

**Table 21. Common Names of Registered Herbicides<sup>1</sup>**

Common Name	Trade Name	Producer	HRAC Group <sup>2</sup>	Formulation
2,4-D Amine	many	many	O	4L, 75WSG
acetochlor	Surpass <sup>®</sup> , TopNotch <sup>®</sup>	Dow AgroSciences	K3	6.4EC, 3.2ME
acetochlor+atrazine	FulTime <sup>®</sup> , Keystone <sup>®</sup> , Keystone LA <sup>®</sup>	Dow AgroSciences	K3, C1	2.4+1.6ME, 3+2.25 SC, 4+1.5 SC
alachlor	Lasso <sup>®</sup> , Partner <sup>®</sup>	Monsanto	K3	4E, 65WDG
ametryn	Evik <sup>®</sup>	Syngenta	C1	76DF
atrazine	many	many	C1	many
atrazine+bentazon	Laddok S-12 <sup>®</sup>	Sipcam	C1, C3	2.5+2.5S
atrazine+dimethenamid-P	Guardsman Max <sup>®</sup>	BASF	C1, K3	3.3+1.75L
atrazine+s-metolachlor	Bicep (II) Magnum <sup>®</sup>	Syngenta	C1, K3	3.1+2.4E
benefin	Balan <sup>®</sup>	United Agri-Products	K1	60DF
bensulide	Prefar <sup>®</sup>	Gowan	N	4E
bentazon	Basagran <sup>®</sup>	BASF	C3	4L
bromoxynil	Buctril <sup>®</sup>	Bayer CropScience	C3	2E, 4EC
butylate	Sutan+ 6.7E <sup>®</sup>	Helm Agro	N	6.7E
carfentrazone	Aim <sup>®</sup>	FMC	E	40DF, 40EW
clethodim	Prism <sup>®</sup> , Select <sup>®</sup> , Select Max <sup>®</sup>	DuPont, Valent	A	0.94EC, 2EC, 0.97EC
clomazone	Command <sup>®</sup>	FMC	F3	3ME
clomazone+ethalfuralin	Strategy <sup>®</sup>	UAP/Platte	F3, K1	0.5+1.6 EC
clopyralid	Stinger <sup>®</sup>	Dow Agrosciences	O	3E
cycloate	Ro-Neet <sup>®</sup>	Helm Agro	N	6E
DCPA	Dacthal <sup>®</sup>	AMVAC	K1	75W
dicamba	Clarity <sup>®</sup>	BASF	O	4L
dichlobenil	Casoron <sup>®</sup>	Chemtura	L	4G
dimethenamid-P	Outlook <sup>®</sup>	BASF	K3	6E
diquat	Diquat <sup>®</sup> , Reglone <sup>®</sup>	Syngenta	D	2E
diuron	Karmex <sup>®</sup> , Direx <sup>®</sup> , Diuron <sup>®</sup>	Griffin, Drexel, others	C2	80DF, 4L
EPTC	Eptam <sup>®</sup> , Eradicane <sup>®</sup>	Gowan	N	7E, 20G, 6.7E
ethalfuralin	Curbit <sup>®</sup> , Sonalan <sup>®</sup>	United Agri-Products, Dow Agrosciences	K1	3EC
ethofumesate	Nortron SC <sup>®</sup>	Bayer CropScience	N	4SC
fluazifop-butyl	Fusilade DX <sup>®</sup>	Syngenta	A	2E
flufenacet	Define DF <sup>®</sup>	Bayer CropScience	K3	60DF
flumioxazin	Chateau WDG <sup>®</sup> , Chateau SW <sup>®</sup> , Valor SX <sup>®</sup>	Valent	E	51WDG
fluthiacet-methyl	Cadet <sup>®</sup>	FMC	E	0.91L
fomesafen	Reflex <sup>®</sup>	Syngenta	E	2L
foramsulfuron	Option <sup>®</sup>	Bayer CropScience	B	35WDG
glufosinate	Rely 200 <sup>®</sup>	Bayer CropScience	G	1.67L
glyphosate	many	many	G	many
halosulfuron	Permit <sup>®</sup> , Sandea <sup>®</sup>	Monsanto, Gowan	B	75WSG
imazamox	Raptor <sup>®</sup>	BASF	B	1EC
imazethapyr	Pursuit <sup>®</sup>	BASF	B	70DG
imazethapyr+pendimethalin	Pursuit Plus <sup>®</sup>	BASF	B, K1	EC
linuron	Lorox <sup>®</sup> , Linex <sup>®</sup>	Griffin	C2	50DF, 4L
mesotrione	Callisto <sup>®</sup>	Syngenta	F2	4L
mesotrione+ s-metolachlor	Camix <sup>®</sup>	Syngenta	F2, K3	0.33+3.34EC
mesotrione+ s-metolachlor+atrazine	Lumax <sup>®</sup> , Lexar <sup>®</sup>	Syngenta	F2, K3, C1	0.268+ 2.68+1EC; 0.224+1.74+1.74EC
s-metolachlor	Dual (II) Magnum <sup>®</sup>	Syngenta	K3	7.6E
metribuzin	Sencor <sup>®</sup>	Bayer CropScience	C1	4F, 75DF
napropamide	Devrinol <sup>®</sup>	United Phosphorous	K3	50DF, 2E
nicosulfuron	Accent <sup>®</sup>	DuPont	B	75DF
norflurazon	Solicam <sup>®</sup>	Syngenta	F1	80DF
oxyfluorfen	Goal <sup>®</sup> , Galigan <sup>®</sup>	Dow Agrosciences Makhteshim-Agan	E	2E

