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Agricultural Chemical Usage
2004 Restricted Use Summary

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Overview

As determined by the U.S. Environmental Protection Agency (EPA), a restricted use pesticide is a pesticide which is available for purchase and use only by certified pesticide applicators or persons under their direct supervision, and only for the uses covered by the applicator's certification. This group of pesticides is not available for use by the general public because of the very high toxicities or due to the environmental hazards associated with the materials. However, an active ingredient may be restricted for one crop but not for another. This report shows only those active ingredients which are restricted for each specific crop, based on the "Restricted Use Product (RUP) Report, July 2003" published by the EPA. In the RUP report, EPA often limits some, but not all, formulations of a product. For example, liquid products containing greater than 13.5 percent concentration of azinphos-methyl are restricted.

The agricultural chemical use estimates in this report are based on data compiled from the Agricultural Resource Management Survey, Conservation Effects Assessment Project, and the Vegetable Chemical Use Survey. All field crop and vegetable crop data refer to on-farm use of restricted use pesticides for the 2004 crop year. Data were collected late in the growing season or after the farm operator had indicated that planned applications were completed.

Highlights

Field Crops: Field crop data on restricted use pesticides were compiled from two surveys, the Agricultural Resource Management Survey and the Conservation Effects Assessment Project. Data collection occurred primarily during the months of September to December of 2004. Targeted crops included peanuts, soybeans, other spring wheat, and winter wheat. The Program States accounted for 81 to 99 percent of the U.S. acreage for these crops. Durum wheat does not appear in the publication because there were no restricted use chemicals applied to the crop.

A limited number of restricted use herbicides were applied to field crops in 2004. Paraquat was the most widely used restricted active ingredient, covering 36 percent of the peanut acres. The next most utilized herbicides were imazaquin and atrazine, both applied to 1 percent of the acreage and used on soybeans and winter wheat, respectively.

Several restricted use insecticides were used on peanuts. Aldicarb was the most commonly used restricted insecticide, applied to 27 percent of the acreage; followed by phorate, applied to 24 percent; and lambda-cyhalothrin and methomyl, both applied to 9 percent of the acreage. With the exception of chlorpyrifos, which was used to treat 3 percent of the winter wheat acreage, all other active ingredients were applied to 1 percent or less for the other program commodities.

Vegetable Crops: Growers in 20 Program States were surveyed to obtain restricted chemical use data on 23 selected vegetable crops in 2004. The data on restricted use applications cover the period immediately following harvest of the 2003 crop through harvest of the 2004 crop. There were no restricted use chemicals applied to the following crops: processed carrots, garlic, honeydews, and processed green peas. There was not enough application coverage to publish any restricted use chemical data for fresh market carrots.

A wide variety of restricted use pesticides were applied to vegetable crops in 2004. Atrazine was used on 69 percent of the processed sweet corn acreage and on 67 percent of the fresh market sweet corn acreage. Pronamide was the next most utilized restricted herbicide, applied to 35 percent of the other lettuce acreage and 25 percent of the head lettuce acreage. Paraquat was applied to 31 percent of the fresh market tomato acres, followed by applications of 10 percent for both asparagus and fresh market cucumbers.

Several restricted use insecticides were used extensively on vegetable crops in the Program States. Lambda-cyhalothrin was applied to 65 percent of processed lima beans, 59 percent of fresh market sweet corn, and 46 percent of bulb onions, while 37 percent of the processed sweet corn, 34 percent of the head lettuce, and 32 percent of the other lettuce acreage were also reported as treated with this restricted active ingredient. Methomyl was used on 46 percent of the fresh market sweet corn acreage, as well as on 33 percent of the bulb onion acres, 32 percent of the head lettuce, 31 percent of the bell pepper acres, and 30 percent of the other lettuce acres. Oxydemeton-methyl, a restricted use insecticide, was used on 55 percent of the broccoli acreage, 39 percent of the cauliflower acres, and 35 percent of the head lettuce acreage. Other restricted use insecticides applied to more than 30 percent of the planted acres were permethrin on other lettuce and spinach, disulfoton on asparagus, and oxamyl on celery.

Other restricted use insecticides applied to 20 percent or more of planted acres were lambda-cyhalothrin on cauliflower and fresh market tomatoes, permethrin on head lettuce, methomyl on strawberries, alachlor on processed sweet corn, and cyfluthrin on fresh market tomatoes.

