	99	99	99	95
12	Boundary Roundup WeatherMAX AMS	7.8 4.5	EC SL	1.46 0.77	LB A/A LB AE/A	1.5 22.0	PT/A FL OZ/A	PRE MPOST	A B	98	98	99	99	96
13	Prowl H2O Raptor Ultra Blazer MSO 28% UAN	3.8 1 2	EC SL	1.19 0.0312 0.187	LB A/A LB A/A LB A/A	2.5 4.0 12.0	PT/A FL OZ/A FL OZ/A	PRE MPOST MPOST	A B B	93	82	96	95	82
14	Prowl H2O Extreme NIS 28% UAN	3.8 2.17	EC SL	1.19 0.81	LB A/A LB A/A	2.5 3.0	PT/A PT/A	PRE MPOST	A B	92	96	99	98	90
LSD (P=.05)										4.0	22.8	9.2	12.0	21.8

Iowa State University

Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 8

Study Dir.: Owen/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the affect of postemergence applications of Aim with Roundup WeatherMAX on soybean phytotoxicity, weed control and yield.

Conclusions: . POST Aim plus Roundup WeatherMAX caused soybean injury of 15% when observed on July 11, 4 days after application. By July 22, this injury had diminished to 10%. Subsequent injury observed by Aim plus RoundupWeatherMAX was 8, 8, and 5% on July 28, and August 4, and 11, respectively. No injury was observed for Roundup WeatherMAX, alone. No significant differences were observed between treatments for weed control at any evaluation date. Soybean yield was similar for both herbicide treatments, as well. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
7.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	07-07-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	86 F
% Relative Humidity:	80
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	77 F
Soil Moisture:	MOIST
% Cloud Cover:	50

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V4-V5
Stage Scale:	DESC
Height, Unit:	11 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 3-4 L, 2T
Stage Scale:	5-11 IN
Density, Unit:	0-30 FT2
Weed 2 Code, Stage:	ABUTH 4-4 LEAF
Stage Scale:	5-10 IN
Density, Unit:	0-3 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	3-10 IN
Density, Unit:	0-10 FT2
Weed 4 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	3-12 IN
Density, Unit:	0-4 FT2
Weed 5 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	2-7 IN
Density, Unit:	0-7 FT2
Weed 6 Code, Stage:	HIBTR NUMEROUS
Stage Scale:	1-9 IN
Density, Unit:	0-6 FT2
Weed 7 Code, Stage:	XANST NUMEROUS
Stage Scale:	8-11 IN
Density, Unit:	0-3 FT2

Iowa State University

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of postemergence applications of Aim with Roundup WeatherMAX for crop phytotoxicity and weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 8
Location: Ames

Study Dir.: Owen/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA		
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-11-03	07-22-03	07-22-03	07-22-03	07-22-03		
Trt-Eval Interval								4 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	15	10	99	99	
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	0	0	99	98	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A				96	
LSD (P=.05)								0.0	0.0	0.0	3.0	5.2		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMBEL CONTROL PERCENT 07-22-03 15 DA-A	CHEAL CONTROL PERCENT 07-22-03 15 DA-A	HIBTR CONTROL PERCENT 07-22-03 15 DA-A	XANST CONTROL PERCENT 07-22-03 15 DA-A	GLXMA PHYGEN PERCENT 07-28-03 21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	90	96	98	99	8
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	93	99	96	99	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)										7.6	3.0	3.7	0.0	3.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-28-03 21 DA-A	ABUTH CONTROL PERCENT 07-28-03 21 DA-A	AMATA CONTROL PERCENT 07-28-03 21 DA-A	AMBEL CONTROL PERCENT 07-28-03 21 DA-A	CHEAL CONTROL PERCENT 07-28-03 21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	99	98	92	88	93
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	99	98	96	90	98
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)								0.0	3.0	9.4	7.6	5.4		

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								HIBTR CONTROL PERCENT 07-28-03 21 DA-A	XANST CONTROL PERCENT 07-28-03 21 DA-A	GLXMA PHYGEN PERCENT 08-04-03 28 DA-A	SETFA CONTROL PERCENT 08-04-03 28 DA-A	ABUTH CONTROL PERCENT 08-04-03 28 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	98	99	8	99	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	96	98	0	99	98
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)										3.7	3.0	3.8	0.0	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 08-04-03 28 DA-A	AMBEL CONTROL PERCENT 08-04-03 28 DA-A	CHEAL CONTROL PERCENT 08-04-03 28 DA-A	HIBTR CONTROL PERCENT 08-04-03 28 DA-A	XANST CONTROL PERCENT 08-04-03 28 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	92	88	93	98	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	95	90	96	96	98
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)										7.6	7.6	4.2	3.7	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								GLXMA PHYGEN PERCENT 08-11-03 35 DA-A	SETFA CONTROL PERCENT 08-11-03 35 DA-A	ABUTH CONTROL PERCENT 08-11-03 35 DA-A	AMATA CONTROL PERCENT 08-11-03 35 DA-A	AMBEL CONTROL PERCENT 08-11-03 35 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	5	98	98	92	88
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	0	98	98	95	90
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A					
LSD (P=.05)										0.0	4.8	3.0	7.6	7.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 08-11-03 35 DA-A	HIBTR CONTROL PERCENT 08-11-03 35 DA-A	XANST CONTROL PERCENT 08-11-03 35 DA-A	GLYMA YIELD BU/A 10-01-03 86 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	21
2	Aim	2	EW	0.0039	LB A/A	0.25	FL OZ/A	POST	A	93	98	99	33
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A				
3	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	96	95	98	35
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A				
LSD (P=.05)										4.2	3.0	3.0	5.4

Iowa State University

Postemergence applications of Roundup WeatherMAX with various adjuvant systems for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 9

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate postemergence applications of Roundup WeatherMAX with various adjuvant systems for crop phytotoxicity and weed control in soybean.

Conclusions: No treatments in this experiment caused apparent soybean injury when observed on July 15, and 30. Weed sizes were large at herbicide application. All treatments provided 99% giant foxtail control on both evaluation dates. On July 15, Roundup WeatherMAX plus Select plus AGO1023 plus AMS, Roundup WeatherMAX plus Class Act NG, and Roundup WeatherMAX plus 4 qt/100 gal Alliance plus Placement ProPak demonstrated at least 95% control of common waterhemp. Roundup WeatherMAX plus 4.25 lb/100 gal AMS and treatments with Roundup WeatherMAX plus Placement ProPak, alone and with 2 qt/100 gal Alliance, ranged from 83 to 85% in control of common waterhemp. All treatments demonstrated at least 93% control of common ragweed on July 15. Roundup WeatherMAX plus Placement ProPak plus Crop Booster for Soybeans, with and without Alliance, provided 87 and 85% control of velvetleaf. All other treatments showed at least 91% control of velvetleaf. All treatments demonstrated excellent control of common lambsquarters and common cocklebur on July 15.

Common waterhemp and common lambsquarters control by Roundup WeatherMAX plus Placement ProPak, Alliance, and Crop Booster for Soybeans was 62 and 75%, respectively, on July 30. Common waterhemp and common lambsquarters control by the rest the treatments ranged from 72 to 83% and 87 to 98%, respectively. Placement ProPak plus Crop Booster for Soybeans provided only 75% control of velvetleaf. Common cocklebur, observed on July 30, was mostly present from new germination, as opposed to regrowth. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	07-02-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	85 F
% Relative Humidity:	73
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	78 F
Soil Moisture:	DRY
% Cloud Cover:	30

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V4-V5
Stage Scale:	DESC
Height, Unit:	9 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 2-4 L, 2T
Stage Scale:	8-11 IN
Density, Unit:	25 FT ²
Weed 2 Code, Stage:	ABUTH 3-6 LEAF
Stage Scale:	6-10 IN
Density, Unit:	0-5 FT ²
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	6-9 IN
Density, Unit:	5-15 FT ²
Weed 4 Code, Stage:	AMBEL 4-6 LEAF
Stage Scale:	6-10 IN
Density, Unit:	0-3 FT ²
Weed 5 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	4-6 IN
Density, Unit:	0-5 FT ²
Weed 6 Code, Stage:	XANST NUMEROUS
Stage Scale:	8-12 IN
Density, Unit:	0-3 FT ²

Iowa State University

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Postemergence applications of Roundup WeatherMAX with various adjuvant systems for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 9

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code							GLXMA	SETFA	ABUTH	AMATA	AMBEL
Rating Data Type							PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date							07-15-03	07-15-03	07-15-03	07-15-03	07-15-03
Trt-Eval Interval							13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated								0	0	0
2	Roundup WeatherMAX	4.5	SL	0.56 LB AE/A	16.0 FL OZ/A	16.0 FL OZ/A	POST A		0	99	91
3	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 4.25 LB/100 GAL	16.0 FL OZ/A 4.25 LB/100 GAL	16.0 FL OZ/A 4.25 LB/100 GAL	POST A POST A		0	99	93
4	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 8.5 LB/100 GAL	16.0 FL OZ/A 8.5 LB/100 GAL	16.0 FL OZ/A 8.5 LB/100 GAL	POST A POST A		0	99	95
5	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 17.0 LB/100 GAL	16.0 FL OZ/A 17.0 LB/100 GAL	16.0 FL OZ/A 17.0 LB/100 GAL	POST A POST A		0	99	98
6	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 3.0 QT/100 GAL	16.0 FL OZ/A 3.0 QT/100 GAL	16.0 FL OZ/A 3.0 QT/100 GAL	POST A POST A		0	99	95
7	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL	POST A POST A		0	99	93
8	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 5.0 QT/100 GAL	16.0 FL OZ/A 5.0 QT/100 GAL	16.0 FL OZ/A 5.0 QT/100 GAL	POST A POST A		0	99	96
9	Roundup WeatherMAX Alliance Placement	4.5	SL L L	0.56 LB AE/A 5.0 QT/100 GAL 4.0 FL OZ/A	16.0 FL OZ/A 5.0 QT/100 GAL 4.0 FL OZ/A	16.0 FL OZ/A 5.0 QT/100 GAL 4.0 FL OZ/A	POST A POST A POST A		0	99	95
10	Roundup WeatherMAX Placement ProPak	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL	POST A POST A		0	99	93
11	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 2.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 2.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 2.0 QT/100 GAL 4.0 QT/100 GAL	POST A POST A POST A		0	99	96
12	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL 4.0 QT/100 GAL	POST A POST A POST A		0	99	93
13	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	16.0 FL OZ/A 2.5 GAL/100 GAL	16.0 FL OZ/A 2.5 GAL/100 GAL	POST A POST A		0	99	95
14	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 5.0 GAL/100 GAL	16.0 FL OZ/A 5.0 GAL/100 GAL	16.0 FL OZ/A 5.0 GAL/100 GAL	POST A POST A		0	99	96
15	Cornerstone Class Act NG	3	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	24.0 FL OZ/A 2.5 GAL/100 GAL	24.0 FL OZ/A 2.5 GAL/100 GAL	POST A POST A		0	99	98
16	Roundup WeatherMAX Placement ProPak Crop Booster for Soybeans	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 1.0 QT/A	POST A POST A POST A		0	99	85
17	Roundup WeatherMAX Placement ProPak Alliance Crop Booster for Soybeans	4.5	SL L L L	0.56 LB AE/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A	POST A POST A POST A POST A		0	99	87
18	Roundup WeatherMAX Select AG01023 AMS	4.5	SL 2 EC L DF	0.56 LB AE/A 0.094 LB A/A 2.0 QT/100 GAL 8.5 LB/100 GAL	16.0 FL OZ/A 6.0 FL OZ/A 2.0 QT/100 GAL 8.5 LB/100 GAL	16.0 FL OZ/A 6.0 FL OZ/A 2.0 QT/100 GAL 8.5 LB/100 GAL	POST A POST A POST A POST A		0	99	93
LSD (P=.05)							0.0	0.0	8.3	9.0	6.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 07-15-03 13 DA-A	XANST CONTROL PERCENT 07-15-03 13 DA-A	GLXMA PHYGEN PERCENT 07-30-03 28 DA-A	SETFA CONTROL PERCENT 07-30-03 28 DA-A	ABUTH CONTROL PERCENT 07-30-03 28 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Roundup WeatherMAX	4.5	SL	0.56 LB AE/A	16.0 FL OZ/A		POST	A	93	99	0	99	90
3	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 4.25 LB/100 GAL	16.0 FL OZ/A 4.25 LB/100 GAL		POST	A	94	99	0	99	90
4	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 8.5 LB/100 GAL	16.0 FL OZ/A 8.5 LB/100 GAL		POST	A	93	99	0	99	95
5	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 17.0 LB/100 GAL	16.0 FL OZ/A 17.0 LB/100 GAL		POST	A	98	98	0	99	96
6	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 3.0 QT/100 GAL	16.0 FL OZ/A 3.0 QT/100 GAL		POST	A	96	96	0	99	91
7	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL		POST	A	98	99	0	99	90
8	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 5.0 QT/100 GAL	16.0 FL OZ/A 5.0 QT/100 GAL		POST	A	99	98	0	99	95
9	Roundup WeatherMAX Alliance Placement	4.5	SL L L	0.56 LB AE/A 5.0 QT/100 GAL 4.0 FL OZ/A	16.0 FL OZ/A 5.0 QT/100 GAL 4.0 FL OZ/A		POST	A	98	99	0	99	93
10	Roundup WeatherMAX Placement ProPak	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL		POST	A	96	99	0	99	93
11	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 2.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 2.0 QT/100 GAL 4.0 QT/100 GAL		POST	A	99	99	0	99	96
12	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL 4.0 QT/100 GAL		POST	A	96	98	0	99	93
13	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	16.0 FL OZ/A 2.5 GAL/100 GAL		POST	A	98	99	0	99	88
14	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 5.0 GAL/100 GAL	16.0 FL OZ/A 5.0 GAL/100 GAL		POST	A	98	99	0	99	95
15	Cornerstone Class Act NG	3	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	24.0 FL OZ/A 2.5 GAL/100 GAL		POST	A	99	99	0	99	95
16	Roundup WeatherMAX Placement ProPak Crop Booster for Soybeans	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 1.0 QT/A		POST	A	95	99	0	99	75
17	Roundup WeatherMAX Placement ProPak Alliance Crop Booster for Soybeans	4.5	SL L L L	0.56 LB AE/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A		POST	A	93	96	0	99	85
18	Roundup WeatherMAX Select AG01023 AMS	4.5	SL 2 EC L DF	0.56 LB AE/A 0.094 LB A/A 2.0 QT/100 GAL 8.5 LB/100 GAL	16.0 FL OZ/A 6.0 FL OZ/A 2.0 QT/100 GAL 8.5 LB/100 GAL		POST	A	96	99	0	99	92
LSD (P=.05)									7.6	2.8	0.0	0.0	11.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 07-30-03 28 DA-A	AMBEL CONTROL PERCENT 07-30-03 28 DA-A	CHEAL CONTROL PERCENT 07-30-03 28 DA-A	XANST CONTROL PERCENT 07-30-03 28 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated								0	0	0	0
2	Roundup WeatherMAX	4.5	SL	0.56 LB AE/A	16.0 FL OZ/A		POST A		77	93	87	95
3	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 4.25 LB/100 GAL	16.0 FL OZ/A 4.25 LB/100 GAL		POST A POST A		82	95	91	88
4	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 8.5 LB/100 GAL	16.0 FL OZ/A 8.5 LB/100 GAL		POST A POST A		80	95	90	91
5	Roundup WeatherMAX AMS	4.5	SL DF	0.56 LB AE/A 17.0 LB/100 GAL	16.0 FL OZ/A 17.0 LB/100 GAL		POST A POST A		77	96	93	80
6	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 3.0 QT/100 GAL	16.0 FL OZ/A 3.0 QT/100 GAL		POST A POST A		80	95	93	85
7	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL		POST A POST A		72	98	95	80
8	Roundup WeatherMAX Alliance	4.5	SL L	0.56 LB AE/A 5.0 QT/100 GAL	16.0 FL OZ/A 5.0 QT/100 GAL		POST A POST A		73	95	95	80
9	Roundup WeatherMAX Alliance Placement	4.5	SL L L	0.56 LB AE/A 5.0 QT/100 GAL 4.0 FL OZ/A	16.0 FL OZ/A 5.0 QT/100 GAL 4.0 FL OZ/A		POST A POST A POST A		83	98	96	90
10	Roundup WeatherMAX Placement ProPak	4.5	SL L	0.56 LB AE/A 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL		POST A POST A		73	95	95	92
11	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 2.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 2.0 QT/100 GAL 4.0 QT/100 GAL		POST A POST A POST A		77	95	95	82
12	Roundup WeatherMAX Alliance Placement ProPak	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 4.0 QT/100 GAL	16.0 FL OZ/A 4.0 QT/100 GAL 4.0 QT/100 GAL		POST A POST A POST A		72	94	96	90
13	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	16.0 FL OZ/A 2.5 GAL/100 GAL		POST A POST A		78	93	98	80
14	Roundup WeatherMAX Class Act NG	4.5	SL L	0.56 LB AE/A 5.0 GAL/100 GAL	16.0 FL OZ/A 5.0 GAL/100 GAL		POST A POST A		78	95	96	90
15	Cornerstone Class Act NG	3	SL L	0.56 LB AE/A 2.5 GAL/100 GAL	24.0 FL OZ/A 2.5 GAL/100 GAL		POST A POST A		75	98	98	87
16	Roundup WeatherMAX Placement ProPak Crop Booster for Soybeans	4.5	SL L L	0.56 LB AE/A 4.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 1.0 QT/A		POST A POST A POST A		72	93	92	91
17	Roundup WeatherMAX Placement ProPak Alliance Crop Booster for Soybeans	4.5	SL L L L	0.56 LB AE/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A	16.0 FL OZ/A 4.0 QT/100 GAL 2.0 QT/100 GAL 1.0 QT/A		POST A POST A POST A POST A		62	93	85	80
18	Roundup WeatherMAX Select AG01023 AMS	4.5	SL 2 EC L DF	0.56 LB AE/A 0.094 LB A/A 2.0 QT/100 GAL 8.5 LB/100 GAL	16.0 FL OZ/A 6.0 FL OZ/A 2.0 QT/100 GAL 8.5 LB/100 GAL		POST A POST A POST A POST A		77	93	93	82
LSD (P=.05)									16.1	7.8	9.7	15.9

Iowa State University

Postemergence applied Touchdown KPMG and Roundup WeatherMAX in soybean, Ames, IA, 2003.

Trial ID: ASC 10
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Ames **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50011 **Initiation Date:** 05-28-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate crop injury and weed control from postemergence applied Touchdown KPMG and Roundup WeatherMAX in soybean.

Conclusions: Soybean injury of 5% was observed with Roundup WeatherMAX on July 4, 23, and August 4. There were no significant differences in weed control between Touchdown KPMG and Roundup WeatherMAX when observed on July 11 and 23. Common waterhemp control of 77 and 65% was observed on August 4 for Touchdown KPMG and Roundup WeatherMAX, respectively. However, common waterhemp present at that time were likely a result of new germination rather than regrowth. Both herbicides demonstrated similar control for the remaining weeds on August 4. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.

Crop 1: GLXMA SOYBEAN **Variety:** ASGROW AG 2403
Planting Date: 05-28-03 **Planting Method:** DIRECT DRILLED
Rate: 151000 SEEDS/A **Depth:** 1.25 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

SOIL DESCRIPTION

% OM: 5.3 **Texture:** CLAY LOAM
pH: 6.8 **Soil Name:** CANISTEO, NICOLLET, CLARION, WEBSTER
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-30-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	80 F
% Relative Humidity:	42
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	73 F
Soil Moisture:	MOIST
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V3
Stage Scale:	DESC
Height, Unit:	6 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-6 LEAF
Stage Scale:	1-8 IN
Density, Unit:	0-15 FT2
Weed 2 Code, Stage:	ABUTH COTYL-8
Stage Scale:	0.5-8 IN
Density, Unit:	0-10 FT2
Weed 3 Code, Stage:	AMATA COTYL-NUM
Stage Scale:	1-8 IN
Density, Unit:	0-7 FT2
Weed 4 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	4-8 IN
Density, Unit:	0-3 FT2
Weed 5 Code, Stage:	HIBTR NUMEROUS
Stage Scale:	4-7 IN
Density, Unit:	0-5 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Postemergence applied Touchdown KPMG and Roundup WeatherMAX in soybean, Ames, IA, 2003.

Trial ID: ASC 10
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-04-03	07-11-03	07-11-03	07-11-03	07-11-03	
Trt-Eval Interval								4 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Touchdown KPMG AMS	4.17	L	0.75	LB AE/A	23.0	FL OZ/A	POST A		0	0	99	96
			DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST A					98
3	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A		5	0	99	99
			DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST A					99
LSD (P=.05)								0.0	0.0	0.0	3.0	3.0	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMBEL CONTROL PERCENT 07-11-03 11 DA-A	HIBTR CONTROL PERCENT 07-11-03 11 DA-A	GLXMA PHYGEN PERCENT 07-23-03 23 DA-A	SETFA CONTROL PERCENT 07-23-03 23 DA-A	ABUTH CONTROL PERCENT 07-23-03 23 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 LB AE/A 8.5 LB/100 GAL	23.0 FL OZ/A 8.5 LB/100 GAL		POST A POST A		99	99	0	99	98
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 8.5 LB/100 GAL	22.0 FL OZ/A 8.5 LB/100 GAL		POST A POST A		99	99	5	99	99
LSD (P=.05)									0.0	0.0	0.0	0.0	3.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								AMATA CONTROL PERCENT 07-23-03 23 DA-A	AMBEL CONTROL PERCENT 07-23-03 23 DA-A	HIBTR CONTROL PERCENT 07-23-03 23 DA-A	GLXMA PHYGEN PERCENT 08-04-03 35 DA-A	SETFA CONTROL PERCENT 08-04-03 35 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 8.5	LB AE/A LB/100 GAL	23.0 8.5	FL OZ/A LB/100 GAL	POST POST	A A	98	99	99	0	93
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77 8.5	LB AE/A LB/100 GAL	22.0 8.5	FL OZ/A LB/100 GAL	POST POST	A A	98	99	99	5	95
LSD (P=.05)										3.0	0.0	0.0	0.0	3.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ABUTH CONTROL PERCENT 08-04-03 35 DA-A	AMATA CONTROL PERCENT 08-04-03 35 DA-A	AMBEL CONTROL PERCENT 08-04-03 35 DA-A	HIBTR CONTROL PERCENT 08-04-03 35 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated								0	0	0	0
2	Touchdown KPMG AMS	4.17	L DF	0.75 LB AE/A 8.5 LB/100 GAL	23.0 FL OZ/A 8.5 LB/100 GAL	FL OZ/A LB/100 GAL	POST A POST A	A	90	77	98	99
3	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 8.5 LB/100 GAL	22.0 FL OZ/A 8.5 LB/100 GAL	FL OZ/A LB/100 GAL	POST A POST A	A	95	65	98	99
LSD (P=.05)									7.8	8.9	3.0	0.0

Iowa State University

Postemergence applied Arrow and Select alone and in tank-mixture with Flexstar, Raptor or FirstRate in soybean, Ames, IA, 2003.