**Table 21. Common Names of Registered Herbicides<sup>1</sup>** (continued)

Common Name	Trade Name	Producer	HRAC Group <sup>2</sup>	Formulation
paraquat	Firestorm <sup>®</sup> , Gramoxone Inteon <sup>®</sup> , Parazone <sup>®</sup>	Chemtura, Syngenta, Makteshim Agan NA	D	3L, 2L, 3L
pelargonic acid	Scythe <sup>®</sup>	Dow Agrosciences	Z	4.2L
pendimethalin	Prowl <sup>®</sup> , Pendimax <sup>®</sup>	BASF, Dow Agrosciences	K1	3.3E, 3.8ACS
phenmedipham	Spin-Aid <sup>®</sup>	Bayer Cropscience	C1	1.3E
pronamide	Kerb <sup>®</sup>	Dow Agrosciences	K3	50W
pyrazon	Pyramin <sup>®</sup>	BASF	C1	65DF, 4.5SC
quizalofop	Assure II <sup>®</sup> , Targa <sup>®</sup>	DuPont, Gowan	A	0.88E
rimsulfuron	Matrix <sup>®</sup>	DuPont	B	25DF
sethoxydim	Poast <sup>®</sup> , Ultima 160 <sup>®</sup>	BASF	A	1.5E
sulfentrazone	Spartan <sup>®</sup>	FMC	E	75DF
tembotrione	Laudis <sup>®</sup>	Bayer Cropscience	F2	3.5SC
terbacil	Sinbar <sup>®</sup>	DuPont	C2	80W
topramezone	Impact <sup>®</sup>	Amvac	F2	2.8EC
trifluralin	Treflan HFP <sup>®</sup> , Trilin <sup>®</sup> , Trifluralin <sup>®</sup>	Dow Agrosciences, Griffin, Gowan, Drexel, UAP, and others	K1	4E, 10G

<sup>1</sup> See inside front cover for abbreviations. <sup>2</sup> Herbicide Resistance Action Committee Groups: Herbicides in the same HRAC group have similar modes of action for killing weeds. To reduce the risk of herbicide resistance, do not rely on herbicides in a single HRAC group year after year.

## Disease Management Strategies

### Disease Diagnosis

Before making any management decisions, always make sure to get the right diagnosis of your problem first.

Accurate diagnoses can save time and money because some diseases look alike but have very different management strategies. Moreover, there are several plant health issues (nutritional problems, herbicide injuries, and others) that mimic plant diseases. Unwittingly treating a nutrient deficiency with pesticides wastes time and money, and does not solve the underlying condition.

Submitting samples to a diagnostic laboratory is the best way to ensure the correct diagnosis. For a list of labs, see Page 12.

### Healthy Plant Material

Contaminated seed or transplants can introduce diseases, so saving vegetable seeds for next year's crop is not recommended. Table 22 lists some diseases that may be transmitted by seed to transplants.

Whether you are purchasing transplants or producing them yourself (see Transplant Production, page 8, be certain to inspect seedlings regularly.

### Disease-Resistant Varieties

Whenever possible, use varieties resistant to diseases. Some varieties may not be completely resistant to particular diseases, however, incomplete or partial resistance may be available. Some seed catalogs may refer to tolerance. Table 22 presents information about the availability of resistant varieties.

### Tillage and Crop Rotation

In most situations, crop rotation and fall tillage are the biggest factors in disease management. This is because most pathogens overwinter in crop residues and are unable to survive once the residue decomposes. Tillage (especially fall tillage) helps control diseases by reducing the amount of inoculum (pathogen structures) that survives the winter.

Rotating fields to different crops each year also helps control diseases by preventing the build-up of certain plant pathogens in the soil. Table 22 provides tillage and crop rotation recommendations. A general rule states that crops should not be rotated to others in the same botanical family. Table 15 identifies botanically related crops.

There are three kinds of soilborne diseases that are unaffected by rotation.