The only restricted use fungicides was chlorothalonil, applied to 2 percent of strawberries. Restricted use pesticides used as “other chemicals” included methyl bromide and chloropicrin. Methyl bromide was used on 42 percent of the fresh market tomato acreage, 33 percent of the strawberry acres, and 31 percent of the bell pepper acreage. Chloropicrin was used on 48 percent of the fresh market tomato acreage, 32 percent of the strawberry acres, and 21 percent of the bell pepper acreage.

Peanuts: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	36	1.0	0.16	0.17	77
Insecticides					
Aldicarb	27	1.1	1.08	1.16	404
Disulfoton	1	1.0	0.82	0.82	12
Lambda-cyhalothrin	9	1.3	0.02	0.03	3
Methomyl	9	1.6	0.40	0.63	76
Phorate	24	1.0	1.00	1.00	321

[1] Planted acreage in 2004 for the 5 Program States was 1.3 million acres.
States included are AL, FL, GA, NC, and TX.

Soybeans: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Alachlor	*	1.0	1.46	1.46	240
Imazaquin	1	1.1	0.09	0.10	36
Paraquat	*	1.0	0.67	0.67	115
Insecticides					
Lambda-cyhalothrin	1	1.0	0.02	0.02	16
Methyl parathion	*	1.0	0.34	0.34	48
Permethrin	*	1.0	0.10	0.10	11

* Area applied is less than 0.5 percent.
[1] Planted acreage in 2004 for the 11 Program States was 61.2 million acres.
States included are AR, IL, IN, IA, KS, MN, MO, NE, ND, OH, and SD.

Other Spring Wheat: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Chlorpyrifos	*	1.0	0.30	0.30	9

* Area applied is less than 0.5 percent.

[1] Planted acreage in 2004 for the 7 Program States was 13.7 million acres. States included are ID, MN, MT, ND, OR, SD, and WA.

Winter Wheat: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Atrazine	1	1.4	0.54	0.73	223
Diclofop-methyl	*	1.0	0.67	0.67	89
Insecticides					
Chlorpyrifos	3	1.0	0.36	0.36	438
Ethyl parathion	1	1.0	0.63	0.63	133
Lambda-cyhalothrin	1	1.0	0.02	0.02	6

* Area applied is less than 0.5 percent.

[1] Planted acreage in 2004 for the 14 Program States was 37.1 million acres. States included are CO, ID, IL, KS, MI, MO, MT, NE, OH, OK, OR, SD, TX, and WA.

Asparagus: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	10	1.2	0.58	0.68	3.9
Insecticides					
Disulfoton	31	1.3	1.02	1.32	23.5
Permethrin	15	2.2	0.09	0.19	1.6

[1] Planted acreage in 2004 for the 3 Program States was 56,500 acres. States included are CA, MI, and WA.

Lima Beans, Proc.: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Lambda-cyhalothrin	65	1.2	0.03	0.03	0.3
Methomyl	13	1.1	0.65	0.69	1.5

[1] Planted acreage in 2004 for the 2 Program States was 16,800 acres. States included are DE and MD.

Snap Beans, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	1	1.7	0.57	0.97	0.6
Insecticides					
Lambda-cyhalothrin	13	1.2	0.02	0.03	0.3
Methomyl	19	2.4	0.40	0.97	16.1
Permethrin	1	1.0	0.14	0.14	0.1

[1] Planted acreage in 2004 for the 6 Program States was 86,200 acres.
States included are CA, FL, GA, NY, NC, and TN.

Snap Beans, Proc.: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Disulfoton	2	1.1	1.11	1.17	4.4
Lambda-cyhalothrin	14	1.1	0.02	0.02	0.6

[1] Planted acreage in 2004 for the 6 Program States was 159,700 acres.
States included are IL, MI, NY, OR, PA, and WI.

Broccoli: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Disulfoton	6	1.0	1.43	1.46	11.6
Lambda-cyhalothrin	8	1.1	0.03	0.03	0.3
Methomyl	4	1.0	0.76	0.77	4.3
Oxydemeton-methyl	55	1.0	0.50	0.51	36.2
Permethrin	6	1.1	0.10	0.10	0.8

[1] Planted acreage in 2004 for California was 128,000 acres.