Trial ID: ASC 11

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate postemergence applications of Arrow and Select for crop phytotoxicity and grass weed control in soybean. Additionally, the antagonism potential when these herbicides were tank-mixed with Flexstar, Raptor or FirstRate was evaluated.

Conclusions: POST Flexstar treatments caused 13 to 18% soybean injury on July 4. Injury from Raptor on July 4 was 7 to 8%. The remaining treatments demonstrated 5% or less injury. Soybean injury from Flexstar diminished to 12% or less on July 11 and to 5% or less for the remainder of the season.

On July 4, POST Arrow plus Flexstar or Select plus Flexstar demonstrated the highest giant foxtail control. Control ranged from 87 to 90%. Arrow applied at 4.0 fl oz/A, Arrow at 6.0 fl oz/A plus FirstRate, and Select plus FirstRate treatments provided only 63 to 68% control. The remaining treatments provided from 70 to 75% control. On July 4, antagonism was apparent when FirstRate was tank-mixed with either Arrow or Select, and synergism occurred when Flexstar was the tank-mix partner. The same trend continued for July 11 observations as control improved for all treatments. On July 24, giant foxtail control was no longer greater for Arrow or Select with the addition of Flexstar. Antagonism was no longer apparent for the addition of FirstRate plus Arrow on August 6.

For July 18 and subsequent observation dates, Select provided more giant foxtail control than Arrow at 6.0 fl oz/A, and the opposite was true at 8.0 fl oz/A. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting. Basagran plus COC plus 28% UAN was applied postemergence on July 7 at 1.0 qt/A plus 1.0 pt/A plus 4.0 pts/A to treatments 2 through 7 for control of broadleaf weeds.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	06-27-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	82 F
% Relative Humidity:	61
Wind Velocity, Unit:	4 MPH
Soil Temp., Unit:	69 F
Soil Moisture:	DAMP
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V2
Stage Scale:	DESC
Height, Unit:	6 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 2-4 LEAF
Stage Scale:	3-6 IN
Density, Unit:	60 FT2
Weed 2 Code, Stage:	ABUTH 2-4 LEAF
Stage Scale:	4-6 IN
Density, Unit:	2-8 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	2-4 IN
Density, Unit:	0-10 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	2-3 IN
Density, Unit:	0-5 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Postemergence applied Arrow and Select alone and in tank-mixture with Flexstar, Raptor or FirstRate in soybean, Ames, IA, 2003.

Trial ID: ASC 11
Location: Ames

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	SETFA	GLXMA	SETFA	GLXMA	SETFA	GLXMA		
Rating Data Type								PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-04-03	07-04-03	07-11-03	07-11-03	07-18-03	07-18-03	07-24-03		
Tri-Eval Interval								7 DA-A	7 DA-A	14 DA-A	14 DA-A	21 DA-A	21 DA-A	27 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Arrow COC	2 EC L		0.0625 LB 1.0 % V/V	4.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		2	68	0	78	0	87	0
3	Arrow COC	2 EC L		0.094 LB 1.0 % V/V	6.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		0	75	0	82	0	88	0
4	Arrow COC	2 EC L		0.125 LB 1.0 % V/V	8.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		0	77	0	88	0	95	0
5	Select COC	2 EC L		0.0625 LB 1.0 % V/V	4.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		0	70	0	85	0	88	0
6	Select COC	2 EC L		0.094 LB 1.0 % V/V	6.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		0	70	0	85	0	90	0
7	Select COC	2 EC L		0.125 LB 1.0 % V/V	8.0 FL 1.0 % V/V	FL OZ/A FL OZ/A	POST POST	A A		3	73	0	83	0	88	0
8	Arrow Flexstar COC	2 EC 1.88 SL L		0.094 LB 0.294 LB 1.0 % V/V	6.0 FL 20.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		15	88	5	90	2	92	2
9	Arrow Flexstar COC	2 EC 1.88 SL L		0.125 LB 0.294 LB 1.0 % V/V	8.0 FL 20.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		18	87	12	90	5	92	2
10	Select Flexstar COC	2 EC 1.88 SL L		0.094 LB 0.294 LB 1.0 % V/V	6.0 FL 20.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		13	88	7	90	2	93	2
11	Select Flexstar COC	2 EC 1.88 SL L		0.125 LB 0.294 LB 1.0 % V/V	8.0 FL 20.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		15	90	5	93	2	93	2
12	Arrow Raptor COC	2 EC 1 SL L		0.094 LB 0.039 LB 1.0 % V/V	6.0 FL 5.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		8	73	0	82	0	85	0
13	Arrow Raptor COC	2 EC 1 SL L		0.125 LB 0.039 LB 1.0 % V/V	8.0 FL 5.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		8	73	0	78	0	85	0
14	Select Raptor COC	2 EC 1 SL L		0.094 LB 0.039 LB 1.0 % V/V	6.0 FL 5.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		7	72	0	82	0	83	0
15	Select Raptor COC	2 EC 1 SL L		0.125 LB 0.039 LB 1.0 % V/V	8.0 FL 5.0 FL 1.0 % V/V	FL OZ/A FL OZ/A FL OZ/A	POST POST POST	A A A		8	73	3	80	2	85	0
16	Arrow FirstRate COC	2 EC 84 WG L		0.094 LB 0.0157 LB 1.0 % V/V	6.0 FL 0.3 OZ 1.0 % V/V	FL OZ/A WT/A WT/A	POST POST POST	A A A		3	63	3	73	2	85	2
17	Arrow FirstRate COC	2 EC 84 WG L		0.125 LB 0.0157 LB 1.0 % V/V	8.0 FL 0.3 OZ 1.0 % V/V	FL OZ/A WT/A WT/A	POST POST POST	A A A		5	70	0	80	0	87	0
18	Select FirstRate COC	2 EC 84 WG L		0.094 LB 0.0157 LB 1.0 % V/V	6.0 FL 0.3 OZ 1.0 % V/V	FL OZ/A WT/A WT/A	POST POST POST	A A A		5	67	0	70	0	80	0

Iowa State University

Weed Code								GLXMA	SETFA	GLXMA	SETFA	GLXMA	SETFA	GLXMA		
Rating Data Type								PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-04-03	07-04-03	07-11-03	07-11-03	07-18-03	07-18-03	07-24-03		
Trt-Eval Interval								7 DA-A	7 DA-A	14 DA-A	14 DA-A	21 DA-A	21 DA-A	27 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
19	Select	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	A	5	67	0	78	0	87	0
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	A							
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
LSD (P=.05)										3.8	4.9	3.3	7.6	3.1	5.9	2.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										SETFA CONTRO PERCENT 07-24-03 27 DA-A	GLXMA PHYGEN PERCENT 08-06-03 40 DA-A	SETFA CONTRO PERCENT 08-06-03 40 DA-A	SETFA CONTRO PERCENT 08-22-03 56 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Arrow COC	2	EC L	0.0625	LB A/A % V/V	4.0	FL OZ/A % V/V	POST	A	88	0	85	83
3	Arrow COC	2	EC L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	87	0	82	77
4	Arrow COC	2	EC L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	98	0	96	96
5	Select COC	2	EC L	0.0625	LB A/A % V/V	4.0	FL OZ/A % V/V	POST	A	90	0	87	83
6	Select COC	2	EC L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	93	0	93	92
7	Select COC	2	EC L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	92	0	90	87
8	Arrow Flexstar COC	2	EC SL L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	87	2	80	77
9	Arrow Flexstar COC	2	EC SL L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	90	2	80	77
10	Select Flexstar COC	2	EC SL L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	88	0	82	80
11	Select Flexstar COC	2	EC SL L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	92	0	88	82
12	Arrow Raptor COC	2	EC SL L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	90	0	85	83
13	Arrow Raptor COC	2	EC SL L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	87	0	82	80
14	Select Raptor COC	2	EC SL L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	87	0	82	80
15	Select Raptor COC	2	EC SL L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	90	0	83	82
16	Arrow FirstRate COC	2	EC WG L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	87	2	83	78
17	Arrow FirstRate COC	2	EC WG L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	92	0	92	90
18	Select FirstRate COC	2	EC WG L	0.094	LB A/A % V/V	6.0	FL OZ/A % V/V	POST	A	82	0	80	75
19	Select FirstRate COC	2	EC WG L	0.125	LB A/A % V/V	8.0	FL OZ/A % V/V	POST	A	93	0	95	95

LSD (P=.05)										7.5	1.9	9.6	12.1
-------------	--	--	--	--	--	--	--	--	--	-----	-----	-----	------

Iowa State University

Postemergence applications of Phoenix, Harmony GT, Select, FirstRate and Raptor for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 12

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate crop injury and weed control potential from postemergence applications of Phoenix tank-mixed with FirstRate, Harmony GT, Raptor or Select.

Conclusions: Soybean injury on July 3, including all treatments, ranged from 20 to 25%. Phoenix plus Harmony GT, Select, and either NIS or Between, and Raptor plus Ultra Blazer, MSO and 28% caused 22 to 23% injury, while the remaining treatments ranged from 15 to 18% injury on July 7. Injury on July 15 was 17 to 20% and 10 to 15% for the above mentioned groups, respectively. Soybean injury did not exceed 13% on July 24.

Raptor plus Ultra Blazer provided 85% control of giant foxtail on July 7. The other treatments provided from 75 to 78% control. There were no significant differences in giant foxtail control for subsequent evaluation dates. Treatments containing Phoenix and Raptor or Raptor and Ultra Blazer provided 92 to 95% control of velvetleaf on July 7. All other treatments at that date gave 83 to 87% velvetleaf control. This trend was very similar on July 15, and to a lesser extent, on July 24. All treatments provided at least 92% control of common waterhemp for all evaluation dates. Treatments containing Harmony GT or Raptor demonstrated 82 to 90% common lambsquarters control on July 7, while treatments with Phoenix tank-mix partners of Firstrate plus Select or Select, alone, provided 70 to 78% control. Harmony GT and Raptor treatments improved control of common lambsquarters on July 15. Phoenix plus Select provided only 72 to 75% control of common cocklebur on July 7, while the additions of Harmony GT, FirstRate, or Raptor added significant control. Raptor plus Ultra Blazer provided 87% common cocklebur control. Common cocklebur control generally improved across treatments on July 15, but became variable on July 24. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 3

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.3 Texture: CLAY LOAM
 pH: 6.8 Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	06-30-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	80 F
% Relative Humidity:	42
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	73 F
Soil Moisture:	MOIST
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V3
Stage Scale:	DESC
Height, Unit:	5 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-5 LEAF
Stage Scale:	0.5-6 IN
Density, Unit:	5-20 FT2
Weed 2 Code, Stage:	ABUTH COTYL-7
Stage Scale:	0.5-9 IN
Density, Unit:	0-20 FT2
Weed 3 Code, Stage:	AMATA 4-NUMEROU
Stage Scale:	0-5-6 IN
Density, Unit:	0-20 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	2-6 IN
Density, Unit:	0-5 FT2
Weed 5 Code, Stage:	XANST 2-8 LEAF
Stage Scale:	2-10 IN
Density, Unit:	0-1 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	25
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Postemergence applications of Phoenix, Harmony GT, Select, FirstRate and Raptor for weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 12

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type								PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								07-03-03	07-07-03	07-07-03	07-07-03	07-07-03	07-07-03
Tri-Eval Interval								3 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	25	23	77	83
	Harmony GT	75 DF		0.062 OZ	A/A	0.083 OZ	WT/A	POST	A				98
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	NIS	L		0.25 %	V/V	0.25 %	V/V	POST	A				85
3	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	20	15	77	85
	FirstRate	84 WG		0.252 OZ	A/A	0.3 OZ	WT/A	POST	A				99
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	NIS	L		0.25 %	V/V	0.25 %	V/V	POST	A				73
4	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	25	22	77	87
	Harmony GT	75 DF		0.062 OZ	A/A	0.083 OZ	WT/A	POST	A				96
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	Between	L		2.5 PT/100	GAL	2.5 PT/100	GAL	POST	A				82
5	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	20	17	77	87
	FirstRate	84 WG		0.252 OZ	A/A	0.3 OZ	WT/A	POST	A				98
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	Between	L		2.5 PT/100	GAL	2.5 PT/100	GAL	POST	A				70
6	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	20	15	77	85
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				96
	NIS	L		0.25 %	V/V	0.25 %	V/V	POST	A				75
7	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	22	18	78	85
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				98
	Between	L		2.5 PT/100	GAL	2.5 PT/100	GAL	POST	A				78
8	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	20	17	75	93
	Raptor	1 SL		0.0312 LB	A/A	4.0 FL	OZ/A	POST	A				98
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	NIS	L		0.25 %	V/V	0.25 %	V/V	POST	A				83
9	Phoenix	2 EC		0.15 LB	A/A	9.6 FL	OZ/A	POST	A	23	18	78	92
	Raptor	1 SL		0.0312 LB	A/A	4.0 FL	OZ/A	POST	A				99
	Select	2 EC		0.125 LB	A/A	8.0 FL	OZ/A	POST	A				
	Between	L		2.5 PT/100	GAL	2.5 PT/100	GAL	POST	A				85
10	Raptor	1 SL		0.039 LB	A/A	5.0 FL	OZ/A	POST	A	25	22	85	95
	Ultra Blazer	2 SL		0.187 LB	A/A	12.0 FL	OZ/A	POST	A				96
	MSO	L		1.0 %	V/V	1.0 %	V/V	POST	A				
	28% UAN	L		2.0 QT/A		2.0 QT/A		POST	A				90
LSD (P=.05)								2.3	3.9	4.4	8.9	3.3	8.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										XANST CONTROL PERCENT 07-07-03 7 DA-A	GLXMA PHYGEN PERCENT 07-15-03 15 DA-A	SETFA CONTROL PERCENT 07-15-03 15 DA-A	ABUTH CONTROL PERCENT 07-15-03 15 DA-A	AMATA CONTROL PERCENT 07-15-03 15 DA-A	CHEAL CONTROL PERCENT 07-15-03 15 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Phoenix Harmony GT Select NIS	2 75 2 L	EC DF EC L	0.15 0.062 0.125 0.25	LB A/A OZ A/A LB A/A % V/V	9.6 0.083 8.0 0.25	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	88	20	83	83	99	93
3	Phoenix FirstRate Select NIS	2 84 2 L	EC WG EC L	0.15 0.252 0.125 0.25	LB A/A OZ A/A LB A/A % V/V	9.6 0.3 8.0 0.25	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	90	12	82	85	98	68
4	Phoenix Harmony GT Select Between	2 75 2 L	EC DF EC L	0.15 0.062 0.125 2.5	LB A/A OZ A/A LB A/A PT/100 GAL	9.6 0.083 8.0 2.5	FL OZ/A OZ WT/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	87	18	80	87	96	88
5	Phoenix FirstRate Select Between	2 84 2 L	EC WG EC L	0.15 0.252 0.125 2.5	LB A/A OZ A/A LB A/A PT/100 GAL	9.6 0.3 8.0 2.5	FL OZ/A OZ WT/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	90	13	82	88	99	65
6	Phoenix Select NIS	2 2 L	EC EC L	0.15 0.125 0.25	LB A/A LB A/A % V/V	9.6 8.0 0.25	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	72	10	82	85	96	70
7	Phoenix Select Between	2 2 L	EC EC L	0.15 0.125 2.5	LB A/A LB A/A PT/100 GAL	9.6 8.0 2.5	FL OZ/A FL OZ/A PT/100 GAL	POST POST POST	A A A	75	13	83	82	99	68
8	Phoenix Raptor Select NIS	2 1 2 L	EC SL EC L	0.15 0.0312 0.125 0.25	LB A/A LB A/A LB A/A % V/V	9.6 4.0 8.0 0.25	FL OZ/A FL OZ/A FL OZ/A % V/V	POST POST POST POST	A A A A	83	13	80	93	98	88
9	Phoenix Raptor Select Between	2 1 2 L	EC SL EC L	0.15 0.0312 0.125 2.5	LB A/A LB A/A LB A/A PT/100 GAL	9.6 4.0 8.0 2.5	FL OZ/A FL OZ/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	88	15	83	93	99	83
10	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	POST POST POST POST	A A A A	87	17	85	96	99	95
LSD (P=.05)										6.8	5.2	3.6	14.7	2.3	9.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										XANST CONTROL PERCENT 07-15-03 15 DA-A	GLXMA PHYGEN PERCENT 07-24-03 24 DA-A	SETFA CONTROL PERCENT 07-24-03 24 DA-A	ABUTH CONTROL PERCENT 07-24-03 24 DA-A	AMATA CONTROL PERCENT 07-24-03 24 DA-A	CHEAL CONTROL PERCENT 07-24-03 24 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Phoenix Harmony GT Select NIS	2 75 2 L	EC DF EC L	0.15 0.062 0.125 0.25	LB A/A OZ A/A LB A/A % V/V	9.6 0.083 8.0 0.25	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	85	13	87	75	93	87
3	Phoenix FirstRate Select NIS	2 84 2 L	EC WG EC L	0.15 0.252 0.125 0.25	LB A/A OZ A/A LB A/A % V/V	9.6 0.3 8.0 0.25	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	95	7	88	77	93	52
4	Phoenix Harmony GT Select Between	2 75 2 L	EC DF EC L	0.15 0.062 0.125 2.5	LB A/A OZ A/A LB A/A PT/100 GAL	9.6 0.083 8.0 2.5	FL OZ/A OZ WT/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	78	12	87	85	92	82
5	Phoenix FirstRate Select Between	2 84 2 L	EC WG EC L	0.15 0.252 0.125 2.5	LB A/A OZ A/A LB A/A PT/100 GAL	9.6 0.3 8.0 2.5	FL OZ/A OZ WT/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	95	7	87	87	95	53
6	Phoenix Select NIS	2 2 L	EC EC L	0.15 0.125 0.25	LB A/A LB A/A % V/V	9.6 8.0 0.25	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	68	5	87	78	93	67
7	Phoenix Select Between	2 2 L	EC EC L	0.15 0.125 2.5	LB A/A LB A/A PT/100 GAL	9.6 8.0 2.5	FL OZ/A FL OZ/A PT/100 GAL	POST POST POST	A A A	75	8	88	73	96	57
8	Phoenix Raptor Select NIS	2 1 2 L	EC SL EC L	0.15 0.0312 0.125 0.25	LB A/A LB A/A LB A/A % V/V	9.6 4.0 8.0 0.25	FL OZ/A FL OZ/A FL OZ/A % V/V	POST POST POST POST	A A A A	88	8	83	93	95	83
9	Phoenix Raptor Select Between	2 1 2 L	EC SL EC L	0.15 0.0312 0.125 2.5	LB A/A LB A/A LB A/A PT/100 GAL	9.6 4.0 8.0 2.5	FL OZ/A FL OZ/A FL OZ/A PT/100 GAL	POST POST POST POST	A A A A	93	10	83	91	98	75
10	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	POST POST POST POST	A A A A	92	12	83	95	93	87
LSD (P=.05)										7.8	5.9	4.9	19.9	6.2	14.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										XANST CONTROL PERCENT 07-24-03 24 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	Phoenix Harmony Select NIS	2 75 2	EC DF EC L	0.15 0.062 0.125	LB A/A OZ A/A LB A/A % V/V	9.6 0.083 8.0	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	62
3	Phoenix FirstRate Select NIS	2 84 2	EC WG EC L	0.15 0.252 0.125	LB A/A OZ A/A LB A/A % V/V	9.6 0.3 8.0	FL OZ/A OZ WT/A FL OZ/A % V/V	POST POST POST POST	A A A A	95
4	Phoenix Harmony Select Between	2 75 2	EC DF EC L	0.15 0.062 0.125	LB A/A OZ A/A LB A/A	9.6 0.083 8.0	FL OZ/A OZ WT/A FL OZ/A	POST POST POST POST	A A A A	57
			L	2.5	PT/100 GAL	2.5	PT/100 GAL	POST	A	
5	Phoenix FirstRate Select Between	2 84 2	EC WG EC L	0.15 0.252 0.125	LB A/A OZ A/A LB A/A	9.6 0.3 8.0	FL OZ/A OZ WT/A FL OZ/A	POST POST POST POST	A A A A	95
			L	2.5	PT/100 GAL	2.5	PT/100 GAL	POST	A	
6	Phoenix Select NIS	2 2	EC EC L	0.15 0.125	LB A/A LB A/A % V/V	9.6 8.0	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	52
7	Phoenix Select Between	2 2	EC EC L	0.15 0.125	LB A/A LB A/A	9.6 8.0	FL OZ/A FL OZ/A	POST POST POST	A A A	67
			L	2.5	PT/100 GAL	2.5	PT/100 GAL	POST	A	
8	Phoenix Raptor Select NIS	2 1 2	EC SL EC L	0.15 0.0312 0.125	LB A/A LB A/A LB A/A % V/V	9.6 4.0 8.0	FL OZ/A FL OZ/A FL OZ/A % V/V	POST POST POST POST	A A A A	78
9	Phoenix Raptor Select Between	2 1 2	EC SL EC L	0.15 0.0312 0.125	LB A/A LB A/A LB A/A	9.6 4.0 8.0	FL OZ/A FL OZ/A FL OZ/A	POST POST POST POST	A A A A	87
			L	2.5	PT/100 GAL	2.5	PT/100 GAL	POST	A	
10	Raptor Ultra Blazer MSO 28% UAN	1 2	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	POST POST POST POST	A A A A	92
LSD (P=.05)										15.3

Iowa State University

Evaluation of postemergence applications of SuppoRRt and Roundup Ultra for crop phytotoxicity and weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 13

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

TRIAL LOCATION

City: Ames

Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50011

Initiation Date: 05-28-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate three postemergence application timings of SuppoRRt and SuppoRRt plus Roundup Ultra for crop phytotoxicity and weed control in soybean.

Conclusions: Soybean injury was less than 5% for all postemergence application timings. All POST1 and POST2 Roundup Ultra treatments provided at least 94% control of all weed species present on July 11. SuppoRRt treatments demonstrated chlorosis and stunting of weeds when applied without Roundup Ultra at all application timings. Roundup Ultra treatments within application timings provided similar control regardless of the presence of SuppoRRt. Weed control was at least 90% for treatments containing Roundup Ultra through July 22. However, control of velvetleaf, common waterhemp, and common cocklebur began to diminish by August 1. The POST3 application timing diminished velvetleaf control on July 22 and August 1. Common waterhemp control observed on August 1 was improved with the POST3 application timing. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN

Variety: ASGROW AG 2403

Planting Date: 05-28-03

Planting Method: DIRECT DRILLED

Rate: 151000 SEEDS/A

Depth: 1.25 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 25 FT

Reps: 4

Tillage Type: MINIMUM-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 31% at planting.

SOIL DESCRIPTION

% OM: 5.3

Texture: CLAY LOAM

pH: 6.8

Soil Name: CANISTEO, NICOLLET, CLARION, WEBSTER

Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	07-01-03	07-03-03	07-14-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	POST1	POST2	POST3
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	83 F	92 F	76 F
% Relative Humidity:	61	72	77
Wind Velocity, Unit:	5 MPH	0 MPH	8 MPH
Soil Temp., Unit:	76 F	81 F	74 F
Soil Moisture:	DRY	DRY	DRY
% Cloud Cover:	40	20	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA V3	GLXMA V3-V4	GLXMA V5
Stage Scale:	DESC	DESC	DESC
Height, Unit:	5 IN	9 IN	14 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA 1-4 LEAF	SETFA 1-4 LEAF	SETFA 1-4, 2 T
Stage Scale:	0.75-4 IN	1-6 IN	6-18 IN
Density, Unit:	75 FT2	60 FT2	50 FT2
Weed 2 Code, Stage:	ABUTH COTYL-3	ABUTH COTYL-4	ABUTH 2-5 LEAF
Stage Scale:	0.5-4 IN	0.5-8 IN	2-11 IN
Density, Unit:	0-6 FT2	0-10 FT2	0-7 FT2
Weed 3 Code, Stage:	AMATA COTYL-6	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	0.75-3 IN	0.75-4 IN	0.75-7 IN
Density, Unit:	0-6 FT2	0-8 FT2	0-8 FT2
Weed 4 Code, Stage:	AMBEL NUMEROUS	AMBEL NUMEROUS	AMBEL NUMEROUS
Stage Scale:	3-5 IN	4-6 IN	5-15 IN
Density, Unit:	0-1 FT2	0-1 FT2	0-3 FT2
Weed 5 Code, Stage:	CHEAL COTYL-8	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	1-5 IN	1-6 IN	1-8 IN
Density, Unit:	0-3 FT2	0-10 FT2	0-8 FT2
Weed 6 Code, Stage:	XANST 4-8 LEAF	XANST NUMEROUS	XANST NUMEROUS
Stage Scale:	4-8 IN	4-12 IN	8-21 IN
Density, Unit:	0-4 FT2	0-3 FT2	0-4 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	30	30	25
Nozzle Type:	11002	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of postemergence applications of SuppoRRt and Roundup Ultra for crop phytotoxicity and weed control in soybean, Ames, IA, 2003.

Trial ID: ASC 13

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	SETFA	ABUTH	AMATA	AMBEL	CHEAL	
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-11-03	07-11-03	07-11-03	07-11-03	07-11-03	07-11-03	
Trt-Eval Interval								10 DA-A	10 DA-A	10 DA-A	10 DA-A	10 DA-A	10 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	SuppoRRt AMS	75	DF	0.36 OZ A/A 17.0 LB/100 GAL	0.03 LB/A 17.0 LB/100 GAL		POST1 A POST1 A		0	13	20	20	13	20
3	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0 LB A/A 0.36 OZ A/A 17.0 LB/100 GAL	32.0 FL OZ/A 0.03 LB/A 17.0 LB/100 GAL		POST1 A POST1 A POST1 A		3	99	99	99	99	99
4	Roundup Ultra AMS	4	SL DF	1.0 LB A/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST1 A POST1 A		1	99	98	99	99	99
5	SuppoRRt AMS	75	DF	0.36 OZ A/A 17.0 LB/100 GAL	0.03 LB/A 17.0 LB/100 GAL		POST2 B POST2 B		0	28	20	23	10	20
6	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0 LB A/A 0.36 OZ A/A 17.0 LB/100 GAL	32.0 FL OZ/A 0.03 LB/A 17.0 LB/100 GAL		POST2 B POST2 B POST2 B		0	99	96	98	99	99
7	Roundup Ultra AMS	4	SL DF	1.0 LB A/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST2 B POST2 B		1	99	94	99	99	99
8	SuppoRRt AMS	75	DF	0.36 OZ A/A 17.0 LB/100 GAL	0.03 LB/A 17.0 LB/100 GAL		POST3 C POST3 C		0	0	0	0	0	0
9	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0 LB A/A 0.36 OZ A/A 17.0 LB/100 GAL	32.0 FL OZ/A 0.03 LB/A 17.0 LB/100 GAL		POST3 C POST3 C POST3 C		0	0	0	0	0	0
10	Roundup Ultra AMS	4	SL DF	1.0 LB A/A 17.0 LB/100 GAL	32.0 FL OZ/A 17.0 LB/100 GAL		POST3 C POST3 C		0	0	0	0	0	0
LSD (P=.05)									2.8	14.0	10.0	10.2	9.3	9.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										XANST CONTROL PERCENT 07-11-03 10 DA-A	GLXMA PHYGEN PERCENT 07-22-03 21 DA-A	SETFA CONTROL PERCENT 07-22-03 21 DA-A	ABUTH CONTROL PERCENT 07-22-03 21 DA-A	AMATA CONTROL PERCENT 07-22-03 21 DA-A	AMBEL CONTROL PERCENT 07-22-03 21 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL	POST1	A	8	0	33	33	28	23
3	Roundup Ultra SuppoRRt AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST1	A	99	0	99	99	99	99
4	Roundup Ultra AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST1	A	99	1	99	98	99	99
5	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL	POST2	B	3	0	30	38	33	30
6	Roundup Ultra SuppoRRt AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST2	B	99	0	99	97	99	99
7	Roundup Ultra AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST2	B	99	1	99	99	98	99
8	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL	POST3	C	0	0	33	28	25	10
9	Roundup Ultra SuppoRRt AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST3	C	0	0	99	94	99	98
10	Roundup Ultra AMS	4	SL	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL	POST3	C	0	0	99	90	99	99
LSD (P=.05)										7.3	1.7	7.2	6.3	7.3	8.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										CHEAL CONTROL PERCENT 07-22-03 21 DA-A	XANST CONTROL PERCENT 07-22-03 21 DA-A	GLXMA PHYGEN PERCENT 08-01-03 31 DA-A	SETFA CONTROL PERCENT 08-01-03 31 DA-A	ABUTH CONTROL PERCENT 08-01-03 31 DA-A	AMATA CONTROL PERCENT 08-01-03 31 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code						
1	Untreated										0	0	0	0	0	0
2	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST1 POST1	A A	30	28	0	30	33	28
3	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST1 POST1 POST1	A A A	99	99	0	93	96	86
4	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST1 POST1	A A	99	99	1	94	94	89
5	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST2 POST2	B B	33	33	0	30	35	30
6	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST2 POST2 POST2	B B B	99	99	0	96	96	89
7	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST2 POST2	B B	99	99	1	98	95	90
8	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST3 POST3	C C	28	25	0	33	28	25
9	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST3 POST3 POST3	C C C	99	99	0	99	90	96
10	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST3 POST3	C C	99	98	0	99	85	96
LSD (P=.05)											5.1	4.5	1.7	5.9	8.1	7.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										AMBEL CONTROL PERCENT 08-01-03 31 DA-A	CHEAL CONTROL PERCENT 08-01-03 31 DA-A	XANST CONTROL PERCENT 08-01-03 31 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code			
1	Untreated										0	0	0
2	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST1 POST1	A A	23	30	23
3	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST1 POST1 POST1	A A A	99	98	80
4	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST1 POST1	A A	99	98	76
5	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST2 POST2	B B	20	33	35
6	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST2 POST2 POST2	B B B	98	97	89
7	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST2 POST2	B B	99	98	85
8	SuppoRRt AMS	75	DF	0.36	OZ A/A LB/100 GAL	0.03	LB/A LB/100 GAL		POST3 POST3	C C	10	28	30
9	Roundup Ultra SuppoRRt AMS	4 75	SL DF	1.0	LB A/A OZ A/A LB/100 GAL	32.0	FL OZ/A LB/A LB/100 GAL		POST3 POST3 POST3	C C C	99	99	99
10	Roundup Ultra AMS	4	SL DF	1.0	LB A/A LB/100 GAL	32.0	FL OZ/A LB/100 GAL		POST3 POST3	C C	99	98	98
LSD (P=.05)											9.4	5.6	8.8

Iowa State University

Evaluation of various preemergence and postemergence applied herbicides for woolly cupgrass control in corn, Lewis, IA, 2003.

Trial ID: LCC 1
Location: Lewis

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Lewis **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 51544-9603 **Initiation Date:** 05-22-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate various preemergence applied herbicides including Balance Pro, Lumax, Keystone, Epic and postemergence applied Liberty, Option, Equip, Steadfast, and Celebrity Plus for crop phytotoxicity and woolly cupgrass control in corn.

Conclusions: No significant differences between treatments in corn stand were determined on June 12. No corn injury resulted from the PRE applied treatments when observed on June 4 and 12. PRE treatments of Balance Pro plus Lumax, Degree Xtra or Keystone, and Epic, Balance Pro plus Atrazine, and Balance Pro plus Define plus Atrazine provided good to excellent woolly cupgrass control on June 12. These treatments also achieved excellent common waterhemp and common lambsquarters control.

EPOST and MPOST treatments caused corn injury when observed on June 21 and 27, three and six days after application, respectively. Injury remained from some EPOST and MPOST treatments when observed on July 11. Woolly cupgrass control ranged from 80 to 95% with the treatment combinations and application timings on July 11. When observed on August 27, MPOST applied Steadfast plus Atrazine plus Callisto, EPOST Prowl plus Steadfast plus Callisto and MPOST Celebrity Plus provided 75% or less woolly cupgrass control. All treatment combinations and application timings provided good to excellent common waterhemp and common lambsquarters control on July 11 and August 27, except EPOST Prowl plus Steadfast plus Callisto. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** Dekalb 33R79
Planting Date: 05-22-03 **Planting Method:** DIRECT DRILLED
Rate: 31000 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 120 lb/A actual N applied as anhydrous ammonia. Tillage included a spring tandem disking and field cultivation. Crop residue on the soil surface was 10% at planting.

SOIL DESCRIPTION

% OM: 5.0 **Texture:** SILTY CLAY LOAM
pH: 6.0 **Soil Name:** MARSHALL, EXIRA
Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-22-03	06-18-03	06-21-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	68 F	74 F	80 F
% Relative Humidity:	63	82	65
Wind Velocity, Unit:	3 MPH	6 MPH	12 MPH
Soil Temp., Unit:	62 F	74 F	72 F
Soil Moisture:	ADEQUATE	DRY	DRY
% Cloud Cover:	90	90	

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V4-V5
Stage Scale:	-	DESC	DESC
Height, Unit:	-	6 IN	7.5 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ERBVI -	ERBVI 1-4LF, 2T	ERBVI 1-4LF, 3T
Stage Scale:	-	1-2 IN	1-5 IN
Density, Unit:	- -	0-10 FT2	0-20 FT2
Weed 2 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.5-4 IN	1-5 IN
Density, Unit:	- -	0-30 FT2	0-20 FT2
Weed 3 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-4 IN	1-5 IN
Density, Unit:	- -	0-2 FT2	0-5 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	25	25	25
Nozzle Type:	11003	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of various preemergence and postemergence applied herbicides for woolly cupgrass control in corn, Lewis, IA, 2003.

Trial ID: LCC 1
 Location: Lewis

Study Dir.: Owen/Lux/Franzenburg
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	ERBVI	AMATA	CHEAL
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								06-12-03	06-04-03	06-12-03	06-12-03	06-12-03	06-12-03
Trt-Eval Interval								21 DA-A	13 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code					
1	Untreated								32	0	0	0	0
2	Balance Pro Lumax	4 SC 3.95 SE		0.047 LB A/A 2.96 LB A/A	1.5 FL OZ/A 3.0 QT/A	PRE PRE	A A		32	0	0	98	99
3	Balance Pro Degree Xtra	4 SC 4.04 CS		0.047 LB A/A 3.74 LB A/A	1.5 FL OZ/A 3.7 QT/A	PRE PRE	A A		32	0	0	96	99
4	Balance Pro Keystone	4 SC 5.25 SE		0.047 LB A/A 3.4 LB A/A	1.5 FL OZ/A 2.6 QT/A	PRE PRE	A A		33	0	0	96	99
5	Epic Atrazine	58 DF 4 L		0.51 LB A/A 1.25 LB A/A	14.0 OZ WT/A 1.25 QT/A	PRE PRE	A A		34	0	0	96	99
6	Balance Pro Liberty Atrazine AMS	4 SC 1.67 SL 4 L DF		0.047 LB A/A 0.417 LB A/A 1.0 LB A/A 3.0 LB/A	1.5 FL OZ/A 32.0 FL OZ/A 1.0 QT/A 3.0 LB/A	PRE MPOST MPOST MPOST	A C C C		34	0	0	78	99
7	Balance Pro Atrazine Option MSO 28% UAN	4 SC 4 L 35 WG L L		0.047 LB A/A 1.0 LB A/A 0.0328 LB A/A 1.5 PT/A 1.5 QT/A	1.5 FL OZ/A 1.0 QT/A 1.5 OZ WT/A 1.5 PT/A 1.5 QT/A	PRE PRE MPOST MPOST MPOST	A A C C C		32	0	0	87	99
8	Balance Pro Atrazine Equip MSO 28% UAN	4 SC 4 L 32 WG L L		0.047 LB A/A 1.0 LB A/A 0.03 LB A/A 1.5 PT/A 1.5 QT/A	1.5 FL OZ/A 1.0 QT/A 1.5 OZ WT/A 1.5 PT/A 1.5 QT/A	PRE PRE EPOST EPOST EPOST	A A B B B		33	0	0	80	99
9	Balance Pro Define Atrazine	4 SC 4 SC 4 L		0.0625 LB A/A 0.53 LB A/A 2.0 LB A/A	2.0 FL OZ/A 17.0 FL OZ/A 2.0 QT/A	PRE PRE PRE	A A A		32	0	0	93	99
10	Liberty Define Atrazine AMS	1.67 SL 4 SC 4 L DF		0.417 LB A/A 0.234 LB A/A 1.0 LB A/A 3.0 LB/A	32.0 FL OZ/A 7.5 FL OZ/A 1.0 QT/A 3.0 LB/A	EPOST EPOST EPOST EPOST	B B B B		32	0	0	0	0
11	Liberty Atrazine AMS	1.67 SL 4 L DF		0.417 LB A/A 1.5 LB A/A 3.0 LB/A	32.0 FL OZ/A 1.5 QT/A 3.0 LB/A	EPOST EPOST EPOST	B B B		33	0	0	0	0
12	Bicep II Magnum Steadfast Distinct COC AMS	5.5 L 75 WG 70 WG L DF		1.15 LB A/A 0.035 LB A/A 0.0875 LB A/A 1.0 % V/V 2.0 LB/A	0.84 QT/A 0.75 OZ WT/A 2.0 OZ WT/A 1.0 % V/V 2.0 LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C		32	0	0	53	98
13	Steadfast Atrazine Callisto COC 28% UAN	75 WG 4 L 4 SC L L		0.035 LB A/A 0.5 LB A/A 0.094 LB A/A 1.0 % V/V 2.5 % V/V	0.75 OZ WT/A 0.5 QT/A 3.0 FL OZ/A 1.0 % V/V 2.5 % V/V	MPOST MPOST MPOST MPOST MPOST	C C C C C		31	0	0	0	0
14	Prowl H2O Steadfast Callisto COC 28% UAN	3.8 EC 75 WG 4 SC L L		1.9 LB A/A 0.035 LB A/A 0.094 LB A/A 1.0 % V/V 2.5 % V/V	4.0 PT/A 0.75 OZ WT/A 3.0 FL OZ/A 1.0 % V/V 2.5 % V/V	EPOST EPOST EPOST EPOST EPOST	B B B B B		34	0	0	0	0

Iowa State University

Weed Code								ZEAMD	ZEAMD	ZEAMD	ERBVI	AMATA	CHEAL		
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL		
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								06-12-03	06-04-03	06-12-03	06-12-03	06-12-03	06-12-03		
Trt-Eval Interval								21 DA-A	13 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
15	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	MPOST	C	32	0	0	0		
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	C						
	28% UAN		L	2.5	% V/V	2.5	% V/V	MPOST	C						
LSD (P=.05)										2.9	0.0	0.0	5.2	1.0	22.4

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ZEAMD PHYGEN PERCENT 06-21-03 30 DA-A	ZEAMD PHYGEN PERCENT 06-27-03 36 DA-A	ERBVI CONTROL PERCENT 06-27-03 36 DA-A	AMATA CONTROL PERCENT 06-27-03 36 DA-A	CHEAL CONTROL PERCENT 06-27-03 36 DA-A	ZEAMD PHYGEN PERCENT 07-11-03 50 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Lumax	4 3.95	SC SE	0.047 2.96	LB A/A LB A/A	1.5 3.0	FL OZ/A QT/A	PRE PRE	A A	0	0	95	99	99	0
3	Balance Pro Degree Xtra	4 4.04	SC CS	0.047 3.74	LB A/A LB A/A	1.5 3.7	FL OZ/A QT/A	PRE PRE	A A	0	0	96	99	99	0
4	Balance Pro Keystone	4 5.25	SC SE	0.047 3.4	LB A/A LB A/A	1.5 2.6	FL OZ/A QT/A	PRE PRE	A A	0	0	95	99	99	0
5	Epic Atrazine	58 4	DF L	0.51 1.25	LB A/A LB A/A	14.0 1.25	OZ WT/A QT/A	PRE PRE	A A	0	0	95	99	99	0
6	Balance Pro Liberty Atrazine AMS	4 1.67 4	SC SL L	0.047 0.417 1.0	LB A/A LB A/A LB A/A	1.5 32.0 1.0	FL OZ/A FL OZ/A QT/A	PRE MPOST MPOST	A C C	0	0	99	99	99	0
7	Balance Pro Atrazine Option MSO 28% UAN	4 4 35 L L	SC L WG L L	0.047 1.0 0.0328 1.5 1.5	LB A/A LB A/A LB A/A PT/A QT/A	1.5 1.0 1.5 1.5	FL OZ/A QT/A OZ WT/A PT/A QT/A	PRE PRE MPOST MPOST MPOST	A A C C C	0	17	90	99	99	0
8	Balance Pro Atrazine Equip MSO 28% UAN	4 4 32	SC L WG	0.047 1.0 0.03	LB A/A LB A/A LB A/A	1.5 1.0 1.5	FL OZ/A QT/A OZ WT/A	PRE PRE EPOST	A A B	10	10	87	99	99	2
9	Balance Pro Define Atrazine	4 4 4	SC SC L	0.0625 0.53 2.0	LB A/A LB A/A LB A/A	2.0 17.0 2.0	FL OZ/A FL OZ/A QT/A	PRE PRE PRE	A A A	0	0	90	99	99	0
10	Liberty Define Atrazine AMS	1.67 4 4	SL SC L	0.417 0.234 1.0	LB A/A LB A/A LB A/A	32.0 7.5 1.0	FL OZ/A FL OZ/A QT/A	EPOST EPOST EPOST	B B B	8	5	99	99	99	3
11	Liberty Atrazine AMS	1.67 4	SL L	0.417 1.5	LB A/A LB A/A	32.0 1.5	FL OZ/A QT/A	EPOST EPOST	B B	7	0	99	99	99	2
12	Bicep II Magnum Steadfast Distinct COC AMS	5.5 75 70 L AMS	L WG WG L DF	1.15 0.035 0.0875 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.84 0.75 2.0 1.0 2.0	QT/A OZ WT/A OZ WT/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	0	15	72	99	99	3
13	Steadfast Atrazine Callisto COC 28% UAN	75 4 4 L L	WG L SC L L	0.035 0.5 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.5 3.0 1.0 2.5	OZ WT/A QT/A FL OZ/A % V/V % V/V	MPOST MPOST MPOST MPOST MPOST	C C C C C	0	13	73	85	93	8
14	Prowl H2O Steadfast Callisto COC 28% UAN	3.8 75 4 L L	EC WG SC L L	1.9 0.035 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	4.0 0.75 3.0 1.0 2.5	PT/A OZ WT/A FL OZ/A % V/V % V/V	EPOST EPOST EPOST EPOST EPOST	B B B B B	10	10	72	63	62	10