Cabbage, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Cyfluthrin	4	2.1	0.05	0.10	0.2
Cypermethrin	2	1.2	0.08	0.10	0.2
Disulfoton	1	1.0	1.36	1.37	1.1
Lambda-cyhalothrin	15	1.7	0.03	0.04	0.4
Methomyl	11	1.5	0.47	0.69	4.8
Oxydemeton-methyl	8	1.1	0.45	0.48	2.5
Permethrin	17	2.1	0.16	0.33	3.8

[1] Planted acreage in 2004 for the 7 Program States was 65,100 acres.
States included are CA, FL, GA, NY, NC, TX, and WI.

Cantaloupes: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Methomyl	4	1.6	0.74	1.19	3.8
Oxamyl	9	1.4	0.26	0.36	2.6
Permethrin	6	1.2	0.13	0.16	0.7

[1] Planted acreage in 2004 for the 3 Program States was 77,800 acres. States included are AZ, CA, and TX.

Cauliflower: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Lambda-cyhalothrin	22	1.6	0.03	0.04	0.3
Methomyl	7	1.2	0.72	0.86	2.0
Oxydemeton-methyl	39	1.1	0.50	0.55	7.6
Permethrin	5	1.1	0.09	0.10	0.2

[1] Planted acreage in 2004 for California was 36,000 acres.

Celery: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Methomyl	8	1.4	0.84	1.13	2.3
Oxamyl	33	1.1	0.72	0.79	6.5

[1] Planted acreage in 2004 for California was 25,100 acres.

Sweet Corn, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Alachlor	10	1.1	1.92	2.04	43.7
Atrazine	67	1.0	1.19	1.24	176.1
Butylate	11	1.0	2.52	2.53	58.2
Cyanazine	*	1.0	1.35	1.35	0.9
Paraquat	1	1.0	0.47	0.48	1.2
Insecticides					
Carbofuran	4	1.0	0.98	0.98	8.6
Cyfluthrin	18	3.3	0.03	0.10	3.7
Lambda-cyhalothrin	59	3.9	0.03	0.10	12.2
Methomyl	46	6.9	0.40	2.78	268.4
Methyl parathion	9	1.8	0.65	1.17	21.4
Oxydemeton-methyl	8	1.0	0.47	0.47	7.6
Permethrin	7	2.2	0.17	0.38	5.6
Phorate	11	1.0	1.14	1.14	26.1
Terbufos	6	1.0	1.09	1.09	13.3

* Area applied is less than 0.5 percent.

[1] Planted acreage in 2004 for the 13 Program States was 210,500 acres.
States included are CA, FL, GA, IL, MI, NJ, NY, NC, OH, OR, PA, TX, and WI.

Sweet Corn, Proc.: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Alachlor	23	1.1	1.97	2.16	178.1
Atrazine	69	1.1	0.64	0.72	181.9
Paraquat	1	1.0	0.49	0.50	1.4
Insecticides					
Chlorethoxyfos	1	1.0	0.19	0.19	0.6
Lambda-cyhalothrin	37	2.7	0.02	0.07	8.9
Permethrin	6	2.5	0.12	0.30	6.4

[1] Planted acreage in 2004 for the 5 Program States was 362,800 acres.
States included are MN, NY, OR, WA, and WI.

Cucumbers, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	10	1.1	0.64	0.68	3.5
Insecticides					
Carbofuran	7	1.0	0.99	0.99	3.5
Lambda-cyhalothrin	8	1.8	0.03	0.06	0.2
Methomyl	10	2.3	0.53	1.23	6.1
Oxamyl	3	1.7	0.87	1.45	1.9
Permethrin	9	2.8	0.10	0.26	1.3
Other Chemicals					
Chloropicrin	4	1.0	76.45	76.45	147.8
Dichloropropene	6	1.0	56.18	56.18	167.3
Methyl bromide	4	1.0	80.72	80.72	156.0

[1] Planted acreage in 2004 for the 7 Program States was 51,700 acres.
States included are CA, FL, GA, MI, NJ, NY, and NC.

Cucumbers, Pickles: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Carbofuran	2	1.0	0.89	0.89	1.1
Methomyl	4	2.0	0.37	0.73	2.0
Permethrin	5	2.9	0.12	0.34	1.4

[1] Planted acreage in 2004 for the 7 Program States was 80,300 acres.
States included are FL, MI, NC, OH, SC, TX, and WI.