Iowa State University

Weed Code									ZEAMD	ZEAMD	ERBVI	AMATA	CHEAL	ZEAMD	
Rating Data Type									PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-21-03	06-27-03	06-27-03	06-27-03	06-27-03	07-11-03	
Trt-Eval Interval									30 DA-A	36 DA-A	36 DA-A	36 DA-A	36 DA-A	50 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Unit Stg	Appl Code						
15	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	MPOST C	C	0	12	68	85	85	7
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST C	C						
	28% UAN		L	2.5	% V/V	2.5	% V/V	MPOST C	C						
LSD (P=.05)										3.5	3.6	5.5	4.4	3.3	3.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										ERBVI CONTROL PERCENT 07-11-03 50 DA-A	AMATA CONTROL PERCENT 07-11-03 50 DA-A	CHEAL CONTROL PERCENT 07-11-03 50 DA-A	ERBVI CONTROL PERCENT 08-27-03 97 DA-A	AMATA CONTROL PERCENT 08-27-03 97 DA-A	CHEAL CONTROL PERCENT 08-27-03 97 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Lumax	4 SC 3.95 SE		0.047 LB A/A 2.96 LB A/A		1.5 FL OZ/A 3.0 QT/A		PRE PRE	A A	92	98	99	92	98	99
3	Balance Pro Degree Xtra	4 SC 4.04 CS		0.047 LB A/A 3.74 LB A/A		1.5 FL OZ/A 3.7 QT/A		PRE PRE	A A	95	99	99	95	99	99
4	Balance Pro Keystone	4 SC 5.25 SE		0.047 LB A/A 3.4 LB A/A		1.5 FL OZ/A 2.6 QT/A		PRE PRE	A A	93	99	99	93	99	99
5	Epic Atrazine	58 DF 4 L		0.51 LB A/A 1.25 LB A/A		14.0 OZ WT/A 1.25 QT/A		PRE PRE	A A	93	99	99	92	99	99
6	Balance Pro Liberty Atrazine AMS	4 SC 1.67 SL 4 L DF		0.047 LB A/A 0.417 LB A/A 1.0 LB A/A 3.0 LB/A		1.5 FL OZ/A 32.0 FL OZ/A 1.0 QT/A 3.0 LB/A		PRE MPOST MPOST MPOST	A C C C	90	99	99	92	99	99
7	Balance Pro Atrazine Option MSO 28% UAN	4 SC 4 L 35 WG L L		0.047 LB A/A 1.0 LB A/A 0.0328 LB A/A 1.5 PT/A 1.5 QT/A		1.5 FL OZ/A 1.0 QT/A 1.5 OZ WT/A 1.5 PT/A 1.5 QT/A		PRE PRE MPOST MPOST MPOST	A A C C C	92	99	99	92	99	99
8	Balance Pro Atrazine Equip MSO 28% UAN	4 SC 4 L 32 WG L L		0.047 LB A/A 1.0 LB A/A 0.03 LB A/A 1.5 PT/A 1.5 QT/A		1.5 FL OZ/A 1.0 QT/A 1.5 OZ WT/A 1.5 PT/A 1.5 QT/A		PRE PRE EPOST EPOST EPOST	A A B B B	88	98	99	85	98	99
9	Balance Pro Define Atrazine	4 SC 4 SC 4 L		0.0625 LB A/A 0.53 LB A/A 2.0 LB A/A		2.0 FL OZ/A 17.0 FL OZ/A 2.0 QT/A		PRE PRE PRE	A A A	90	99	99	90	99	99
10	Liberty Define Atrazine AMS	1.67 SL 4 SC 4 L DF		0.417 LB A/A 0.234 LB A/A 1.0 LB A/A 3.0 LB/A		32.0 FL OZ/A 7.5 FL OZ/A 1.0 QT/A 3.0 LB/A		EPOST EPOST EPOST EPOST	B B B B	88	98	99	88	98	99
11	Liberty Atrazine AMS	1.67 SL 4 L DF		0.417 LB A/A 1.5 LB A/A 3.0 LB/A		32.0 FL OZ/A 1.5 QT/A 3.0 LB/A		EPOST EPOST EPOST	B B B	93	96	99	90	96	99
12	Bicep II Magnum Steadfast Distinct COC AMS	5.5 L 75 WG 70 WG L DF		1.15 LB A/A 0.035 LB A/A 0.0875 LB A/A 1.0 % V/V 2.0 LB/A		0.84 QT/A 0.75 OZ WT/A 2.0 OZ WT/A 1.0 % V/V 2.0 LB/A		PRE MPOST MPOST MPOST MPOST	A C C C C	85	99	99	80	99	99
13	Steadfast Atrazine Callisto COC 28% UAN	75 WG 4 L 4 SC L L		0.035 LB A/A 0.5 LB A/A 0.094 LB A/A 1.0 % V/V 2.5 % V/V		0.75 OZ WT/A 0.5 QT/A 3.0 FL OZ/A 1.0 % V/V 2.5 % V/V		MPOST MPOST MPOST MPOST MPOST	C C C C C	83	99	99	75	99	99
14	Prowl H2O Steadfast Callisto COC 28% UAN	3.8 EC 75 WG 4 SC L L		1.9 LB A/A 0.035 LB A/A 0.094 LB A/A 1.0 % V/V 2.5 % V/V		4.0 PT/A 0.75 OZ WT/A 3.0 FL OZ/A 1.0 % V/V 2.5 % V/V		EPOST EPOST EPOST EPOST EPOST	B B B B B	80	52	82	70	45	82

Iowa State University

Weed Code									ERBVI	AMATA	CHEAL	ERBVI	AMATA	CHEAL	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-11-03	07-11-03	07-11-03	08-27-03	08-27-03	08-27-03	
Trt-Eval Interval									50 DA-A	50 DA-A	50 DA-A	97 DA-A	97 DA-A	97 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Unit Stg	Appl Code						
15	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	MPOST C	C	80	93	98	70	95	98
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST C	C						
	28% UAN		L	2.5	% V/V	2.5	% V/V	MPOST C	C						
LSD (P=.05)										6.0	6.0	1.6	7.5	6.0	1.6

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop injury and woolly cupgrass control in corn, Lewis, IA, 2003.

Trial ID: LCC 2
Location: lewis

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Lewis **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 51544-9603 **Initiation Date:** 05-22-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate various preemergence applied rates of KIH-485 and Dual II Magnum for crop phytotoxicity and woolly cupgrass control in corn.

Conclusions: There were no significant differences in corn stand between herbicide treatments when observed on June 12. Negligible corn injury was observed on June 4, 12 and 18 from various PRE applied rates of KIH-485 and Dual II Magnum. Woolly cupgrass control with PRE KIH-485 and Dual II Magnum was rate responsive. Further, woolly cupgrass control was unacceptable at all evaluation dates. All treatments demonstrated excellent control of common waterhemp. At several evaluation dates, the highest rates of either KIH-485 or Dual II Magnum provided slightly better common waterhemp control than the lowest rates. Common lambsquarters control was rate responsive for KIH-485 and Dual II Magnum at all evaluation dates. Control surpassed 90% for only the 9.6 fl oz/A rate of KIH-485 when observed through June 18. KIH-485 plus Atrazine and Bicep II Magnum demonstrated excellent common lambsquarters control at all observation dates. (Dept. of Agronomy, Iowa State University, Ames).

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** Dekalb 33R79
Planting Date: 05-22-03 **Planting Method:** DIRECT DRILLED
Rate: 31000 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 120 lb/A actual N applied as anhydrous ammonia. Tillage included a spring tandem disking and field cultivation. Crop residue on the soil surface was 10% at planting.

SOIL DESCRIPTION

% OM: 5.0 **Texture:** SILTY CLAY LOAM
pH: 6.0 **Soil Name:** MARSHALL, EXIRA
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-22-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	68 F
% Relative Humidity:	63
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	62 F
Soil Moisture:	DRY
% Cloud Cover:	90

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ERBVI -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11003
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop injury and woolly cupgrass control in corn, Lewis, IA, 2003.

Trial ID: LCC 2

Study Dir.: Owen/Lux/Franzenburg

Location: lewis

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	ERBVI	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYGEN	PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-12-03	06-04-03	06-12-03	06-12-03	06-12-03	06-12-03	06-18-03	
Trt-Eval Interval								21 DA-A	13 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	27 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code					
1	Untreated										30	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A		31	0	0	27	95
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A		28	0	2	47	96
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A		30	2	2	67	98
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A		34	2	2	67	99
6	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A		30	2	2	48	95
7	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A		30	0	0	60	98
8	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A		33	0	0	72	98
9	KIH-485 Atrazine	3.57 4	SC SL	0.179 2.0	LB A/A LB A/A	6.4 4.0	FL OZ/A PT/A	PRE PRE	A A		28	0	0	60	99
10	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		30	0	0	75	99
LSD (P=.05)								5.8	2.9	3.3	9.3	2.9	11.0	3.5	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ERBVI CONTROL PERCENT 06-18-03 27 DA-A	AMATA CONTROL PERCENT 06-18-03 27 DA-A	CHEAL CONTROL PERCENT 06-18-03 27 DA-A	ZEAMD PHYGEN PERCENT 06-27-03 36 DA-A	ERBVI CONTROL PERCENT 06-27-03 36 DA-A	AMATA CONTROL PERCENT 06-27-03 36 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	27	95	70	0	28	95
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	47	96	82	0	50	96
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	65	98	88	0	63	99
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	70	99	93	0	72	99
6	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	47	93	65	2	45	93
7	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	63	98	73	0	58	98
8	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	73	98	75	0	67	98
9	KIH-485 Atrazine	3.57 4	SC SL	0.179 2.0	LB A/A LB A/A	6.4 4.0	FL OZ/A PT/A	PRE PRE	A A	63	99	99	2	65	99
10	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	72	99	99	0	65	99
LSD (P=.05)										10.1	3.5	11.5	2.1	15.0	3.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 06-27-03 36 DA-A	ZEAMD PHYGEN PERCENT 07-11-03 50 DA-A	ERBVI CONTROL PERCENT 07-11-03 50 DA-A	AMATA CONTROL PERCENT 07-11-03 50 DA-A	CHEAL CONTROL PERCENT 07-11-03 50 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	67	0	23	91	60
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	80	0	45	96	78
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	83	0	62	99	78
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	85	0	70	99	83
6	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	62	0	42	93	43
7	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	65	0	52	96	47
8	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	72	0	62	96	65
9	KIH-485	3.57	SC	0.179	LB A/A	6.4	FL OZ/A	PRE	A	99	0	60	99	99
	Atrazine	4	SL	2.0	LB A/A	4.0	PT/A	PRE	A					
10	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	99	0	60	98	99
LSD (P=.05)										14.9	0.0	17.1	6.2	18.4

Iowa State University

V10139 and Select applied postemergence in soybean for woolly cupgrass control, Lewis, IA, 2003.

Trial ID: LSC 1
Location: Lewis

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Lewis Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 51544-9603 Initiation Date: 05-22-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate V10139 and Select applied postemergence for crop phytotoxicity and woolly cupgrass control in soybean.
Conclusions: Significant soybean injury resulted from POST treatments that included Phoenix in the tank-mixture. Treatments of V10139 applied alone did not cause soybean injury. Woolly cupgrass control ranged from 67 to 82% with the treatments when observed on July 24, 27 days after application. On this date the best control was provided by V10139. Treatments that included Phoenix provided good to excellent velvetleaf control at 95 to 98% on July 24. Velvetleaf control with the remaining treatments was unacceptable. Common waterhemp control with treatments containing Phoenix was fair at 73 to 80%. Control with the remaining treatments was unacceptable. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.

Crop 1: GLXMA SOYBEAN Variety: PIONEER 93B36
Planting Date: 05-22-03 Planting Method: DIRECT DRILLED
Rate: 175000 SEEDS/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Temperature: 62 F Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a spring tandem disking. Crop residue on the soil surface was 35% at planting.

SOIL DESCRIPTION

% OM: 5.0 Texture: SILTY CLAY LOAM
pH: 6.0 Soil Name: MARSHALL, EXIRA
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	06-27-03
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	83 F
% Relative Humidity:	51
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	74 F
Soil Moisture:	DRY
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V2-V3
Stage Scale:	DESC
Height, Unit:	8 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ERBVI 1-5 L, 2T
Stage Scale:	3-7 IN
Density, Unit:	3-10 FT ²
Weed 2 Code, Stage:	ABUTH 1-7 LEAF
Stage Scale:	1-7 IN
Density, Unit:	0-3 FT ²
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	1-7 IN
Density, Unit:	3-15 FT ²

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11003
Spray Volume, Unit:	20 GPA

Iowa State University

V10139 and Select applied postemergence in soybean for woolly cupgrass control, Lewis, IA, 2003.

Trial ID: LSC 1
Location: Lewis

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	ERBVI	ABUTH	AMATA	GLXMA	ERBVI	ABUTH	
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-03-03	07-03-03	07-03-03	07-03-03	07-11-03	07-11-03	07-11-03	
Tri-Eval Interval								6 DA-A	6 DA-A	6 DA-A	6 DA-A	14 DA-A	14 DA-A	14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Select COC	2 EC L		0.094 LB A/A 1.0 % V/V	6.0 FL OZ/A 1.0 % V/V	POST A POST A				0	30	0	0	0	75
3	V10139 COC	1.6 EC L		0.0875 LB A/A 1.0 % V/V	7.0 FL OZ/A 1.0 % V/V	POST A POST A				0	23	0	0	0	73
4	Phoenix Select COC	2 EC 2 EC L		0.156 LB A/A 0.094 LB A/A 1.0 % V/V	10.0 FL OZ/A 6.0 FL OZ/A 1.0 % V/V	POST A POST A POST A				23	40	99	99	18	78
5	Phoenix V10139 COC	2 EC 1.6 EC L		0.156 LB A/A 0.0875 LB A/A 1.0 % V/V	10.0 FL OZ/A 7.0 FL OZ/A 1.0 % V/V	POST A POST A POST A				22	40	99	98	15	78
6	FirstRate Select COC	84 WG 2 EC L		0.0157 LB A/A 0.094 LB A/A 1.0 % V/V	0.3 OZ WT/A 6.0 FL OZ/A 1.0 % V/V	POST A POST A POST A				5	23	30	13	3	73
7	FirstRate V10139 COC	84 WG 1.6 EC L		0.0157 LB A/A 0.0875 LB A/A 1.0 % V/V	0.3 OZ WT/A 7.0 FL OZ/A 1.0 % V/V	POST A POST A POST A				5	30	30	17	3	73
8	Phoenix Select COC	2 EC 2 EC L		0.156 LB A/A 0.125 LB A/A 1.0 % V/V	10.0 FL OZ/A 8.0 FL OZ/A 1.0 % V/V	POST A POST A POST A				20	43	99	98	15	80
LSD (P=.05)								6.2	6.6	0.0	5.2	3.1	3.9	4.4	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 07-11-03 14 DA-A	GLXMA PHYGEN PERCENT 07-24-03 27 DA-A	ERBVI CONTROL PERCENT 07-24-03 27 DA-A	ABUTH CONTROL PERCENT 07-24-03 27 DA-A	AMATA CONTROL PERCENT 07-24-03 27 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Select COC	2 L	EC	0.094 1.0	LB A/A % V/V	6.0 1.0	FL OZ/A % V/V	POST POST	A A	0	0	78	0	0
3	V10139 COC	1.6 L	EC	0.0875 1.0	LB A/A % V/V	7.0 1.0	FL OZ/A % V/V	POST POST	A A	0	0	82	0	0
4	Phoenix Select COC	2 2 L	EC	0.156 0.094 1.0	LB A/A LB A/A % V/V	10.0 6.0 1.0	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	95	8	53	95	80
5	Phoenix V10139 COC	2 1.6 L	EC	0.156 0.0875 1.0	LB A/A LB A/A % V/V	10.0 7.0 1.0	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	92	5	58	98	77
6	FirstRate Select COC	84 2 L	WG EC	0.0157 0.094 1.0	LB A/A LB A/A % V/V	0.3 6.0 1.0	OZ WT/A FL OZ/A % V/V	POST POST POST	A A A	22	2	73	38	12
7	FirstRate V10139 COC	84 1.6 L	WG EC	0.0157 0.0875 1.0	LB A/A LB A/A % V/V	0.3 7.0 1.0	OZ WT/A FL OZ/A % V/V	POST POST POST	A A A	23	3	73	43	10
8	Phoenix Select COC	2 2 L	EC	0.156 0.125 1.0	LB A/A LB A/A % V/V	10.0 8.0 1.0	FL OZ/A FL OZ/A % V/V	POST POST POST	A A A	93	3	67	96	73
LSD (P=.05)										4.6	6.0	8.6	5.5	5.2

Iowa State University

Weed control with early preplant applications of Aim and Weedone LV4, Bicep II Magnum, Guardsman Max, Harness Xtra, and Roundup WeatherMAX, Chariton, IA, 2003.
 Trial ID: MNF 1 Study Dir.: Owen/Lux/Franzenburg
 Location: Chariton Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Chartion **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50049 **Initiation Date:** 05-14-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate preplant applications of Aim with Weedone LV4 and various prepackaged mixtures for burndown weed control.
Conclusions: EPP applications of Aim in combination with Weedone LV4 and Bicep II Magnum, Guardsman MAX, Harness Xtra, or Roundup WeatherMAX provided 99% early burndown of giant foxtail, common lambsquarters and Pennsylvania smartweed when observed on May 23, nine days after application. Treatments without Aim achieved 45 to 99% control of these species on May 23. Common dandelion control ranged from 82 to 92% on May 23 with treatments containing Aim, whereas, treatments without Aim provided 47 to 62% control. On June 9 all treatments provided good to excellent giant foxtail, common lambsquarters and Pennsylvania smartweed control, with the exception of Roundup WeatherMAX for Pennsylvania smartweed control. Common dandelion control was mostly unacceptable with all of the treatments on June 9. Weed control observations on July 2 demonstrated that giant foxtail, common lambsquarters and Pennsylvania smartweed control remained acceptable with treatments that included a residual herbicide. Unacceptable common dandelion control was observed with all of the treatments on July 2. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
4.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS

Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: NO-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2003

SOIL DESCRIPTION

% OM: 5.0 **Texture:** SILT LOAM
pH: 6.2 **Soil Name:** EDINA, GRUNDY
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-14-03
Application Method:	SPRAY
Application Timing:	EPP
Applic. Placement:	BROSOI
Air Temp., Unit:	58 F
% Relative Humidity:	75
Wind Velocity, Unit:	6 MPH
Soil Temp., Unit:	63 F
Soil Moisture:	MOIST
% Cloud Cover:	100

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-3 LEAF
Stage Scale:	0.5-1 IN
Density, Unit:	0-3 FT2
Weed 2 Code, Stage:	CHEAL 4-6 LEAF
Stage Scale:	1-3 IN
Density, Unit:	0-3 FT2
Weed 3 Code, Stage:	POLPY 2-6 LEAF
Stage Scale:	0.5-3
Density, Unit:	0-3 FT2
Weed 4 Code, Stage:	TAROF NUMEROUS
Stage Scale:	5-6 IN
Density, Unit:	0-2 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11003
Spray Volume, Unit:	20 GPA

Iowa State University

Weed control with early preplant applications of Aim and Weedone LV4, Bicep II Magnum, Guardsman Max, Harness Xtra, and Roundup WeatherMAX, Chariton, IA, 2003.

Trial ID: MNF 1

Study Dir.: Owen/Lux/Franzenburg

Location: Chariton

Investigator: Owen/Hartzler/Pringnitz

Weed Code							SETFA	CHEAL	POLPY	TAROF	SETFA
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date							05-23-03	05-23-03	05-23-03	05-23-03	06-09-03
Trt-Eval Interval							9 DA-A	9 DA-A	9 DA-A	9 DA-A	26 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Unit	Grow Stg	Appl Code			
1	Untreated								0	0	0
2	Aim	2	EW	0.0078	0.5	FL OZ/A	EPP	A	99	99	99
	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A			82
	Bicep II Magnum	5.5	L	2.9	2.1	QT/A	EPP	A			99
	COC		L	1.0	1.0	% V/V	EPP	A			
3	Aim	2	EW	0.0078	0.5	FL OZ/A	EPP	A	99	99	99
	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A			80
	Guardsman Max	5	SC	2.5	4.0	PT/A	EPP	A			99
	COC		L	1.0	1.0	% V/V	EPP	A			
4	Aim	2	EW	0.0078	0.5	FL OZ/A	EPP	A	99	99	99
	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A			80
	Harness Xtra	5.6	EC	3.5	5.0	PT/A	EPP	A			99
	COC		L	1.0	1.0	% V/V	EPP	A			
5	Aim	2	EW	0.0078	0.5	FL OZ/A	EPP	A	99	99	98
	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A			92
	Roundup WeatherMAX	4.5	SL	0.77	22.0	FL OZ/A	EPP	A			99
	AMS		DF	17.0	17.0	LB/100 GAL	EPP	A			
6	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A	92	99	91
	Harness Xtra	5.6	EC	3.5	5.0	PT/A	EPP	A			62
	COC		L	1.0	1.0	% V/V	EPP	A			96
7	Weedone LV4	3.8	EC	0.119	4.0	FL OZ/A	EPP	A	95	98	90
	Bicep II Magnum	5.5	L	2.9	2.1	QT/A	EPP	A			60
	COC		L	1.0	1.0	% V/V	EPP	A			96
8	Roundup WeatherMAX	4.5	SL	0.77	22.0	FL OZ/A	EPP	A	95	90	45
	AMS		DF	17.0	17.0	LB/100 GAL	EPP	A			47
LSD (P=.05)							3.6	5.3	5.0	7.2	2.6

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								CHEAL CONTROL PERCENT 06-09-03 26 DA-A	POLPY CONTROL PERCENT 06-09-03 26 DA-A	TAROF CONTROL PERCENT 06-09-03 26 DA-A	SETFA CONTROL PERCENT 07-02-03 49 DA-A	CHEAL CONTROL PERCENT 07-02-03 49 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	99	63	93	99
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A					
	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	EPP	A					
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A					
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	99	63	93	99
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A					
	Guardsman Max	5	SC	2.5	LB A/A	4.0	PT/A	EPP	A					
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A					
4	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	99	60	95	99
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A					
	Harness Xtra	5.6	EC	3.5	LB A/A	5.0	PT/A	EPP	A					
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A					
5	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	99	98	80	45	93
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
6	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A	99	93	48	95	99
	Harness Xtra	5.6	EC	3.5	LB A/A	5.0	PT/A	EPP	A					
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A					
7	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A	99	96	47	95	99
	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	EPP	A					
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A					
8	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	95	60	70	63	65
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A					
LSD (P=.05)										2.8	8.5	5.0	5.9	3.8

Iowa State University

Weed Code								POLPY	TAROF
Rating Data Type								CONTROL	CONTROL
Rating Unit								PERCENT	PERCENT
Rating Date								07-02-03	07-02-03
Trt-Eval Interval								49 DA-A	49 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code
1	Untreated								
								0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	EPP	A
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A
								96	23
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Guardman Max	5	SC	2.5	LB A/A	4.0	PT/A	EPP	A
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A
								99	23
4	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Harness Xtra	5.6	EC	3.5	LB A/A	5.0	PT/A	EPP	A
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A
								99	20
5	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A
	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A
								67	32
6	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Harness Xtra	5.6	EC	3.5	LB A/A	5.0	PT/A	EPP	A
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A
								83	23
7	Weedone LV4	3.8	EC	0.119	LB A/A	4.0	FL OZ/A	EPP	A
	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	EPP	A
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A
								95	22
8	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A
								58	37
LSD (P=.05)								13.7	4.5

Iowa State University

Evaluation of burndown potential of Balance Pro with Atrazine, Weedone LV4 or Sencor, Chariton, IA, 2003.

Trial ID: MNF 2
Location: Chariton

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Chariton Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50049 Initiation Date: 05-14-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate applications of Balance Pro alone and in tank-mixtures with Atrazine, Weedone LV4, or Sencor for burndown control of weeds in no-tillage cropping systems.

Conclusions: Early burndown control of giant foxtail on May 23, nine days after application, was good to excellent with all PRE treatments. Treatments containing Weedone LV4 plus Balance Pro, Balance Pro plus Atrazine, and Balance Pro plus Sencor achieved good to excellent common lambsquarters, horseweed and Pennsylvania smartweed control on this date. An exception was Balance Pro applied at 1.5 fl oz/A plus Sencor at 2.0 oz wt/A for horseweed control. Overall, the remaining treatments gave poor to fair common lambsquarters, horseweed and Pennsylvania smartweed control on May 23. Common dandelion control was poor with most treatments on May 23, while most provided good field pennycress control. Generally, giant foxtail, common lambsquarters, horseweed, Pennsylvania smartweed and field pennycress control was good to excellent with the treatments on June 9, 26 days after application. Roundup WeatherMAX applied without a residual herbicide provided fair giant foxtail control on June 9. Common dandelion control improved to good to excellent with many of the treatments when observed on June 9, compared to May 23. On July 2, 49 days after application, the treatments provided poor to fair giant foxtail control and excellent common lambsquarters and field pennycress control. All treatments provided good to excellent horseweed control, except Balance Pro plus COC. Pennsylvania smartweed control was good to excellent with the treatments except Balance Pro plus COC, Balance Pro plus Roundup WeatherMAX, and Roundup WeatherMAX. On July 2, common dandelion control remained fair to good with most of the treatments. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.
4.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
5.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS
6.	THLAR	PENNYCRESS, FIELD	THLASPI ARVENSE L.

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

SOIL DESCRIPTION

% OM: 5.0 Texture: SILT LOAM
pH: 6.2 Soil Name: EDINA, GRUNDY
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-14-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROFOL
Air Temp., Unit:	63 F
% Relative Humidity:	58
Wind Velocity, Unit:	6 MPH
Soil Temp., Unit:	63 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	100

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-3 LEAF
Stage Scale:	0.5-1 IN
Density, Unit:	0-10 FT2
Weed 2 Code, Stage:	CHEAL 4-6 LEAF
Stage Scale:	1-3 IN
Density, Unit:	0-5 FT2
Weed 3 Code, Stage:	ERICA NUMEROUS
Stage Scale:	3-4 IN
Density, Unit:	0-1 FT2
Weed 4 Code, Stage:	POLPY 2-6 LEAF
Stage Scale:	0.5-3
Density, Unit:	0-3 FT2
Weed 5 Code, Stage:	TAROF NUMEROUS
Stage Scale:	5-6 IN
Density, Unit:	0-2 FT2
Weed 6 Code, Stage:	THLAR NUMEROUS
Stage Scale:	1-10 IN
Density, Unit:	0-1 FT2

APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	25
Nozzle Type:	11003
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of burndown potential of Balance Pro with Atrazine, Weedone LV4 or Sencor, Chariton, IA, 2003.

Trial ID: MNF 2

Study Dir.: Owen/Lux/Franzenburg

Location: Chariton

Investigator: Owen/Hartzler/Pringnitz

Weed Code								SETFA	CHEAL	ERICA	POLPY	TAROF	
Rating Data Type								CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								05-23-03	05-23-03	05-23-03	05-23-03	05-23-03	
Trt-Eval Interval								9 DA-A	9 DA-A	9 DA-A	9 DA-A	9 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Balance Pro COC	4 L	SC	0.047 1.0	LB A/A QT/A	1.5 1.0	FL OZ/A QT/A	PRE A PRE A	88	68	50	63	50
3	Balance Pro Atrazine COC	4 90 L	SC DF	0.047 0.9 1.0	LB A/A LB A/A QT/A	1.5 1.0 1.0	FL OZ/A LB/A QT/A	PRE A PRE A PRE A	99	99	88	98	75
4	Balance Pro COC	4 L	SC	0.07 1.0	LB A/A QT/A	2.25 1.0	FL OZ/A QT/A	PRE A PRE A	87	80	73	83	68
5	Balance Pro Atrazine COC	4 90 L	SC DF	0.07 0.9 1.0	LB A/A LB A/A QT/A	2.25 1.0 1.0	FL OZ/A LB/A QT/A	PRE A PRE A PRE A	99	99	90	99	82
6	Weedone LV4 Balance Pro COC	4 4 L	SL SC	0.5 0.047 1.0	LB A/A LB A/A QT/A	1.0 1.5 1.0	PT/A FL OZ/A QT/A	PRE A PRE A PRE A	88	87	83	83	67
7	Weedone LV4 Balance Pro COC	4 4 L	SL SC	0.5 0.07 1.0	LB A/A LB A/A QT/A	1.0 2.25 1.0	PT/A FL OZ/A QT/A	PRE A PRE A PRE A	90	92	87	88	80
8	Balance Pro Sencor COC	4 75 L	SC DF	0.047 0.094 1.0	LB A/A LB A/A QT/A	1.5 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE A PRE A PRE A	88	96	77	90	68
9	Balance Pro Sencor COC	4 75 L	SC DF	0.07 0.094 1.0	LB A/A LB A/A QT/A	2.25 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE A PRE A PRE A	95	98	87	95	80
10	Balance Pro Roundup WeatherMAX NIS AMS	4 4.5 L DF	SC SL	0.047 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	1.5 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE A PRE A PRE A PRE A	87	70	63	50	45
11	Balance Pro Roundup WeatherMAX NIS AMS	4 4.5 L DF	SC SL	0.07 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	2.25 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE A PRE A PRE A PRE A	88	77	68	72	55
12	Roundup WeatherMAX AMS	4.5 DF	SL	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	PRE A PRE A	92	78	52	45	40
LSD (P=.05)								6.6	9.7	9.9	9.8	11.2	

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								THLAR CONTROL PERCENT 05-23-03 9 DA-A	SETFA CONTROL PERCENT 06-09-03 26 DA-A	CHEAL CONTROL PERCENT 06-09-03 26 DA-A	ERICA CONTROL PERCENT 06-09-03 26 DA-A	POLPY CONTROL PERCENT 06-09-03 26 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro COC	4	SC L	0.047 1.0	LB A/A QT/A	1.5 1.0	FL OZ/A QT/A	PRE PRE	A A	50	92	99	80	92
3	Balance Pro Atrazine COC	4	SC 90 DF L	0.047 0.9 1.0	LB A/A LB A/A QT/A	1.5 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	83	98	99	98	99
4	Balance Pro COC	4	SC L	0.07 1.0	LB A/A QT/A	2.25 1.0	FL OZ/A QT/A	PRE PRE	A A	55	95	99	80	90
5	Balance Pro Atrazine COC	4	SC 90 DF L	0.07 0.9 1.0	LB A/A LB A/A QT/A	2.25 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	90	99	99	99	99
6	Weedone LV4 Balance Pro COC	4	SL SC L	0.5 0.047 1.0	LB A/A LB A/A QT/A	1.0 1.5 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	75	95	99	99	98
7	Weedone LV4 Balance Pro COC	4	SL SC L	0.5 0.07 1.0	LB A/A LB A/A QT/A	1.0 2.25 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	87	96	99	98	98
8	Balance Pro Sencor COC	4	SC 75 DF L	0.047 0.094 1.0	LB A/A LB A/A QT/A	1.5 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	75	93	99	93	90
9	Balance Pro Sencor COC	4	SC 75 DF L	0.07 0.094 1.0	LB A/A LB A/A QT/A	2.25 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	88	99	99	96	99
10	Balance Pro Roundup WeatherMAX NIS AMS	4	SC 4.5 SL L DF	0.047 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	1.5 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	55	95	99	98	83
11	Balance Pro Roundup WeatherMAX NIS AMS	4	SC 4.5 SL L DF	0.07 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	2.25 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	77	95	99	98	90
12	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	PRE PRE	A A	47	77	96	98	65
LSD (P=.05)										11.0	7.6	1.1	9.3	7.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								TAROF CONTROL PERCENT 06-09-03 26 DA-A	THLAR CONTROL PERCENT 06-09-03 26 DA-A	SETFA CONTROL PERCENT 07-02-03 49 DA-A	CHEAL CONTROL PERCENT 07-02-03 49 DA-A	ERICA CONTROL PERCENT 07-02-03 49 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro COC	4	SC L	0.047 1.0	LB A/A QT/A	1.5 1.0	FL OZ/A QT/A	PRE PRE	A A	73	98	73	99	78
3	Balance Pro Atrazine COC	4	SC 90 DF L	0.047 0.9 1.0	LB A/A LB A/A QT/A	1.5 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	88	99	83	99	99
4	Balance Pro COC	4	SC L	0.07 1.0	LB A/A QT/A	2.25 1.0	FL OZ/A QT/A	PRE PRE	A A	78	99	80	99	73
5	Balance Pro Atrazine COC	4	SC 90 DF L	0.07 0.9 1.0	LB A/A LB A/A QT/A	2.25 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	90	99	87	99	99
6	Weedone LV4 Balance Pro COC	4	SL SC L	0.5 0.047 1.0	LB A/A LB A/A QT/A	1.0 1.5 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	92	99	68	99	99
7	Weedone LV4 Balance Pro COC	4	SL SC L	0.5 0.07 1.0	LB A/A LB A/A QT/A	1.0 2.25 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	93	99	80	99	98
8	Balance Pro Sencor COC	4	SC 75 DF L	0.047 0.094 1.0	LB A/A LB A/A QT/A	1.5 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	77	99	75	99	93
9	Balance Pro Sencor COC	4	SC 75 DF L	0.07 0.094 1.0	LB A/A LB A/A QT/A	2.25 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	85	99	83	99	96
10	Balance Pro Roundup WeatherMAX NIS AMS	4	SC 4.5 SL L DF	0.047 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	1.5 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	80	99	75	98	98
11	Balance Pro Roundup WeatherMAX NIS AMS	4	SC 4.5 SL L DF	0.07 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	2.25 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	72	99	82	99	99
12	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	PRE PRE	A A	65	99	57	90	96
LSD (P=.05)										15.5	1.1	10.0	4.4	12.9

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								POLPY CONTROL PERCENT 07-02-03 49 DA-A	TAROF CONTROL PERCENT 07-02-03 49 DA-A	THLAR CONTROL PERCENT 07-02-03 49 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Balance Pro COC	4	SC L	0.047 1.0	LB A/A QT/A	1.5 1.0	FL OZ/A QT/A	PRE PRE	A A	78	73	99
3	Balance Pro Atrazine COC	4 90	SC DF L	0.047 0.9 1.0	LB A/A LB A/A QT/A	1.5 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	99	83	99
4	Balance Pro COC	4	SC L	0.07 1.0	LB A/A QT/A	2.25 1.0	FL OZ/A QT/A	PRE PRE	A A	73	78	99
5	Balance Pro Atrazine COC	4 90	SC DF L	0.07 0.9 1.0	LB A/A LB A/A QT/A	2.25 1.0 1.0	FL OZ/A LB/A QT/A	PRE PRE PRE	A A A	99	82	99
6	Weedone LV4 Balance Pro COC	4 4	SL SC L	0.5 0.047 1.0	LB A/A LB A/A QT/A	1.0 1.5 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	91	87	99
7	Weedone LV4 Balance Pro COC	4 4	SL SC L	0.5 0.07 1.0	LB A/A LB A/A QT/A	1.0 2.25 1.0	PT/A FL OZ/A QT/A	PRE PRE PRE	A A A	93	93	99
8	Balance Pro Sencor COC	4 75	SC DF L	0.047 0.094 1.0	LB A/A LB A/A QT/A	1.5 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	88	72	99
9	Balance Pro Sencor COC	4 75	SC DF L	0.07 0.094 1.0	LB A/A LB A/A QT/A	2.25 2.0 1.0	FL OZ/A OZ WT/A QT/A	PRE PRE PRE	A A A	98	82	99
10	Balance Pro Roundup WeatherMAX NIS AMS	4 4.5	SC SL L DF	0.047 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	1.5 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	70	77	99
11	Balance Pro Roundup WeatherMAX NIS AMS	4 4.5	SC SL L DF	0.07 0.387 0.25 17.0	LB A/A LB AE/A % V/V LB/100 GAL	2.25 11.0 0.25 17.0	FL OZ/A FL OZ/A % V/V LB/100 GAL	PRE PRE PRE PRE	A A A A	73	72	99
12	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	PRE PRE	A A	60	65	99
LSD (P=.05)								14.4	18.7	0.0		

Iowa State University

Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control, Nashua, IA, 2003.

Trial ID: NCC 1
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 **Initiation Date:** 05-20-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate two-pass and single-pass corn herbicide programs for crop phytotoxicity, weed control and yield.
Conclusions: . There were no differences between treatments for corn stand. PRE corn treatments did not cause corn injury. Only two Postemergence treatments caused injury, which was beneath 5% on July 3. No injury was apparent on July 29.

All PRE treatments provided at least 90% giant foxtail control on June 17. Control was at least 90% for all treatments at subsequent evaluation dates, with the exception of 88% control by Dual II Magnum on July 29. PRE Lumax provided 99% control of velvetleaf on June 17. No other PRE treatments provided adequate velvetleaf control on June 17. POST Bicep Lite II Magnum with Steadfast and Celebrity Plus provided 92 and 93% velvetleaf control on July 3, respectively. All other treatments provided at least 95% control. All treatments provided at least 93% velvetleaf control on July 29. PRE Cinch ATZ Lite provided 88% control of common waterhemp, and the remaining treatments provided at least 92% control on June 17. POST Option plus Hornet WDG demonstrated 78 and 68% control of common waterhemp on July 3 and 29, respectively. The remaining treatments provided at least 90% control on those dates. Preemergence control of common lambsquarters and Pennsylvania smartweed were variable among treatments on June 17. All treatments provided at least 93% control on July 3 and 29. No significant differences in corn yield were observed between the treatments except when compared to the untreated check. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** DEKALB DKC 58-24
Planting Date: 05-20-03 **Planting Method:** DIRECT DRILLED
Rate: 33674 SEEDS/A **Depth:** 1.75 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 135 lb/A actual N applied as anhydrous ammonia. Tillage included a spring field cultivation. Crop residue on the soil surface was 12% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.9 Texture: LOAM
 pH: 6.65 Soil Name: FLOYD, KENYON, OSTRANDER, CLYDE
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-23-03	06-19-03	07-05-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	SPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	65 F	77 F	85 F
% Relative Humidity:	67	45	80
Wind Velocity, Unit:	3 MPH	8 MPH	3 MPH
Soil Temp., Unit:	61 F	75 F	78 F
Soil Moisture:	DAMP	DRY	MOIST
% Cloud Cover:	20	30	80

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V5-V6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	13 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 2-4 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	1-4 IN	1-3 IN
Density, Unit:	- -	0-20 FT2	0-2 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-4 L	ABUTH COTYL-2LF
Stage Scale:	-	1-3 IN	0.5-3 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA 2-4 LEAF
Stage Scale:	-	1-2 IN	0.5-2 IN
Density, Unit:	- -	0-8 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL -
Stage Scale:	-	0.5-2 IN	-
Density, Unit:	- -	0-5 FT2	- -
Weed 5 Code, Stage:	POLPY -	POLPY NUMEROUS	POLPY NUMEROUS
Stage Scale:	-	2-7 IN	2-5 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	25	25
Nozzle Type:	11002	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of two-pass versus single-pass corn herbicide programs for crop phytotoxicity and weed control, Nashua, IA, 2003.

Trial ID: NCC 1
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

								ZEAMD STAND	ZEAMD PHYGEN	ZEAMD PHYGEN	SETFA CONTROL	ABUTH CONTROL	
								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	
								07-29-03	06-10-03	06-17-03	06-17-03	06-17-03	
								67 DA-A	18 DA-A	25 DA-A	25 DA-A	25 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									33	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	34	0	0	96
3	Dual II Magnum	7.64	EC	1.91	LB A/A	1.0	QT/A	PRE	A	34	0	0	90
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B				
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B				
	COC		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
4	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	34	0	0	96
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B				
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B				
	COC		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
5	Degree	3.8	CS	2.38	LB A/A	2.5	QT/A	PRE	A	33	0	0	98
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B				
	COC		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
6	Outlook	6	EC	0.98	LB A/A	0.656	QT/A	PRE	A	34	0	0	93
	Marksman	3.2	FL	1.4	LB A/A	1.75	QT/A	POST	B				
	NIS		L	0.125	% V/V	0.125	% V/V	POST	B				
7	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	34	0	0	98
	Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
8	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	34	0	0	96
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B				
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
9	Cinch ATZ Lite	6	L	1.13	LB A/A	0.75	QT/A	PRE	A	35	0	0	93
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B				
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B				
	COC		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
10	Harness Xtra	6	SE	1.5	LB A/A	1.0	QT/A	PRE	A	35	0	0	95
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
11	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	34	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
	Roundup WeatherMAX	4.5	SL	0.56	LB AE/A	0.5	QT/A	SPOST	C				
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	C				
12	Bicep Lite II Magnum	6	L	1.65	LB A/A	1.1	QT/A	POST	B	35	0	0	0
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B				
	COC		L	1.0	% V/V	1.0	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				
13	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	POST	B	35	0	0	0
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B				
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B				

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD STAND 17.42 FT 07-29-03 67 DA-A	ZEAMD PHYGEN PERCENT 06-10-03 18 DA-A	ZEAMD PHYGEN PERCENT 06-17-03 25 DA-A	SETFA CONTROL PERCENT 06-17-03 25 DA-A	ABUTH CONTROL PERCENT 06-17-03 25 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	33	0	0	0	0
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	34	0	0	0	0
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	34	0	0	0	0
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										1.6	0.0	0.0	5.6	15.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 06-17-03 25 DA-A	CHEAL CONTROL PERCENT 06-17-03 25 DA-A	POLPY CONTROL PERCENT 06-17-03 25 DA-A	ZEAMD PHYGEN PERCENT 07-03-03 14 DA-B	SETFA CONTROL PERCENT 07-03-03 14 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	99	0	95
3	Dual II Magnum	7.64	EC	1.91	LB A/A	1.0	QT/A	PRE	A	92	80	38	0	95
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
4	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	98	99	98	0	96
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
5	Degree	3.8	CS	2.38	LB A/A	2.5	QT/A	PRE	A	99	90	42	0	96
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
6	Outlook	6	EC	0.98	LB A/A	0.656	QT/A	PRE	A	98	83	38	2	95
	Marksman	3.2	FL	1.4	LB A/A	1.75	QT/A	POST	B					
	NIS		L	0.125	% V/V	0.125	% V/V	POST	B					
7	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	99	99	96	0	98
	Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
8	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	99	99	99	0	95
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
9	Cinch ATZ Lite	6	L	1.13	LB A/A	0.75	QT/A	PRE	A	88	86	70	0	99
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
10	Harness Xtra	6	SE	1.5	LB A/A	1.0	QT/A	PRE	A	98	91	58	0	99
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
11	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	0	0	0	0	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
	Roundup WeatherMAX	4.5	SL	0.56	LB AE/A	0.5	QT/A	SPOST	C					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	C					
12	Bicep Lite II Magnum	6	L	1.65	LB A/A	1.1	QT/A	POST	B	0	0	0	3	98
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
13	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	POST	B	0	0	0	0	92
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	0	0	0	0	98
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 06-17-03 25 DA-A	CHEAL CONTROL PERCENT 06-17-03 25 DA-A	POLPY CONTROL PERCENT 06-17-03 25 DA-A	ZEAMD PHYGEN PERCENT 07-03-03 14 DA-B	SETFA CONTROL PERCENT 07-03-03 14 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	0	0	0	3	96
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	0	0	0	2	95
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										4.1	12.9	14.2	2.4	5.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-03-03 14 DA-B	AMATA CONTROL PERCENT 07-03-03 14 DA-B	CHEAL CONTROL PERCENT 07-03-03 14 DA-B	POLPY CONTROL PERCENT 07-03-03 14 DA-B	ZEAMD PHYGEN PERCENT 07-29-03 40 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	99	99	0
3	Dual II Magnum Callisto Atrazine COC 28% UAN	7.64 4 4 L L	EC SC L L L	1.91 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	1.0 3.0 0.5 1.0 2.5	QT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	99	99	99	99	0
4	Bicep Lite II Magnum Callisto Atrazine COC 28% UAN	6 4 4 L L	L SC L L L	3.0 0.094 0.25 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.0 3.0 0.25 1.0 2.5	QT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	99	99	99	99	0
5	Degree Yukon COC 28% UAN	3.8 67.5 L L	CS WG L L	2.38 0.169 1.0 2.5	LB A/A LB A/A % V/V % V/V	2.5 4.0 1.0 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	98	99	98	98	0
6	Outlook Marksman NIS	6 3.2 L	EC FL L	0.98 1.4 0.125	LB A/A LB A/A % V/V	0.656 1.75 0.125	QT/A QT/A % V/V	PRE POST POST	A B B	99	99	99	99	0
7	G-Max Lite Distinct NIS 28% UAN	5 70 L L	SC WG L L	2.19 0.262 0.25 2.5	LB A/A LB A/A % V/V % V/V	1.75 6.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	96	99	99	99	0
8	Keystone LA Hornet WDG NIS 28% UAN	5.5 68.5 L L	SE WG L L	3.1 0.128 0.25 2.5	LB A/A LB AE/A % V/V % V/V	2.25 3.0 0.25 2.5	QT/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	99	99	99	99	0
9	Cinch ATZ Lite Steadfast Clarity COC 28% UAN	6 75 4 L L	L WG SL L L	1.13 0.035 0.125 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.75 4.0 1.0 2.5	QT/A OZ WT/A FL OZ/A % V/V % V/V	PRE POST POST POST POST	A B B B B	98	99	99	99	0
10	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SE SL DF	1.5 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.0 0.665 17.0	QT/A QT/A LB/100 GAL	PRE POST POST	A B B	99	99	99	96	0
11	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.5 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	0.665 17.0 0.5 17.0	QT/A LB/100 GAL QT/A LB/100 GAL	POST POST SPOST SPOST	B B C C	99	99	99	98	0
12	Bicep Lite II Magnum Steadfast COC 28% UAN	6 75 L L	L WG L L	1.65 0.035 1.0 2.5	LB A/A LB A/A % V/V % V/V	1.1 0.75 1.0 2.5	QT/A OZ WT/A % V/V % V/V	POST POST POST POST	B B B B	92	99	99	99	0
13	Celebrity Plus NIS 28% UAN	70 L L	WG L L	0.206 0.25 2.5	LB A/A % V/V % V/V	4.7 0.25 2.5	OZ WT/A % V/V % V/V	POST POST POST	B B B	93	92	96	96	0
14	Steadfast Atrazine Callisto COC 28% UAN	75 4 4 L L	WG L SC L L	0.035 0.25 0.094 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 0.25 3.0 1.0 2.5	OZ WT/A QT/A FL OZ/A % V/V % V/V	POST POST POST POST POST	B B B B B	99	99	99	99	0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-03-03 14 DA-B	AMATA CONTROL PERCENT 07-03-03 14 DA-B	CHEAL CONTROL PERCENT 07-03-03 14 DA-B	POLPY CONTROL PERCENT 07-03-03 14 DA-B	ZEAMD PHYGEN PERCENT 07-29-03 40 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	95	93	99	96	0
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	98	78	93	93	0
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										3.2	2.1	1.9	2.4	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 07-29-03 40 DA-B	ABUTH CONTROL PERCENT 07-29-03 40 DA-B	AMATA CONTROL PERCENT 07-29-03 40 DA-B	CHEAL CONTROL PERCENT 07-29-03 40 DA-B	POLPY CONTROL PERCENT 07-29-03 40 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	90	99	99	99	99
3	Dual II Magnum	7.64	EC	1.91	LB A/A	1.0	QT/A	PRE	A	88	99	99	99	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
4	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	93	99	99	99	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
5	Degree	3.8	CS	2.38	LB A/A	2.5	QT/A	PRE	A	93	99	99	99	98
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
6	Outlook	6	EC	0.98	LB A/A	0.656	QT/A	PRE	A	92	96	99	99	98
	Marksman	3.2	FL	1.4	LB A/A	1.75	QT/A	POST	B					
	NIS		L	0.125	% V/V	0.125	% V/V	POST	B					
7	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	96	93	99	99	99
	Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
8	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	90	96	99	99	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
9	Cinch ATZ Lite	6	L	1.13	LB A/A	0.75	QT/A	PRE	A	98	96	95	99	99
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
10	Harness Xtra	6	SE	1.5	LB A/A	1.0	QT/A	PRE	A	98	95	99	99	99
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
11	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	99	99	99	99	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B					
	Roundup WeatherMAX	4.5	SL	0.56	LB AE/A	0.5	QT/A	SPOST	C					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	C					
12	Bicep Lite II Magnum	6	L	1.65	LB A/A	1.1	QT/A	POST	B	99	98	96	99	99
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
13	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	POST	B	96	95	96	99	99
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	96	99	99	99	99
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 07-29-03 40 DA-B	ABUTH CONTROL PERCENT 07-29-03 40 DA-B	AMATA CONTROL PERCENT 07-29-03 40 DA-B	CHEAL CONTROL PERCENT 07-29-03 40 DA-B	POLPY CONTROL PERCENT 07-29-03 40 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	95	93	90	99	99
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B					
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B					
	COC		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	96	98	68	98	98
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B					
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B					
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B					
LSD (P=.05)										7.9	4.4	4.0	1.0	1.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ZEAMD YIELD BU/A 10-22-03 152 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									134
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	167
3	Dual II Magnum	7.64	EC	1.91	LB A/A	1.0	QT/A	PRE	A	150
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
4	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	170
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
5	Degree	3.8	CS	2.38	LB A/A	2.5	QT/A	PRE	A	153
	Yukon	67.5	WG	0.169	LB A/A	4.0	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
6	Outlook	6	EC	0.98	LB A/A	0.656	QT/A	PRE	A	152
	Marksman	3.2	FL	1.4	LB A/A	1.75	QT/A	POST	B	
	NIS		L	0.125	% V/V	0.125	% V/V	POST	B	
7	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	149
	Distinct	70	WG	0.262	LB A/A	6.0	OZ WT/A	POST	B	
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
8	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	159
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B	
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
9	Cinch ATZ Lite	6	L	1.13	LB A/A	0.75	QT/A	PRE	A	172
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
10	Harness Xtra	6	SE	1.5	LB A/A	1.0	QT/A	PRE	A	151
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B	
11	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	0.665	QT/A	POST	B	171
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B	
	Roundup WeatherMAX	4.5	SL	0.56	LB AE/A	0.5	QT/A	SPOST	C	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	C	
12	Bicep Lite II Magnum	6	L	1.65	LB A/A	1.1	QT/A	POST	B	170
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
13	Celebrity Plus	70	WG	0.206	LB A/A	4.7	OZ WT/A	POST	B	154
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	181
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	