Head Lettuce: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Pronamide	25	1.1	0.68	0.72	34.5
Insecticides					
Cypermethrin	2	1.1	0.08	0.09	0.3
Disulfoton	4	1.0	1.92	1.94	14.8
Lambda-cyhalothrin	34	1.2	0.03	0.03	2.2
Methomyl	32	1.1	0.72	0.77	46.1
Oxydemeton-methyl	35	1.1	0.50	0.56	37.1
Permethrin	29	1.2	0.16	0.19	10.5

[1] Planted acreage in 2004 for the 2 Program States was 186,900 acres.
States included are AZ and CA.

Other Lettuce: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Pronamide	35	1.0	1.01	1.03	49.2
Insecticides					
Lambda-cyhalothrin	32	1.5	0.03	0.04	1.8
Methomyl	30	1.3	0.67	0.87	35.6
Permethrin	33	1.6	0.16	0.25	11.2

[1] Planted acreage in 2004 for the 2 Program States was 135,400 acres.
States included are AZ and CA.

Bulb Onions: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Cypermethrin	7	1.6	0.09	0.14	1.3
Lambda-cyhalothrin	46	2.3	0.03	0.06	3.9
Methomyl	33	1.8	0.58	1.07	47.9
Methyl parathion	7	1.9	0.45	0.88	8.6
Oxamyl	19	2.6	0.52	1.36	33.6
Oxydemeton-methyl	6	1.6	0.46	0.72	5.5
Permethrin	8	1.7	0.14	0.24	2.6
Other Chemicals					
Chloropicrin	3	1.0	41.58	41.74	192.2
Dichloropropene	4	1.0	175.10	175.67	955.7

[1] Planted acreage in 2004 for the 6 Program States was 133,900 acres. States included are CA, GA, NY, OR, TX, and WA.

Bell Peppers: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	9	1.0	0.45	0.46	1.8
Insecticides					
Cyfluthrin	3	1.4	0.03	0.04	0.1
Lambda-cyhalothrin	3	1.9	0.03	0.06	0.1
Methomyl	31	5.3	0.42	2.21	31.1
Oxamyl	7	4.2	0.54	2.29	7.0
Oxydemeton-methyl	1	1.0	0.50	0.52	0.3
Other Chemicals					
Chloropicrin	21	1.1	56.32	59.80	553.1
Dichloropropene	7	1.2	84.63	101.09	294.6
Methyl bromide	31	1.0	159.31	159.31	2,187.3

[1] Planted acreage in 2004 for the 3 Program States was 44,800 acres. States included are CA, FL, and NC.

Pumpkins: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	1	1.0	0.59	0.60	0.3
Insecticides					
Carbofuran	2	1.3	0.84	1.09	0.8
Lambda-cyhalothrin	3	4.2	0.02	0.09	0.1
Methomyl	5	1.5	0.38	0.55	1.1
Permethrin	9	2.2	0.15	0.32	1.2

[1] Planted acreage in 2004 for the 5 Program States was 43,200 acres. States included are CA, IL, MI, NY, and PA.

Spinach, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides					
Methomyl	9	1.2	0.72	0.86	2.7
Permethrin	33	1.6	0.16	0.25	3.0

[1] Planted acreage in 2004 for the 3 Program States was 36,200 acres. States included are AZ, CA, and TX.

Squash: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	7	1.2	0.58	0.67	2.1
Insecticides					
Carbofuran	4	1.0	0.33	0.33	0.5
Methomyl	9	4.4	0.26	1.13	4.3
Oxamyl	1	1.5	0.57	0.86	0.4
Permethrin	12	2.1	0.12	0.25	1.3
Other Chemicals					
Chloropicrin	1	1.0	60.71	60.71	23.5
Methyl bromide	1	1.0	90.27	90.27	35.0

[1] Planted acreage in 2004 for the 6 Program States was 44,300 acres. States included are CA, FL, GA, MI, NJ, and NC.

Strawberries: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	4	1.5	0.46	0.68	1.3
Simazine	3	1.0	1.08	1.10	1.6
Insecticides					
Methomyl	27	3.2	0.68	2.17	25.8
Fungicides					
Chlorothalonil	2	1.7	1.05	1.78	1.4
Other Chemicals					
Chloropicrin	32	1.1	102.18	116.31	1,603.5
Dichloropropene	8	1.2	167.63	196.10	714.8
Methyl bromide	33	1.1	177.34	188.37	2,708.9

[1] Planted acreage in 2004 for the 3 Program States was 43,600 acres. States included are CA, FL, and OR.