Iowa State University

Weed Code								ZEAMD		
Rating Data Type								YIELD		
Rating Unit								BU/A		
Rating Date								10-22-03		
Trt-Eval Interval								152 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
15	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	175
	Atrazine	4	L	0.25	LB A/A	0.25	QT/A	POST	B	
	Clarity	4	SL	0.125	LB A/A	4.0	FL OZ/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
16	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B	161
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B	
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
LSD (P=.05)									36.1	

Iowa State University

Preemergence and postemergence applied herbicide combinations for weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 2
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 Initiation Date: 05-20-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for crop phytotoxicity and weed control in corn.
Conclusions: No significant differences in corn stand between herbicide treatments were observed. PRE treatments did not cause injury when observed on June 17. Observations on July 3 demonstrated that POST Hornet WDG plus Steadfast caused 8% injury. All other treatments caused less than 5% injury. All PRE treatments provided at least 96% giant foxtail control on June 17 as did all remaining treatments on July 3 and July 29. PRE Balance Pro and FulTime demonstrated at least 95% control of velvetleaf on June 17. Other PRE treatments provided 85% velvetleaf control, or less. PRE Outlook and Surpass did not provide adequate common lambsquarters control on June 17. All PRE treatments provided excellent common waterhemp control. All treatments provided excellent overall weed control on July 3 and 29.

PRE FulTime plus Hornet WDG yielded significantly higher corn than PRE Balance Pro plus Atrazine followed by POST Option, POST Prowl H2O plus Roundup, Steadfast plus Callisto plus Atrazine, and PRE Harness Xtra followed by POST Permit. There were no other significant differences between treatments except when compared to the untreated check. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC58-24
Planting Date: 05-20-03 Planting Method: DIRECT DRILLED
Rate: 33674 SEEDS/A Depth: 1.75 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 135 lb/A actual N applied as anhydrous ammonia. Tillage included a spring field cultivation. Crop residue on the soil surface was 12% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.9 Texture: LOAM
 pH: 6.65 Soil Name: FLOYD, KENYON, OSTRANDER, CLYDE
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-23-03	06-19-03	07-05-03
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	SPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	65 F	77 F	85 F
% Relative Humidity:	67	45	80
Wind Velocity, Unit:	3 MPH	8 MPH	3 MPH
Soil Temp., Unit:	61 F	75 F	78 F
Soil Moisture:	ADEQUATE	DRY	MOIST
% Cloud Cover:	20	30	80

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V4	ZEAMD V5-V6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	7 IN	13 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA	SETFA 2-4 LEAF	SETFA 1-4 LEAF
Stage Scale:		1-4 IN	1-3 IN
Density, Unit:		0-20 FT2	0-2 FT2
Weed 2 Code, Stage:	ABUTH	ABUTH COTYL-4 L	ABUTH COTYL-2LF
Stage Scale:		1-3 IN	2-3 IN
Density, Unit:		0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA	AMATA NUMEROUS	AMATA 2-4 LEAF
Stage Scale:		1-2 IN	0.5-2 IN
Density, Unit:		0-8 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL	CHEAL NUMEROUS	CHEAL 2-4 LEAF
Stage Scale:		0.5-2 IN	0.5-2 IN
Density, Unit:		0-5 FT2	0-1 FT2
Weed 5 Code, Stage:	POLPY	POLPY NUMEROUS	POLPY NUMEROUS
Stage Scale:		2-7 IN	2-5 IN
Density, Unit:		0-1 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	25	25
Nozzle Type:	11002	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

Iowa State University

Preemergence and postemergence applied herbicide combinations for weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 2
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								07-29-03	06-17-03	06-17-03	06-17-03	06-17-03	06-17-03
Trt-Eval Interval								67 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code					
1	Untreated								33	0	0	0	0
2	Balance Pro	4 SC		0.047 LB A/A	1.5 FL OZ/A	PRE	A		33	0	98	98	99
	Atrazine	4 L		1.0 LB A/A	1.0 QT/A	PRE	A						
	Option	35 WG		0.0328 LB A/A	1.5 OZ WT/A	POST	B						
	MSO	L		1.5 PT/A	1.5 PT/A	POST	B						
	28% UAN	L		1.5 QT/A	1.5 QT/A	POST	B						
3	Balance Pro	4 SC		0.0625 LB A/A	2.0 FL OZ/A	PRE	A		34	0	99	99	99
	Define	4 SC		0.53 LB A/A	17.0 FL OZ/A	PRE	A						
	Atrazine	4 L		1.5 LB A/A	1.5 QT/A	PRE	A						
4	Equip	32 WG		0.03 LB A/A	1.5 OZ WT/A	POST	B		34	0	0	0	0
	Distinct	70 WG		0.131 LB A/A	3.0 OZ WT/A	POST	B						
	Atrazine	4 L		0.5 LB A/A	0.5 QT/A	POST	B						
	MSO	L		1.5 PT/A	1.5 PT/A	POST	B						
	28% UAN	L		1.5 QT/A	1.5 QT/A	POST	B						
5	Outlook	6 EC		0.98 LB A/A	21.0 FL OZ/A	PRE	A		33	0	96	5	98
	Distinct	70 WG		0.175 LB A/A	4.0 OZ WT/A	POST	B						
	NIS	L		0.25 % V/V	0.25 % V/V	POST	B						
	28% UAN	L		1.25 % V/V	1.25 % V/V	POST	B						
6	G-Max Lite	5 SC		1.25 LB A/A	2.0 PT/A	PRE	A		33	0	98	58	99
	Clarity	4 SL		0.25 LB A/A	8.0 FL OZ/A	POST	B						
	Roundup	3 SL		0.375 LB AE/A	16.0 FL OZ/A	POST	B						
	NIS	L		0.25 % V/V	0.25 % V/V	POST	B						
	AMS	DF		2.5 LB/A	2.5 LB/A	POST	B						
7	Roundup	3 SL		0.375 LB AE/A	16.0 FL OZ/A	POST	B		34	0	0	0	0
	Distinct	70 WG		0.175 LB A/A	4.0 OZ WT/A	POST	B						
	NIS	L		0.25 % V/V	0.25 % V/V	POST	B						
	AMS	DF		2.5 LB/A	2.5 LB/A	POST	B						
	Roundup	3 SL		0.56 LB AE/A	24.0 FL OZ/A	SPOST	C						
	AMS	DF		2.5 LB/A	2.5 LB/A	SPOST	C						
8	Prowl H2O	3.8 EC		1.9 LB A/A	4.0 PT/A	POST	B		34	0	0	0	0
	Roundup	3 SL		0.56 LB AE/A	24.0 FL OZ/A	POST	B						
	NIS	L		0.25 % V/V	0.25 % V/V	POST	B						
	AMS	DF		2.5 LB/A	2.5 LB/A	POST	B						
9	FulTime	4 CS		3.35 LB A/A	3.35 QT/A	PRE	A		34	0	99	95	99
	Hornet WDG	68.5 WG		0.128 LB AE/A	3.0 OZ WT/A	PRE	A						
10	Surpass	6.4 EC		2.0 LB A/A	2.5 PT/A	PRE	A		34	0	98	7	99
	Hornet WDG	68.5 WG		0.128 LB AE/A	3.0 OZ WT/A	POST	B						
	Callisto	4 SC		0.0234 LB A/A	0.75 FL OZ/A	POST	B						
	Atrazine	90 DF		0.25 LB A/A	0.28 LB/A	POST	B						
	COC	L		1.0 % V/V	1.0 % V/V	POST	B						
	28% UAN	L		2.5 % V/V	2.5 % V/V	POST	B						
11	Keystone	5.25 SE		2.3 LB A/A	1.75 QT/A	PRE	A		35	0	99	85	99
	Hornet WDG	68.5 WG		0.128 LB AE/A	3.0 OZ WT/A	POST	B						
	Steadfast	75 WG		0.0262 LB A/A	0.56 OZ WT/A	POST	B						
	COC	L		1.0 % V/V	1.0 % V/V	POST	B						
	28% UAN	L		2.5 % V/V	2.5 % V/V	POST	B						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD STAND 17.42 FT 07-29-03 67 DA-A	ZEAMD PHYGEN PERCENT 06-17-03 25 DA-A	SETFA CONTROL PERCENT 06-17-03 25 DA-A	ABUTH CONTROL PERCENT 06-17-03 25 DA-A	AMATA CONTROL PERCENT 06-17-03 25 DA-A	CHEAL CONTROL PERCENT 06-17-03 25 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
12	Keystone Glyphomax Plus AMS	5.25 3	SE SL	2.3 0.75	LB A/A LB AE/A	1.75 2.0	QT/A PT/A	PRE POST	A B	34	0	98	75	99	99
13	Steadfast Callisto Atrazine Agridex AMS	75 4 90	WG SC DF	0.035 0.047 12.0	LB A/A LB A/A OZ A/A	0.75 1.5 13.3	OZ WT/A FL OZ/A OZ WT/A	POST POST POST	B B B	34	0	0	0	0	0
14	Harness Xtra Permit NIS 28% UAN	6 75	SE DF	3.45 0.0314	LB A/A LB A/A	2.3 0.67	QT/A OZ WT/A	PRE POST	A B	33	0	99	85	99	99
15	Bicep Lite II Magnum Northstar NIS 28% UAN	6 47.4	L WG	3.0 0.148	LB A/A LB A/A	2.0 5.0	QT/A OZ WT/A	PRE POST	A B	35	0	99	83	98	99
LSD (P=.05)										2.1	0.0	2.3	11.2	1.4	10.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 06-17-03 25 DA-A	ZEAMD PHYGEN PERCENT 07-03-03 41 DA-A	SETFA CONTROL PERCENT 07-03-03 41 DA-A	ABUTH CONTROL PERCENT 07-03-03 41 DA-A	AMATA CONTROL PERCENT 07-03-03 41 DA-A	CHEAL CONTROL PERCENT 07-03-03 41 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro Atrazine Option MSO 28% UAN	4 4 35 L L	SC L WG L L	0.047 1.0 0.0328 1.5 1.5	LB A/A LB A/A LB A/A PT/A QT/A	1.5 1.0 1.5 1.5	FL OZ/A QT/A OZ WT/A PT/A QT/A	PRE PRE POST POST POST	A A B B B	99	3	99	99	99	99
3	Balance Pro Define Atrazine	4 4 4	SC SC L	0.0625 0.53 1.5	LB A/A LB A/A LB A/A	2.0 17.0 1.5	FL OZ/A FL OZ/A QT/A	PRE PRE PRE	A A A	99	0	99	99	99	99
4	Equip Distinct Atrazine MSO 28% UAN	32 70 4 L L	WG WG L L L	0.03 0.131 0.5 1.5 1.5	LB A/A LB A/A LB A/A PT/A QT/A	1.5 3.0 0.5 1.5 1.5	OZ WT/A OZ WT/A QT/A PT/A QT/A	POST POST POST POST POST	B B B B B	0	3	98	98	96	99
5	Outlook Distinct NIS 28% UAN	6 70 L L	EC WG L L	0.98 0.175 0.25 1.25	LB A/A LB A/A % V/V % V/V	21.0 4.0 0.25 1.25	FL OZ/A OZ WT/A % V/V % V/V	PRE POST POST POST	A B B B	43	3	98	93	99	99
6	G-Max Lite Clarity Roundup NIS AMS	5 4 3 L DF	SC SL SL L DF	1.25 0.25 0.375 0.25 2.5	LB A/A LB A/A LB AE/A % V/V LB/A	2.0 8.0 16.0 0.25 2.5	PT/A FL OZ/A FL OZ/A % V/V LB/A	PRE POST POST POST POST	A B B B B	90	3	98	99	99	99
7	Roundup Distinct NIS AMS Roundup AMS	3 70 L DF 3 DF	SL WG L DF SL DF	0.375 0.175 0.25 2.5 0.56 2.5	LB AE/A LB A/A % V/V LB/A LB AE/A LB/A	16.0 4.0 0.25 2.5 24.0 2.5	FL OZ/A OZ WT/A % V/V LB/A FL OZ/A LB/A	POST POST POST POST SPOST SPOST	B B B B C C	0	2	99	99	99	99
8	Prowl H2O Roundup NIS AMS	3.8 3 L DF	EC SL L DF	1.9 0.56 0.25 2.5	LB A/A LB AE/A % V/V LB/A	4.0 24.0 0.25 2.5	PT/A FL OZ/A % V/V LB/A	POST POST POST POST	B B B B	0	0	99	98	96	90
9	FulTime Hornet WDG	4 68.5	CS WG	3.35 0.128	LB A/A LB AE/A	3.35 3.0	QT/A OZ WT/A	PRE PRE	A A	99	0	99	96	99	99
10	Surpass Hornet WDG Callisto Atrazine COC 28% UAN	6.4 68.5 4 90 L L	EC WG SC DF L L	2.0 0.128 0.0234 0.25 1.0 2.5	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.5 3.0 0.75 0.28 1.0 2.5	PT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST POST POST POST POST	A B B B B B	43	2	98	99	99	99
11	Keystone Hornet WDG Steadfast COC 28% UAN	5.25 68.5 75 L L	SE WG WG L L	2.3 0.128 0.0262 1.0 2.5	LB A/A LB AE/A LB A/A % V/V % V/V	1.75 3.0 0.56 1.0 2.5	QT/A OZ WT/A OZ WT/A % V/V % V/V	PRE POST POST POST POST	A B B B B	96	8	99	99	99	99
12	Keystone Glyphomax Plus AMS	5.25 3 DF	SE SL DF	2.3 0.75 2.5	LB A/A LB AE/A LB/A	1.75 2.0 2.5	QT/A PT/A LB/A	PRE POST POST	A B B	99	0	99	98	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										POLPY CONTROL PERCENT 06-17-03 25 DA-A	ZEAMD PHYGEN PERCENT 07-03-03 41 DA-A	SETFA CONTROL PERCENT 07-03-03 41 DA-A	ABUTH CONTROL PERCENT 07-03-03 41 DA-A	AMATA CONTROL PERCENT 07-03-03 41 DA-A	CHEAL CONTROL PERCENT 07-03-03 41 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
13	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	0	2	99	99	99	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B						
	Atrazine	90	DF	12.0	OZ A/A	13.3	OZ WT/A	POST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	POST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	B						
14	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A	99	0	99	99	99	99
	Permit	75	DF	0.0314	LB A/A	0.67	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	28% UAN		L	2.0	QT/A	2.0	QT/A	POST	B						
15	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	99	99	99
	Northstar	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	28% UAN		L	2.0	% V/V	2.0	% V/V	POST	B						
LSD (P=.05)										4.3	3.4	2.0	3.0	2.4	2.2

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 07-03-03 41 DA-A	ZEAMD PHYGEN PERCENT 07-29-03 67 DA-A	SETFA CONTROL PERCENT 07-29-03 67 DA-A	ABUTH CONTROL PERCENT 07-29-03 67 DA-A	AMATA CONTROL PERCENT 07-29-03 67 DA-A	CHEAL CONTROL PERCENT 07-29-03 67 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	99	0	99	98	99	99
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	PRE	A						
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B						
	MSO		L	1.5	PT/A	1.5	PT/A	POST	B						
	28% UAN		L	1.5	QT/A	1.5	QT/A	POST	B						
3	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	PRE	A	99	0	99	99	99	99
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PRE	A						
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	PRE	A						
4	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	POST	B	99	0	99	98	96	99
	Distinct	70	WG	0.131	LB A/A	3.0	OZ WT/A	POST	B						
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B						
	MSO		L	1.5	PT/A	1.5	PT/A	POST	B						
	28% UAN		L	1.5	QT/A	1.5	QT/A	POST	B						
5	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	99	0	98	95	99	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	28% UAN		L	1.25	% V/V	1.25	% V/V	POST	B						
6	G-Max Lite	5	SC	1.25	LB A/A	2.0	PT/A	PRE	A	99	0	98	93	99	99
	Clarity	4	SL	0.25	LB A/A	8.0	FL OZ/A	POST	B						
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B						
7	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	POST	B	99	0	99	99	99	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B						
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	SPOST	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	C						
8	Prowl H2O	3.8	EC	1.9	LB A/A	4.0	PT/A	POST	B	98	0	98	99	96	88
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B						
9	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	0	99	96	99	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	PRE	A						
10	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	0	93	99	99	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B						
	Callisto	4	SC	0.0234	LB A/A	0.75	FL OZ/A	POST	B						
	Atrazine	90	DF	0.25	LB A/A	0.28	LB/A	POST	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B						
11	Keystone	5.25	SE	2.3	LB A/A	1.75	QT/A	PRE	A	99	0	99	99	99	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B						
	Steadfast	75	WG	0.0262	LB A/A	0.56	OZ WT/A	POST	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B						
12	Keystone	5.25	SE	2.3	LB A/A	1.75	QT/A	PRE	A	99	0	99	96	99	99
	Glyphomax Plus	3	SL	0.75	LB AE/A	2.0	PT/A	POST	B						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B						

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval										POLPY CONTROL PERCENT 07-03-03 41 DA-A	ZEAMD PHYGEN PERCENT 07-29-03 67 DA-A	SETFA CONTROL PERCENT 07-29-03 67 DA-A	ABUTH CONTROL PERCENT 07-29-03 67 DA-A	AMATA CONTROL PERCENT 07-29-03 67 DA-A	CHEAL CONTROL PERCENT 07-29-03 67 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
13	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	99	0	99	99	99	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B						
	Atrazine	90	DF	12.0	OZ A/A	13.3	OZ WT/A	POST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	POST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	B						
14	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A	99	0	96	99	99	99
	Permit	75	DF	0.0314	LB A/A	0.67	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	28% UAN		L	2.0	QT/A	2.0	QT/A	POST	B						
15	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	98	99	99
	Northstar	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B						
	28% UAN		L	2.0	% V/V	2.0	% V/V	POST	B						
LSD (P=.05)										1.0	0.0	3.1	3.3	2.4	3.4

Iowa State University

Weed Code		POLPY		ZEAMD							
Rating Data Type		CONTROL		YIELD							
Rating Unit		PERCENT		BU/A							
Rating Date		07-29-03		10-22-03							
Trt-Eval Interval		67 DA-A		152 DA-A							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	112
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	99	132
	Atrazine	4	L	1.0	LB A/A	1.0	QT/A	PRE	A		
	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	POST	B		
	MSO		L	1.5	PT/A	1.5	PT/A	POST	B		
	28% UAN		L	1.5	QT/A	1.5	QT/A	POST	B		
3	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	PRE	A	99	140
	Define	4	SC	0.53	LB A/A	17.0	FL OZ/A	PRE	A		
	Atrazine	4	L	1.5	LB A/A	1.5	QT/A	PRE	A		
4	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	POST	B	99	136
	Distinct	70	WG	0.131	LB A/A	3.0	OZ WT/A	POST	B		
	Atrazine	4	L	0.5	LB A/A	0.5	QT/A	POST	B		
	MSO		L	1.5	PT/A	1.5	PT/A	POST	B		
	28% UAN		L	1.5	QT/A	1.5	QT/A	POST	B		
5	Outlook	6	EC	0.98	LB A/A	21.0	FL OZ/A	PRE	A	99	134
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	28% UAN		L	1.25	% V/V	1.25	% V/V	POST	B		
6	G-Max Lite	5	SC	1.25	LB A/A	2.0	PT/A	PRE	A	99	133
	Clarity	4	SL	0.25	LB A/A	8.0	FL OZ/A	POST	B		
	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B		
7	Roundup	3	SL	0.375	LB AE/A	16.0	FL OZ/A	POST	B	99	139
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B		
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	SPOST	C		
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	C		
8	Prowl H2O	3.8	EC	1.9	LB A/A	4.0	PT/A	POST	B	99	130
	Roundup	3	SL	0.56	LB AE/A	24.0	FL OZ/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B		
9	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	154
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	PRE	A		
10	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	139
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B		
	Callisto	4	SC	0.0234	LB A/A	0.75	FL OZ/A	POST	B		
	Atrazine	90	DF	0.25	LB A/A	0.28	LB/A	POST	B		
	COC		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
11	Keystone	5.25	SE	2.3	LB A/A	1.75	QT/A	PRE	A	99	135
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST	B		
	Steadfast	75	WG	0.0262	LB A/A	0.56	OZ WT/A	POST	B		
	COC		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
12	Keystone	5.25	SE	2.3	LB A/A	1.75	QT/A	PRE	A	99	140
	Glyphomax Plus	3	SL	0.75	LB AE/A	2.0	PT/A	POST	B		
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B		

Iowa State University

Weed Code										POLPY	ZEAMD
Rating Data Type										CONTROL	YIELD
Rating Unit										PERCENT	BU/A
Rating Date										07-29-03	10-22-03
Trt-Eval Interval										67 DA-A	152 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
13	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	99	128
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	POST	B		
	Atrazine	90	DF	12.0	OZ A/A	13.3	OZ WT/A	POST	B		
	Agridex		L	1.0	% V/V	1.0	% V/V	POST	B		
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	B		
14	Harness Xtra	6	SE	3.45	LB A/A	2.3	QT/A	PRE	A	99	127
	Permit	75	DF	0.0314	LB A/A	0.67	OZ WT/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	28% UAN		L	2.0	QT/A	2.0	QT/A	POST	B		
15	Bicep Lite II Magnum	6	L	3.0	LB A/A	2.0	QT/A	PRE	A	99	140
	Northstar	47.4	WG	0.148	LB A/A	5.0	OZ WT/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	28% UAN		L	2.0	% V/V	2.0	% V/V	POST	B		
LSD (P=.05)										0.0	21.2

Iowa State University

Evaluation of preplant incorporated and preemergence applied herbicides for crop phytotoxicity and weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 3
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua Trial Status: ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 Initiation Date: 05-21-03
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: The purpose of this study was to evaluate the efficacy and crop safety of preplant incorporated and preemergence applied herbicides in corn.
Conclusions: No significant differences in corn stand were determined between treatments. No crop injury was observed from any treatment. Giant foxtail, common waterhemp and common lambsquarters populations were light and velvetleaf population was moderate in the experiment area. All treatments achieved excellent giant foxtail control when observed on June 7, July 3 and July 29. No significant differences were noted between treatments. Stalwart Extra and Bicep II Magnum provided poor to fair velvetleaf control on the three observation dates. Stalwart C and Dual II Magnum provided good to excellent common waterhemp control, and fair to excellent common lambsquarters control on June 17. PPI treatments achieved better control than PRE treatments. Stalwart Extra and Bicep II Magnum provided good to excellent control of common waterhemp and common lambsquarters when observed on the three dates. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: NK 45-A6Bt
Planting Date: 05-21-03 Planting Method: DIRECT DRILLED
Rate: 33674 SEEDS/A Depth: 1.75 IN
Row Spacing: 30 IN Seed Bed: FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 135 lb/A actual N applied as anhydrous ammonia. Tillage included a spring field cultivation. Preplant treatments were incorporated one pass with a field cultivator operating 2 to 3 inches deep. Crop residue on the soil surface was 10% at planting.

SOIL DESCRIPTION

% OM: 5.9 Texture: LOAM
pH: 6.65 Soil Name: FLOYD, KENYON, OSTRANDER, CLYDE
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A	B
Application Date:	05-21-03	05-23-03
Application Method:	SPRAY	SPRAY
Application Timing:	PPI	PRE
Applic. Placement:	BROSOI	BROSOI
Air Temp., Unit:	60 F	65 F
% Relative Humidity:	55	67
Wind Velocity, Unit:	3 MPH	3 MPH
Soil Temp., Unit:	58 F	61 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	20

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -
Stage Scale:	-	-
	-	-

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA -
Stage Scale:	-	-
Density, Unit:	- -	- -
Weed 2 Code, Stage:	ABUTH -	ABUTH -
Stage Scale:	-	-
Density, Unit:	- -	- -
Weed 3 Code, Stage:	AMATA -	AMATA -
Stage Scale:	-	-
Density, Unit:	- -	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL -
Stage Scale:	-	-
Density, Unit:	- -	- -

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	HAND BOOM	TERRA PRO
Operating Pressure:	30	30
Nozzle Type:	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA

Iowa State University

Evaluation of preplant incorporated and preemergence applied herbicides for crop phytotoxicity and weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 3
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD			
Rating Data Type	STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN			
Rating Unit	17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date	07-29-03	06-17-03	06-17-03	06-17-03	06-17-03	06-17-03	07-03-03			
Trt-Eval Interval	69 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	43 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code
1	Untreated									
2	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PRE	A	
3	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PPI	B	
4	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	
5	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B	
6	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	
7	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PPI	B	
8	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	
9	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B	
LSD (P=.05)										

Iowa State University

Weed Code								SETFA	ABUTH	AMATA	CHEAL	SETFA	ABUTH			
Rating Data Type								CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL			
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date								07-03-03	07-03-03	07-03-03	07-03-03	07-29-03	07-29-03			
Trt-Eval Interval								43 DA-A	43 DA-A	43 DA-A	43 DA-A	69 DA-A	69 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code						
1	Untreated										0	0	0	0	0	
2	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PRE	A		98	0	83	70	93	0
3	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PPI	B		98	0	92	85	98	0
4	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		96	70	98	99	93	63
5	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		96	48	98	98	95	40
6	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A		96	0	90	70	96	0
7	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PPI	B		98	0	92	95	96	0
8	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		99	73	99	99	98	65
9	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		98	55	95	98	96	48
LSD (P=.05)								3.8	17.5	9.6	6.3	4.4	20.9			

Iowa State University

Weed Code								AMATA	CHEAL			
Rating Data Type								CONTROL	CONTROL			
Rating Unit								PERCENT	PERCENT			
Rating Date								07-29-03	07-29-03			
Trt-Eval Interval								69 DA-A	69 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Grow Unit	Appl Stg	Code		
1	Untreated										0	0
2	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PRE	A		80	68
3	Stalwart C	7.8	EC	1.95	LB A/A	2.0	PT/A	PPI	B		90	83
4	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		98	99
5	Stalwart Extra	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		98	98
6	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A		90	70
7	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PPI	B		92	93
8	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A		99	99
9	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PPI	B		95	98
LSD (P=.05)											8.2	6.3

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 4
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 **Initiation Date:** 05-21-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate various preemergence applied rates of KIH-485 and Dual II Magnum for crop phytotoxicity and weed control in corn.

Conclusions: Significant differences in corn stand between treatments on July 29 were not a result of the herbicides, but rather variability in planting rate and seedling emergence. Significant corn injury was observed on June 17 and July 3 from KIH-485 applied at the highest rate of 16.0 fl oz/A. Several other treatments of KIH-485 and Dual II Magnum caused injury that was insignificant.

Giant foxtail pressure was light in the experiment area, and all treatments achieved excellent control. Control ranged from 93 to 99% when all evaluation dates were considered. Velvetleaf and common lambsquarters control ranged from poor to fair with lower rates of KIH-485 when observed on June 17, July 3 and 29. The highest KIH-485 application rate of 16.0 fl oz/A did provide good velvetleaf and common lambsquarters control. Dual II Magnum did not provide control of velvetleaf at any rate, and only fair common lambsquarters control at the higher rates. When Atrazine was tank-mixed with KIH-485, the resulting velvetleaf and common lambsquarters control was excellent on all evaluation dates. The treatment of Bicep II Magnum provided good velvetleaf control on June 17, but on subsequent evaluation dates, control was unacceptable. Bicep II Magnum afforded excellent common lambsquarters control. Common waterhemp control was good to excellent with KIH-485 and Dual II Magnum at all application rates and observation dates. Common waterhemp control was excellent overall, with Bicep II Magnum. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** NK 45-A6Bt
Planting Date: 05-21-03 **Planting Method:** DIRECT DRILLED
Rate: 33674 SEEDS/A **Depth:** 1.75 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 135 lb/A actual N applied as anhydrous ammonia. Tillage included a spring field cultivation. Crop residue on the soil surface was 12% at planting.

Iowa State University

SOIL DESCRIPTION

% OM: 5.9 Texture: LOAM
 pH: 6.65 Soil Name: FLOYD, KENYON, OSTRANDER, CLYDE
 Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A
Application Date:	05-23-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	65 F
% Relative Humidity:	67
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	61 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	ABUTH -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 4 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Evaluation of preemergence applications of KIH-485, Dual II Magnum, and Bicep II Magnum for crop phytotoxicity and weed control in corn, Nashua, IA, 2003.

Trial ID: NCC 4

Study Dir.: Owen/Lux/Franzenburg

Location: Nashua

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type								STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date								07-29-03	06-17-03	06-17-03	06-17-03	06-17-03	06-17-03	07-03-03
Tri-Eval Interval								67 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	41 DA-A
Tri	Treatment	Form	Form	Rate	Product	Product	Grow	Appl						
No.	Name	Conc	Type	Rate	Unit	Rate	Unit	Stg	Code					
1	Untreated									32	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	33	0	98	22	95
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	34	0	98	40	98
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	33	5	99	63	99
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	33	5	99	68	99
6	KIH-485	3.57	SC	0.446	LB A/A	16.0	FL OZ/A	PRE	A	33	23	99	90	99
7	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	33	0	99	7	99
8	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	31	0	99	13	98
9	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	34	2	98	10	94
10	Dual II Magnum	7.64	EC	3.82	LB A/A	4.0	PT/A	PRE	A	33	7	99	23	99
11	KIH-485	3.57	SC	0.179	LB A/A	6.4	FL OZ/A	PRE	A	32	2	99	98	99
	Atrazine	4	SL	2.0	LB A/A	4.0	PT/A	PRE	A					
12	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	33	0	99	87	99
LSD (P=.05)								2.0	6.7	2.0	12.6	4.0	21.1	4.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 07-03-03 41 DA-A	ABUTH CONTROL PERCENT 07-03-03 41 DA-A	AMATA CONTROL PERCENT 07-03-03 41 DA-A	CHEAL CONTROL PERCENT 07-03-03 41 DA-A	ZEAMD PHYGEN PERCENT 07-29-03 67 DA-A	SETFA CONTROL PERCENT 07-29-03 67 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	96	10	95	18	0	93
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	98	27	98	40	0	96
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	99	47	99	62	0	98
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	98	58	98	55	2	98
6	KIH-485	3.57	SC	0.446	LB A/A	16.0	FL OZ/A	PRE	A	98	85	99	85	0	98
7	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	95	0	93	13	0	93
8	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	98	0	95	23	0	98
9	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	96	0	93	27	0	94
10	Dual II Magnum	7.64	EC	3.82	LB A/A	4.0	PT/A	PRE	A	99	0	96	40	0	98
11	KIH-485 Atrazine	3.57 4	SC SL	0.179 2.0	LB A/A LB A/A	6.4 4.0	FL OZ/A PT/A	PRE PRE	A A	99	98	98	99	2	99
12	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	99	70	98	99	0	98
LSD (P=.05)										4.9	18.2	4.5	19.0	1.9	6.7

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ABUTH CONTROL PERCENT 07-29-03 67 DA-A	AMATA CONTROL PERCENT 07-29-03 67 DA-A	CHEAL CONTROL PERCENT 07-29-03 67 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	KIH-485	3.57	SC	0.112	LB A/A	4.0	FL OZ/A	PRE	A	10	95	17
3	KIH-485	3.57	SC	0.187	LB A/A	6.7	FL OZ/A	PRE	A	27	98	38
4	KIH-485	3.57	SC	0.223	LB A/A	8.0	FL OZ/A	PRE	A	47	99	58
5	KIH-485	3.57	SC	0.268	LB A/A	9.6	FL OZ/A	PRE	A	58	96	53
6	KIH-485	3.57	SC	0.446	LB A/A	16.0	FL OZ/A	PRE	A	85	99	85
7	Dual II Magnum	7.64	EC	0.955	LB A/A	1.0	PT/A	PRE	A	0	93	12
8	Dual II Magnum	7.64	EC	1.595	LB A/A	1.67	PT/A	PRE	A	0	95	23
9	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	0	92	27
10	Dual II Magnum	7.64	EC	3.82	LB A/A	4.0	PT/A	PRE	A	0	96	40
11	KIH-485 Atrazine	3.57 4	SC SL	0.179 2.0	LB A/A LB A/A	6.4 4.0	FL OZ/A PT/A	PRE PRE	A A	98	98	99
12	Bicep II Magnum	5.5	L	3.58	LB A/A	2.6	QT/A	PRE	A	67	98	99
LSD (P=.05)										17.2	4.4	19.6

Iowa State University

Lumax, Camix, Bicep Lite II Magnum, Harness Extra, Keystone LA and other preemergence applied herbicides in corn, Nashua, IA, 2003.

Trial ID: NCC 5
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 **Initiation Date:** 05-21-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to assess the crop phytotoxicity and weed efficacy from preemergence applied herbicides in corn.
Conclusions: . No significant differences in corn stand between herbicide treatments were observed. No corn injury was noted on any of the observation dates. Weed pressure was light within the experiment. PRE Degree Xtra provided 91% control of giant foxtail when observed June 17 but control improved to 99% on July 3 and July 29. All treatments provided nearly perfect control of giant foxtail, common waterhemp, common lambsquarters, and Pennsylvania smartweed on all observation dates. Velvetleaf control by PRE Lumax, Epic, Keystone LA plus Balance Pro, Camix, and Camix plus Princep provided at least 98% control of velvetleaf on all observation dates. The remaining treatments provided from 78 to 91% control of velvetleaf on June 17 which diminished to 60 to 88% by July 29.
No significant differences in corn yield were observed between treatments, including the untreated check. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD **Variety:** NK 45-A6Bt
Planting Date: 05-21-03 **Planting Method:** DIRECT DRILLED
Rate: 33674 SEEDS/A **Depth:** 1.75 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Fertilization included 135 lb/A actual N applied as anhydrous ammonia. Tillage included a spring field cultivation. Crop residue on the soil surface was 12% at planting.

SOIL DESCRIPTION

% OM: 5.9 **Texture:** LOAM
pH: 6.65 **Soil Name:** FLOYD, KENYON, OSTRANDER, CLYDE
Fert. Level: EXCELLENT

Overall Moisture Conditions: BELOW NORMAL

Iowa State University

APPLICATION DESCRIPTION

	A
Application Date:	05-23-03
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOL
Air Temp., Unit:	65 F
% Relative Humidity:	67
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	61 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA -
Stage Scale:	-
Density, Unit:	- -
Weed 2 Code, Stage:	ABUTH -
Stage Scale:	-
Density, Unit:	- -
Weed 3 Code, Stage:	AMATA -
Stage Scale:	-
Density, Unit:	- -
Weed 4 Code, Stage:	CHEAL -
Stage Scale:	-
Density, Unit:	- -
Weed 5 Code, Stage:	POLPY -
Stage Scale:	-
Density, Unit:	- -

APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Type:	11002
Spray Volume, Unit:	20 GPA

Iowa State University

Lumax, Camix, Bicep Lite II Magnum, Harness Extra, Keystone LA and other preemergence applied herbicides in corn, Nashua, IA, 2003.

Trial ID: NCC 5
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code							ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type							STAND	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date							07-29-03	06-17-03	06-17-03	06-17-03	06-17-03	06-17-03
Trt-Eval Interval							67 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Unit	Grow Stg	Appl Code				
1	Untreated								33	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE A	32	0	99	99
3	Bicep Lite II Magnum	6	SC	3.0	LB A/A	2.0	QT/A	PRE A	33	0	99	99
4	Harness Xtra	6	SE	3.0	LB A/A	2.0	QT/A	PRE A	33	0	99	99
5	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE A	32	0	99	99
6	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE A	33	0	99	99
7	Keystone LA Hornet WDG	5.5 68.5	SC WG	3.1 0.128	LB A/A LB AE/A	2.25 3.0	QT/A OZ WT/A	PRE A PRE A	34	0	99	99
8	Keystone LA Balance Pro	5.5 4	SE SC	1.54 0.094	LB A/A LB A/A	1.12 3.0	QT/A FL OZ/A	PRE A PRE A	33	0	99	99
9	Axiom Hornet WDG	68 68.5	DF WG	0.98 0.128	LB A/A LB AE/A	23.0 3.0	OZ WT/A OZ WT/A	PRE A PRE A	34	0	99	99
10	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE A	33	0	99	99
11	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE A	32	0	91	99
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE A	33	0	99	99
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE A PRE A	32	0	99	99
LSD (P=.05)							2.0	0.0	6.5	9.2	0.0	0.0

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								POLPY CONTROL PERCENT 06-17-03 25 DA-A	ZEAMD PHYGEN PERCENT 07-03-03 41 DA-A	SETFA CONTROL PERCENT 07-03-03 41 DA-A	ABUTH CONTROL PERCENT 07-03-03 41 DA-A	AMATA CONTROL PERCENT 07-03-03 41 DA-A	CHEAL CONTROL PERCENT 07-03-03 41 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	0	99	99	99	99
3	Bicep Lite II Magnum	6	SC	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	67	99	99
4	Harness Xtra	6	SE	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	68	99	98
5	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE	A	99	0	99	99	99	99
6	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	99	0	99	82	99	99
7	Keystone LA Hornet WDG	5.5 68.5	SC WG	3.1 0.128	LB A/A LB AE/A	2.25 3.0	QT/A OZ WT/A	PRE PRE	A A	99	0	99	83	99	99
8	Keystone LA Balance Pro	5.5 4	SE SC	1.54 0.094	LB A/A LB A/A	1.12 3.0	QT/A FL OZ/A	PRE PRE	A A	99	0	99	99	99	99
9	Axiom Hornet WDG	68 68.5	DF WG	0.98 0.128	LB A/A LB AE/A	23.0 3.0	OZ WT/A OZ WT/A	PRE PRE	A A	99	0	99	90	99	99
10	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	96	0	99	73	99	99
11	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A	99	0	99	80	99	99
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE	A	99	0	99	98	99	99
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE PRE	A A	99	0	99	99	99	99
LSD (P=.05)										2.4	0.0	0.0	11.6	0.0	1.1

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								POLPY CONTROL PERCENT 07-03-03 41 DA-A	ZEAMD PHYGEN PERCENT 07-29-03 67 DA-A	SETFA CONTROL PERCENT 07-29-03 67 DA-A	ABUTH CONTROL PERCENT 07-29-03 67 DA-A	AMATA CONTROL PERCENT 07-29-03 67 DA-A	CHEAL CONTROL PERCENT 07-29-03 67 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	0	99	99	99	99
3	Bicep Lite II Magnum	6	SC	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	62	99	99
4	Harness Xtra	6	SE	3.0	LB A/A	2.0	QT/A	PRE	A	99	0	99	60	99	96
5	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE	A	99	0	99	99	99	98
6	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	99	0	99	80	99	99
7	Keystone LA Hornet WDG	5.5 68.5	SC WG	3.1 0.128	LB A/A LB AE/A	2.25 3.0	QT/A OZ WT/A	PRE PRE	A A	99	0	99	80	99	99
8	Keystone LA Balance Pro	5.5 4	SE SC	1.54 0.094	LB A/A LB A/A	1.12 3.0	QT/A FL OZ/A	PRE PRE	A A	99	0	99	99	99	99
9	Axiom Hornet WDG	68 68.5	DF WG	0.98 0.128	LB A/A LB AE/A	23.0 3.0	OZ WT/A OZ WT/A	PRE PRE	A A	99	0	99	88	99	99
10	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	96	0	99	67	98	98
11	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A	99	0	99	78	99	99
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE	A	99	0	99	98	99	99
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE PRE	A A	99	0	99	99	99	99
LSD (P=.05)										2.4	0.0	0.0	13.9	1.1	2.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								POLPY CONTROL PERCENT 07-29-03 67 DA-A	ZEAMD YIELD BU/A 10-12-03 142 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	135
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	139
3	Bicep Lite II Magnum	6	SC	3.0	LB A/A	2.0	QT/A	PRE	A	99	128
4	Harness Xtra	6	SE	3.0	LB A/A	2.0	QT/A	PRE	A	99	136
5	Epic	58	DF	0.544	LB A/A	15.0	OZ WT/A	PRE	A	99	129
6	Keystone LA	5.5	SE	3.1	LB A/A	2.25	QT/A	PRE	A	99	145
7	Keystone LA Hornet WDG	5.5 68.5	SC WG	3.1 0.128	LB A/A LB AE/A	2.25 3.0	QT/A OZ WT/A	PRE PRE	A A	99	130
8	Keystone LA Balance Pro	5.5 4	SE SC	1.54 0.094	LB A/A LB A/A	1.12 3.0	QT/A FL OZ/A	PRE PRE	A A	99	149
9	Axiom Hornet WDG	68 68.5	DF WG	0.98 0.128	LB A/A LB AE/A	23.0 3.0	OZ WT/A OZ WT/A	PRE PRE	A A	99	147
10	G-Max Lite	5	SC	2.19	LB A/A	1.75	QT/A	PRE	A	96	132
11	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A	99	150
12	Camix	3.67	SE	2.2	LB A/A	2.4	QT/A	PRE	A	99	143
13	Camix Princep	3.67 4	SE L	2.2 1.0	LB A/A LB A/A	2.4 1.0	QT/A QT/A	PRE PRE	A A	99	133
LSD (P=.05)										2.4	24.7

Iowa State University

Evaluation of various herbicide treatment combinations and application timings for crop phytotoxicity and weed control in soybean, Nashua, IA, 2003.