Tomatoes, Fresh: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	31	1.6	0.52	0.81	27.0
Insecticides					
Cyfluthrin	25	4.5	0.03	0.14	3.6
Lambda-cyhalothrin	24	5.6	0.02	0.13	3.3
Methamidophos	16	4.6	0.78	3.64	59.4
Methomyl	7	2.6	0.65	1.69	12.8
Oxamyl	7	3.0	0.54	1.64	13.0
Permethrin	5	3.7	0.12	0.45	2.3
Other Chemicals					
Chloropicrin	48	1.0	77.60	77.62	3,875.4
Methyl bromide	42	1.0	144.38	144.41	6,456.5

[1] Planted acreage in 2004 for the 7 Program States was 105,300 acres.
States included are CA, FL, GA, NJ, NC, OH, and TN.

Tomatoes, Proc.: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	7	1.0	0.50	0.52	10.4
Insecticides					
Lambda-cyhalothrin	11	1.4	0.03	0.04	1.2
Methamidophos	1	1.1	0.95	1.03	2.0
Methomyl	3	1.0	0.57	0.59	5.0

[1] Planted acreage in 2004 for California was 301,000 acres.

Watermelons: Agricultural Chemical Applications, Restricted Use Pesticides, Program States, 2004 [1]

Restricted Use Pesticide	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Paraquat	2	1.2	0.35	0.41	0.9
Insecticides					
Methomyl	4	2.1	0.51	1.07	5.4
Oxamyl	3	1.5	0.56	0.82	3.4
Permethrin	3	1.7	0.12	0.20	0.7
Other Chemicals					
Chloropicrin	4	1.0	50.91	52.89	281.3
Dichloropropene	7	1.0	59.00	60.42	520.1
Methyl bromide	3	1.0	131.30	131.30	523.4

[1] Planted acreage in 2004 for the 7 Program States was 124,100 acres.
States included are AZ, CA, FL, GA, NC, SC, and TX.

Estimation Procedures

The chemical applications data, reported by product name or trade name, are reviewed within State and across States for reasonableness and consistency. This review compares reported data with manufacturers' recommendations and with data from other operations using the same product. Following this review, product information is converted to active ingredient level. The chemical usage estimates in this publication consist of survey estimates of those active ingredients. Please note that the estimates for total amount applied of an active ingredient will not be revised even if there are subsequent revisions to acreage for a given crop.

Estimates of the total amount of active ingredient applied are based on the acreage estimates published in the annual NASS report "**Crop Production - 2004 Summary**" [Cr Pr 2-1(04)] for peanuts, soybeans, other spring wheat, and winter wheat.

Estimates of the total amount of active ingredient applied for vegetables are based on the acreage estimates published in the annual NASS report "**Vegetables - 2004 Summary**" [Vg 1-2(04)] released on January 29, 2004.

Detailed data within some published tables may not multiply across due to independent rounding of the published values. Only those restricted use active ingredients that met NASS publication standards in the **"Agricultural Chemical Usage - 2004 Field Crops Summary,"** the **"Agricultural Chemical Usage - 2004 Vegetable Summary"** publications are reprinted in this report.

Terms and Definitions

Active ingredient: The active ingredient is the specific chemical which kills or controls the target pests. Usage data are reported by pesticide product and are converted to an amount of active ingredient. A single method of conversion has been chosen for active ingredients having more than one way of being converted. For example in this report, copper compounds are expressed in their metallic copper equivalent, and others such as 2,4-D and glyphosate are expressed in their acid equivalent.

Application rates: The application rates refer to the average number of pounds of a pesticide active ingredient applied to an acre of land. Rate per acre is the average number of pounds applied in one application. Rate per crop year is the average number of pounds applied counting multiple applications. Number of applications is the average number of times a treated acre receives a specific agricultural chemical.

Area applied: The area that represents the percentage of crop acres receiving one or more applications of a specific agricultural chemical. This report does not contain acre treatments. However, acre treatments can be calculated by multiplying the acres planted by the percent of area applied and the average number of applications.

Common name: The common name is an officially recognized name for an active ingredient. This report shows active ingredient by common name.

Crop year: A crop year refers to the period immediately following harvest for the previous crop through harvest of the current crop.

Operation: For purposes of the surveys included in this publication, a farm or ranching operation is any establishment from which $1,000 or more agricultural products were sold or would normally be sold during the year.