Trial ID: NSC 1
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg
Affiliation: Iowa State University
Postal Code: 50011
Investigator: Owen/Hartzler/Pringnitz
Affiliation: Iowa State University
Postal Code: 50011

TRIAL LOCATION

City: Nashua **Trial Status:** ONE-YEAR/FINAL
State/Prov.: IA
Postal Code: 50658-9270 **Initiation Date:** 05-21-03
Country: USA

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The purpose of this study was to evaluate various herbicide treatment combinations and application methods including preplant incorporated, preemergence and postemergence for crop phytotoxicity and weed control in soybean.

Conclusions: PPI applied Prowl with EPOST Pursuit plus Ultra Blazer, EPOST Raptor plus Ultra Blazer, POST Aim plus Roundup WeatherMAX, and POST Phoenix plus Harmony GT plus Select demonstrated 20 to 28% injury when observed on July 3. Injury by these treatments ranged from 12 to 15% by July 29. PPI Pendimax with EPOST FirstRate plus Flexstar plus Select caused 15% injury on July 3.

All EPOST treatments on July 3 provided excellent weed control. However, it was too early to determine efficacy of POST treatments at July 3. EPOST Raptor plus Ultra Blazer and Post Phoenix plus Harmony GT plus Select provided 88% control of giant foxtail, and the later provided 80% control of velvetleaf on July 29. Weed control by all other treatments was at least 93% on July 29. The same trend was evident on August 29, as well.

Soybean yields for the treatments were significantly higher than the untreated control, and ranged from 34 to 46 bu/A. Significant differences were determined between a number of the treatments. (Dept. of Agronomy, Iowa State University, Ames)

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.

Crop 1: GLXMA SOYBEAN **Variety:** NK S24-K4
Planting Date: 05-21-03 **Planting Method:** DIRECT DRILLED
Rate: 196000 SEEDS/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** FINE/TRASHY
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2002

MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Crop residue on the soil surface was 55% at planting.

SOIL DESCRIPTION

% OM: 5.2 **Texture:** LOAM
pH: 6.6 **Soil Name:** FLOYD, KENYON, OSTRANDER, CLYDE
Fert. Level: EXCELLENT

Iowa State University

Overall Moisture Conditions: BELOW NORMAL

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	05-21-03	05-23-03	06-02-03	06-30-03	07-05-03
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PPI	PRE	EPOST	POST	SPOST
Applic. Placement:	BROSOI	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	60 F	65 F	60 F	84 F	85 F
% Relative Humidity:	55	67	70	57	80
Wind Velocity, Unit:	3 MPH	3 MPH	5 MPH	2 MPH	3 MPH
Soil Temp., Unit:	58 F	61 F	62 F	74 F	78 F
Soil Moisture:	ADEQUATE	ADEQUATE	MOIST	DRY	MOIST
% Cloud Cover:	0	20	90	25	80

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	GLXMA -	GLXMA -	GLXMA V2-V3	GLXMA V4	GLXMA V5-V6
Stage Scale:	-	-	DESC	DESC	DESC
Height, Unit:	-	-	4 IN	6 IN	9 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA -	SETFA 1-4 LEAF	SETFA 1-4 L, 2T	SETFA 1-4 LEAF
Stage Scale:	-	-	0.5-4 IN	0.5-11 IN	0.5-4 IN
Density, Unit:	- -	- -	0-15 FT2	0-20 FT2	0-5 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH -	ABUTH COTYL-3 L	ABUTH 2-6 LEAF	ABUTH COTY-2 LF
Stage Scale:	-	-	0.5-2 IN	2-5 IN	0.5-2 IN
Density, Unit:	- -	- -	0-1 FT2	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA COTYL-8 L	AMATA NUMEROUS	AMATA COTYL-8 L
Stage Scale:	-	-	0.5-2 IN	1-8 IN	0.5-3 IN
Density, Unit:	- -	- -	0-5 FT2	0-5 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL -	CHEAL COTYL-6 L	CHEAL NUMEROUS	CHEAL -
Stage Scale:	-	-	0.5-2 IN	3-7 IN	-
Density, Unit:	- -	- -	0-2 FT2	0-1 FT2	- -
Weed 5 Code, Stage:	POLPY -	POLPY -	POLPY 2-4 LEAF	POLPY 2-8 LEAF	POLPY 2-8 LEAF
Stage Scale:	-	-	0.5-3 IN	2-4 IN	2-4 IN
Density, Unit:	- -	- -	0-1 FT2	0-1 FT2	0-1 FT2

APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	30	30	30	30	30
Nozzle Type:	11002	11003	11003	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

Iowa State University

Evaluation of various herbicide treatment combinations and application timings for crop phytotoxicity and weed control in soybean, Nashua, IA, 2003.

Trial ID: NSC 1
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg
Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-03-03	07-03-03	07-03-03	07-03-03	07-03-03	
Trt-Eval Interval								31 DA-C	31 DA-C	31 DA-C	31 DA-C	31 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Prowl Pursuit Ultra Blazer MSO 28% UAN	3.3 2 2 L L	EC SL SL	1.44 0.0625 0.187 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	3.5 4.0 12.0 1.0 2.0	PT/A FL OZ/A FL OZ/A % V/V QT/A	PPI A EPOST C EPOST C EPOST C EPOST C	27	99	96	99	99
3	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	EPOST C EPOST C EPOST C EPOST C	28	99	98	99	98
4	Prowl H2O Extreme NIS 28% UAN	3.8 2.17 L L	EC SL	1.42 0.81 0.125 2.0	LB A/A LB A/A % V/V QT/A	3.0 3.0 0.125 2.0	PT/A PT/A % V/V QT/A	PPI A POST D POST D POST D	10	90	83	98	96
5	Domain Roundup WeatherMAX AMS	60 4.5	DF SL	0.487 0.77 2.0	LB A/A LB AE/A % W/V	13.0 22.0 2.0	OZ WT/A FL OZ/A % W/V	PPI A POST D POST D	0	88	93	99	99
6	Command Spartan Roundup WeatherMAX AMS	3 75 4.5	ME DF SL	0.56 0.25 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 5.3 22.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PPI A PPI A POST D POST D	0	95	98	98	99
7	Aim Roundup WeatherMAX AMS	2 4.5	EW SL	0.0039 0.77 2.0	LB A/A LB AE/A % W/V	0.25 22.0 2.0	FL OZ/A FL OZ/A % W/V	POST D POST D POST D	20	75	96	96	96
8	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL	0.77 2.0 0.56 2.0	LB AE/A % W/V LB AE/A % W/V	22.0 2.0 16.0 2.0	FL OZ/A % W/V FL OZ/A % W/V	EPOST C EPOST C SPOST E SPOST E	2	98	95	99	99
9	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.0	LB AE/A % W/V	22.0 2.0	FL OZ/A % W/V	POST D POST D	2	75	85	90	93
10	Pendimax FirstRate Flexstar Select NIS 28% UAN	3.3 84 1.88 2 L L	EC WG SL EC	1.44 0.0157 0.176 0.094 0.125 2.5	LB A/A LB A/A LB A/A LB A/A % V/V % V/V	3.5 0.3 12.0 6.0 0.125 2.5	PT/A OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	PPI A EPOST C EPOST C EPOST C EPOST C EPOST C	15	95	96	99	99
11	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	1.8 1.5 2.5	OZ WT/A PT/A LB/A	PRE B POST D POST D	0	87	90	95	95
12	Python Valor Glyphomax Plus AMS	80 51 4	WG WG SL	0.033 0.048 0.375 2.5	LB A/A LB A/A LB/A LB/A	0.66 1.5 0.75 2.5	OZ WT/A OZ WT/A PT/A LB/A	PRE B PRE B POST D POST D	0	82	90	95	96
13	Pendimax FirstRate Glyphomax Plus AMS	3.3 84 4	EC WG SL	1.44 0.0157 0.75 2.5	LB A/A LB A/A LB/A LB/A	3.5 0.3 1.5 2.5	PT/A OZ WT/A PT/A LB/A	PPI A POST D POST D POST D	5	96	88	99	98

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									GLXMA PHYGEN PERCENT 07-03-03 31 DA-C	SETFA CONTROL PERCENT 07-03-03 31 DA-C	ABUTH CONTROL PERCENT 07-03-03 31 DA-C	AMATA CONTROL PERCENT 07-03-03 31 DA-C	CHEAL CONTROL PERCENT 07-03-03 31 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
14	Glyphomax Plus AMS	4	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	D D	8	77	85	92	93
15	Phoenix Harmony GT Select Between	2 75 2	EC DF EC L	0.15 0.0039 0.125 2.5	LB A/A LB A/A LB A/A PT/100 GAL	9.6 0.083 8.0 2.5	FL OZ/A OZ WT/A FL OZ/A PT/100 GAL	POST POST POST POST	D D D D	23	58	95	93	88
LSD (P=.05)										3.1	9.6	7.8	4.2	4.3

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 07-03-03 31 DA-C	GLXMA PHYGEN PERCENT 07-29-03 29 DA-D	SETFA CONTROL PERCENT 07-29-03 29 DA-D	ABUTH CONTROL PERCENT 07-29-03 29 DA-D	AMATA CONTROL PERCENT 07-29-03 29 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Prowl Pursuit Ultra Blazer MSO 28% UAN	3.3 2 2 L L	EC SL SL L L	1.44 0.0625 0.187 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	3.5 4.0 12.0 2.0	PT/A FL OZ/A FL OZ/A QT/A	PPI A EPOST C EPOST C EPOST C EPOST C	99	12	93	93	99
3	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	EPOST C EPOST C EPOST C EPOST C	99	13	88	98	99
4	Prowl H2O Extreme NIS 28% UAN	3.8 2.17 L L	EC SL L	1.42 0.81 0.125 2.0	LB A/A LB A/A % V/V QT/A	3.0 3.0 0.125 2.0	PT/A PT/A % V/V QT/A	PPI A POST D POST D POST D	75	3	99	94	99
5	Domain Roundup WeatherMAX AMS	60 4.5	DF SL DF	0.487 0.77 2.0	LB A/A LB AE/A % W/V	13.0 22.0 2.0	OZ WT/A FL OZ/A % W/V	PPI A POST D POST D	90	0	99	99	99
6	Command Spartan Roundup WeatherMAX AMS	3 75 4.5	ME DF SL DF	0.56 0.25 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 5.3 22.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PPI A PPI A POST D POST D	99	0	99	99	99
7	Aim Roundup WeatherMAX AMS	2 4.5	EW SL DF	0.0039 0.77 2.0	LB A/A LB AE/A % W/V	0.25 22.0 2.0	FL OZ/A FL OZ/A % W/V	POST D POST D POST D	93	12	99	99	98
8	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 2.0 0.56 2.0	LB AE/A % W/V LB AE/A % W/V	22.0 2.0 16.0 2.0	FL OZ/A % W/V FL OZ/A % W/V	EPOST C EPOST C SPOST E SPOST E	90	0	99	99	99
9	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.0	LB AE/A % W/V	22.0 2.0	FL OZ/A % W/V	POST D POST D	72	0	99	99	99
10	Pendimax FirstRate Flexstar Select NIS 28% UAN	3.3 84 1.88 2 L L	EC WG SL EC L L	1.44 0.0157 0.176 0.094 0.125 2.5	LB A/A LB A/A LB A/A LB A/A % V/V % V/V	3.5 0.3 12.0 6.0 0.125 2.5	PT/A OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	PPI A EPOST C EPOST C EPOST C EPOST C EPOST C	99	3	93	99	99
11	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	1.8 1.5 2.5	OZ WT/A PT/A LB/A	PRE B POST D POST D	89	0	99	99	99
12	Python Valor Glyphomax Plus AMS	80 51 4	WG WG SL DF	0.033 0.048 0.375 2.5	LB A/A LB A/A LB/A LB/A	0.66 1.5 0.75 2.5	OZ WT/A OZ WT/A PT/A LB/A	PRE B PRE B POST D POST D	80	0	99	99	99
13	Pendimax FirstRate Glyphomax Plus AMS	3.3 84 4	EC WG SL DF	1.44 0.0157 0.75 2.5	LB A/A LB A/A LB/A LB/A	3.5 0.3 1.5 2.5	PT/A OZ WT/A PT/A LB/A	PPI A POST D POST D POST D	78	0	99	99	99
14	Glyphomax Plus AMS	4	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST D POST D	78	3	99	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									POLPY CONTROL PERCENT 07-03-03 31 DA-C	GLXMA PHYGEN PERCENT 07-29-03 29 DA-D	SETFA CONTROL PERCENT 07-29-03 29 DA-D	ABUTH CONTROL PERCENT 07-29-03 29 DA-D	AMATA CONTROL PERCENT 07-29-03 29 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Phoenix	2	EC	0.15	LB A/A	9.6	FL OZ/A	POST	D	93	15	88	80	96
	Harmony GT	75	DF	0.0039	LB A/A	0.083	OZ WT/A	POST	D					
	Select	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	D					
	Between	L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST	D					
LSD (P=.05)										12.1	3.6	2.2	5.6	2.5

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 07-29-03 29 DA-D	POLPY CONTROL PERCENT 07-29-03 29 DA-D	GLXMA PHYGEN PERCENT 08-29-03 60 DA-D	SETFA CONTROL PERCENT 08-29-03 60 DA-D	ABUTH CONTROL PERCENT 08-29-03 60 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Prowl Pursuit Ultra Blazer MSO 28% UAN	3.3 2 2 L L	EC SL SL L L	1.44 0.0625 0.187 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	3.5 4.0 12.0 2.0	PT/A FL OZ/A FL OZ/A QT/A	PPI EPOST EPOST EPOST	A C C C C	98	99	3	93	93
3	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	EPOST EPOST EPOST EPOST	C C C C	98	99	3	87	98
4	Prowl H2O Extreme NIS 28% UAN	3.8 2.17 L L	EC SL L L	1.42 0.81 0.125 2.0	LB A/A LB A/A % V/V QT/A	3.0 3.0 0.125 2.0	PT/A PT/A % V/V QT/A	PPI POST POST POST	A D D D	99	99	2	99	99
5	Domain Roundup WeatherMAX AMS	60 4.5 DF	DF SL DF	0.487 0.77 2.0	LB A/A LB AE/A % W/V	13.0 22.0 2.0	OZ WT/A FL OZ/A % W/V	PPI POST POST	A D D	99	99	0	99	99
6	Command Spartan Roundup WeatherMAX AMS	3 75 4.5 DF	ME DF SL DF	0.56 0.25 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 5.3 22.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PPI PPI POST POST	A A D D	99	99	0	99	99
7	Aim Roundup WeatherMAX AMS	2 4.5 DF	EW SL DF	0.0039 0.77 2.0	LB A/A LB AE/A % W/V	0.25 22.0 2.0	FL OZ/A FL OZ/A % W/V	POST POST POST	D D D	99	99	3	98	98
8	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.77 2.0 0.56 2.0	LB AE/A % W/V LB AE/A % W/V	22.0 2.0 16.0 2.0	FL OZ/A % W/V FL OZ/A % W/V	EPOST EPOST SPOST SPOST	C C E E	99	99	0	99	99
9	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.77 2.0	LB AE/A % W/V	22.0 2.0	FL OZ/A % W/V	POST POST	D D	99	99	0	99	99
10	Pendimax FirstRate Flexstar Select NIS 28% UAN	3.3 84 1.88 2 L L	EC WG SL EC L L	1.44 0.0157 0.176 0.094 0.125 2.5	LB A/A LB A/A LB A/A LB A/A % V/V % V/V	3.5 0.3 12.0 6.0 0.125 2.5	PT/A OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	PPI EPOST EPOST EPOST EPOST EPOST	A C C C C C	95	99	0	92	99
11	Gangster Glyphomax Plus AMS	4 SL DF	SL DF	0.75 2.5	LB A/A LB/A	1.8 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	B D D	99	99	0	99	99
12	Python Valor Glyphomax Plus AMS	80 51 4 DF	WG WG SL DF	0.033 0.048 0.375 2.5	LB A/A LB A/A LB A/A LB/A	0.66 1.5 0.75 2.5	OZ WT/A OZ WT/A PT/A LB/A	PRE PRE POST POST	B B D D	99	98	0	99	99
13	Pendimax FirstRate Glyphomax Plus AMS	3.3 84 4 DF	EC WG SL DF	1.44 0.0157 0.75 2.5	LB A/A LB A/A LB A/A LB/A	3.5 0.3 1.5 2.5	PT/A OZ WT/A PT/A LB/A	PPI POST POST POST	A D D D	99	99	0	99	99
14	Glyphomax Plus AMS	4 DF	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	D D	99	99	2	99	99

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 07-29-03 29 DA-D	POLPY CONTROL PERCENT 07-29-03 29 DA-D	GLXMA PHYGEN PERCENT 08-29-03 60 DA-D	SETFA CONTROL PERCENT 08-29-03 60 DA-D	ABUTH CONTROL PERCENT 08-29-03 60 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
15	Phoenix	2	EC	0.15	LB A/A	9.6	FL OZ/A	POST	D	92	95	8	85	73
	Harmony GT	75	DF	0.0039	LB A/A	0.083	OZ WT/A	POST	D					
	Select	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	D					
	Between	L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST	D					
LSD (P=.05)										2.7	1.0	3.1	4.7	6.8

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 08-29-03 60 DA-D	CHEAL CONTROL PERCENT 08-29-03 60 DA-D	POLPY CONTROL PERCENT 08-29-03 60 DA-D	GLXMA YIELD BU/A 09-30-03 130 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	24
2	Prowl Pursuit Ultra Blazer MSO 28% UAN	3.3 2 2 L L	EC SL SL L L	1.44 0.0625 0.187 1.0 2.0	LB A/A LB A/A LB A/A % V/V QT/A	3.5 4.0 12.0 2.0	PT/A FL OZ/A FL OZ/A QT/A	PPI EPOST EPOST EPOST	A C C C	99	98	99	35
3	Raptor Ultra Blazer MSO 28% UAN	1 2 L L	SL SL L L	0.039 0.187 1.0 2.0	LB A/A LB A/A % V/V QT/A	5.0 12.0 1.0 2.0	FL OZ/A FL OZ/A % V/V QT/A	EPOST EPOST EPOST EPOST	C C C C	99	98	99	36
4	Prowl H2O Extreme NIS 28% UAN	3.8 2.17 L L	EC SL L	1.42 0.81 0.125 2.0	LB A/A LB A/A % V/V QT/A	3.0 3.0 0.125 2.0	PT/A PT/A % V/V QT/A	PPI POST POST POST	A D D D	99	99	99	38
5	Domain Roundup WeatherMAX AMS	60 4.5	DF SL DF	0.487 0.77 2.0	LB A/A LB AE/A % W/V	13.0 22.0 2.0	OZ WT/A FL OZ/A % W/V	PPI POST POST	A D D	99	99	99	43
6	Command Spartan Roundup WeatherMAX AMS	3 75 4.5	ME DF SL DF	0.56 0.25 0.77 2.0	LB A/A LB A/A LB AE/A % W/V	1.5 5.3 22.0 2.0	PT/A OZ WT/A FL OZ/A % W/V	PPI PPI POST POST	A A D D	99	99	99	44
7	Aim Roundup WeatherMAX AMS	2 4.5	EW SL DF	0.0039 0.77 2.0	LB A/A LB AE/A % W/V	0.25 22.0 2.0	FL OZ/A FL OZ/A % W/V	POST POST POST	D D D	99	99	99	36
8	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 2.0 0.56 2.0	LB AE/A % W/V LB AE/A % W/V	22.0 2.0 16.0 2.0	FL OZ/A % W/V FL OZ/A % W/V	EPOST EPOST SPOST SPOST	C C E E	99	99	99	46
9	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.0	LB AE/A % W/V	22.0 2.0	FL OZ/A % W/V	POST POST	D D	99	99	99	42
10	Pendimax FirstRate Flexstar Select NIS 28% UAN	3.3 84 1.88 2 L L	EC WG SL EC L L	1.44 0.0157 0.176 0.094 0.125 2.5	LB A/A LB A/A LB A/A % V/V % V/V	3.5 0.3 12.0 6.0 0.125 2.5	PT/A OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	PPI EPOST EPOST EPOST EPOST EPOST	A C C C C C	99	93	99	41
11	Gangster Glyphomax Plus AMS	4	SL DF	0.75 2.5	LB A/A LB/A	1.8 1.5 2.5	OZ WT/A PT/A LB/A	PRE POST POST	B D D	99	99	99	42
12	Python Valor Glyphomax Plus AMS	80 51 4	WG WG SL DF	0.033 0.048 0.375 2.5	LB A/A LB A/A LB A/A LB/A	0.66 1.5 0.75 2.5	OZ WT/A OZ WT/A PT/A LB/A	PRE PRE POST POST	B B D D	99	99	99	43
13	Pendimax FirstRate Glyphomax Plus AMS	3.3 84 4	EC WG SL DF	1.44 0.0157 0.75 2.5	LB A/A LB A/A LB A/A LB/A	3.5 0.3 1.5 2.5	PT/A OZ WT/A PT/A LB/A	PPI POST POST POST	A D D D	99	99	99	42
14	Glyphomax Plus AMS	4	SL DF	1.0 2.5	LB A/A LB/A	2.0 2.5	PT/A LB/A	POST POST	D D	99	99	99	42

Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 08-29-03 60 DA-D	CHEAL CONTROL PERCENT 08-29-03 60 DA-D	POLPY CONTROL PERCENT 08-29-03 60 DA-D	GLXMA YIELD BU/A 09-30-03 130 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
15	Phoenix	2	EC	0.15	LB A/A	9.6	FL OZ/A	POST	D	96	87	95	34
	Harmony GT	75	DF	0.0039	LB A/A	0.083	OZ WT/A	POST	D				
	Select	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	D				
	Between	L		2.5	PT/100 GAL	2.5	PT/100 GAL	POST	D				
LSD (P=.05)										2.2	4.4	0.0	6.9