Pesticides: As defined by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), pesticides include any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

The four classes of pesticides presented in this report and the pests targeted are: herbicides - weeds; insecticides - insects; fungicides - fungi; and other chemicals - other forms of life. Miticides and nematicides are included as insecticides while soil fumigants, growth regulators, rooting compounds, and disinfectants are included as other chemicals.

Rate per acre: Rate per Acre is the average number of pounds of a pesticide's active ingredient applied in one application to an acre of land regardless of the number of times a particular acre was treated at the same rate.

Restricted Use Pesticide: The phrase restricted use pesticide refers to the active ingredients in pesticides.

Trade name: A trademark name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents. Some formulations contain more than one active ingredient.

Trade Names, Common Names, and Pesticide Classes

The following is a list of the common name, associated class, and trade name of active ingredients in this publication. The classes are Herbicides (H), Insecticides (I), Fungicides (F), and Other chemicals (O). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not cataloged. The list is not complete for all pesticides used on field crops or vegetable crops, and NASS does not mean to imply the use of any specific trade name.

Class	Common Name	Trade Name
H	Alachlor	Arena, Bronco, Bullet, Lariat, Lasso, Micro-Tec, Partner, Saddle
I	Aldicarb	Temik
I	Amitraz	Miltac, Ovasyn
H	Atrazine	several
H	Butylate	Sutan + 6.7E
I	Carbofuran	Furadan
I	Chlorethoxyfos	Fortress
O	Chloropicrin	Chloropicrin, Methyl Bromide, Telone, Tri-Con
F	Chlorothalonil	Bravo, Chlorothalonil 4L Plus Zinc, Concorde, Daconil, Echo, Ensign, Equus, Flouronil, PathGuard, Ridomil, Tilt/Bravo
I	Chlorpyrifos	Aqua-sect, Chlorpyrifos, Govern, Lorsban, Nufos
H	Cyanazine	Bladex, Conquest, Cy-Pro
I	Cyfluthrin	Aztec, Baythroid, Countdown, Decathalon, Duraplex, Leverage, Renounce, Tempo
I	Cypermethrin	Ammo, Battery, Up-Cyde
O	Dichloropropene	Telone, Vidden
H	Diclofop-methyl	Hoelon
I	Disulfoton	Di-Syston, Ferti-Lome, Mocap, Terraclor
I	Ethyl parathion	Parathion, Parathion-Methyl Parathion
H	Imazaquin	Backdraft, Scepter, Squadron, Steel
I	Lambda-cyhalothrin	Demand, Karate, Scimitar, Warrior
I	Methamidophos	Monitor
I	Methomyl	Lannate, Nudrin,
I	Methyl bromide	MBC-33, Methyl Bromide, Tri-con
I	Methyl parathion	Declare, Methyl Parathion + Thiodan, Parathion-Methyl Parathion, Penncap-M, Super Ten
I	Oxamyl	Oxymyl, Vydate
F	Oxydemeton-methyl	MSR, Metasystox-RH
H, O	Paraquat	Cyclone, Gramoxone, Starfire, Surefire
I	Permethrin	Ambush, Astro, Eight, Evercide, LastCall, Perm-Up, Permectrin, Permethrin, Pounce, Real Kill, Waylay
I	Phorate	Tenax, Thimet
H	Pronamide	Kerb
H	Simazine	Calibar, Princep, Sim-Trol. Simazat
I	Terbufos	Counter

Report Features

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USDA Data Users' Meeting

October 17, 2005

Embassy Suites at O'Hare
Chicago, Illinois
(847) 678-4000

The USDA's National Agricultural Statistics Service will be organizing an open forum for data users. The purpose will be to provide updates on pending changes in the various statistical and information programs and seek comments and input from data users. Other USDA agencies to be represented will include the Agricultural Marketing Service, the Economic Research Service, the Foreign Agricultural Service, and World Agricultural Outlook Board. The Foreign Trade Division from the Census Bureau will also be included in the meeting.

For registration details or additional information for the Data Users' Meeting, see the NASS homepage at www.usda.gov/nass/ or contact Lynda Ford (NASS) at (202) 720-3896 or at lynda_ford@nass.usda.gov.

This Data Users' Meeting precedes an Industry Outlook meeting that will be held at the same location on October 18, 2005. The Outlook meeting brings together analysts from various commodity sectors to discuss the outlook situation. For more information about the outlook meeting and to register contact Jim Robb (Livestock and Marketing Information Center) at (720) 544-2941 or at robb@lmic.info.