

AGRICULTURAL GUIDE

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Weed control

Herbicides for corn

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Federal regulations regarding herbicide use change frequently, so keep informed about the status of label registration. Based upon available information this guide sheet conforms to laws and regulations in effect at the time it was written. **It is essential that you read and understand the label of the herbicide you plan to use.**

Evaluating herbicides. This guide sheet is based on research and comparative performance over a period of years. However, herbicide performance depends on many factors that cannot be controlled or foretold. (See Guide 4903 "Factors Affecting Herbicide Performance.") For this reason, results may vary widely from those normally expected. An element of risk is involved in the use of any herbicide.

Comparative performance with emphasis on weed control and crop tolerance is a major factor in herbicide evaluation. Cost has not been considered. Because no herbicide treatment is superior to others in all circumstances, no effort has been made to list treatments in this guide sheet in any order of preference. This information is for conventional seedbed preparation only. For herbicides used in conservation tillage systems see Guide 4905 "Herbicides for Conservation Tillage."

Herbicides may be applied by incorporating in the soil before planting (P.P.I.). They may be applied to the soil surface at or immediately after the crop and weeds have emerged (postemergent). *Sequential* includes a P.P.I. application followed by a pre-emergent or post-emergent.

Incorporating in the soil before planting (P.P.I.)

Some herbicides should be incorporated into the soil promptly to prevent loss from the surface. Others may be incorporated at a more convenient time. Incorporation may improve performance when there is insufficient rainfall to activate the herbicide.

An effective method of incorporation is to disk twice with a tandem disk. The disking will satisfy the urgency of incorporation and turn most of the herbicide under the soil to prevent breakdown by light. A second disking will further mix the herbicide with the soil. After the whole field has been disked, disk the second time at a right angle to the first. If this is not practical, disking at any angle to the first is better than disking both times in the same direction. Speed in excess of 4 mph improves mixing.

The *Do-All* bed conditioner and power-driven rotary cultivator will incorporate herbicides satisfactorily. The power-driven rotary cultivator may destroy the physical structure of the soil. This method may increase crusting and hamper seedling emergence. The field cultivator with sweeps properly spaced is satisfactory as an incorporation tool. The spike-toothed harrow or the rotary hoe alone is not satisfactory.

The following tables include information relative to individual herbicides, tank mix combinations, and sequential, and postemergence applications. Application rates include both *product* (liquid or dry from container) and *active ingredient*, the amount of actual chemical to be applied per acre.

However, label rates take precedence over rates in this guide sheet.

Corn herbicides

Atrazine (Aatrex and others)

This herbicide controls many annual broadleaf and grass weeds in corn. It is also effective in non-crop areas and industrial sites for control of most annual and many perennial broadleaf and grass weeds. This product may be applied before or after weeds emerge.

Since atrazine acts mainly through root absorption, its effectiveness depends on moisture to move it into the root zone. If weeds develop, a shallow cultivation or rotary hoeing generally results in better weed control.

Amiben (Chloramben)

Amiben chloramben herbicide is effective applied preplant incorporated, pre-emergence. It is most effective applied at planting time, when spraying and planting are done in the same operation. Rain, irrigation, water or mechanical incorporation moves Amiben into the soil where weed seeds sprout.

Deep germinating annual weeds and sprouts from established perennial weeds are not controlled.

Amiben herbicide remains active and effective for several weeks, long enough for crops to fill row middles and shade out the late-season weed growth.

Table 1. Pre-emergent

Herbicide	Formulation	Soil	Product	Rate/acre	Incorporation	Weeds controlled		Limitations
				Active Ingredient		Annual grass	Broadleaf	
Aatrex (Atrazine)	80W	coarse	2.5 lbs.	(2.0 lbs.)	yes	some	yes	If crop oil carrier is used, do not tank mix with insecticides, other herbicides or liquid fertilizer.
	4 lbs./gal.	medium	3.0 lbs.	(2.4 lbs.)				
	NINE-O	fine	3.75 lbs.	(3.0 lbs.)				
Bicep (Aatrex + Dual)	4.5 lbs./gal.	coarse	2.0 qts.	(2.25 lbs.)	yes	yes	yes	Application in liquid fertilizer should be by ground equipment only.
		medium	2.4 qts.	(2.7 lbs.)				
		fine	3.2 qts.	(3.6 lbs.)				
Bladex (Cyanazine)	80W	sandy loam	3 lbs.	(2.4 lbs.)	yes	yes	yes	Do not apply Bladex on soils of less than 1% organic matter.
	4 lbs./gal.	silt loam	3.5 lbs.	(2.8 lbs.)				
	15 G	clay loam	4.0 lbs.	(3.2 lbs.)				
Dual (Metolachlor)	8 E	coarse	1.5 pt.	(1.5 lb.)	yes	yes	some	During early corn development injury may result under high soil moisture.
	25 G	medium	2.0 pts.	(2.0 lbs.)				
		fine	2.5 pts.	(2.5 lbs.)				
Eradicane (EPTC) Eradicane extra	6.7 E	Apply on mineral soils with less 10% organic matter.	4.75 pts.	(4.25 lbs.)	yes	yes	yes	Do not use on corn seed stocks (breeders, foundation, or increase).
	6.0 E		5.3 pts.	(4.8 lbs.)				
Genate Plus (EPTC)	6.7 lbs./gal.	Use on mineral soils of less than 10% organic matter.	4.75 pts.	(4.25 lbs.)	yes	yes	yes	Do not use on corn seed stocks.
Genep EPTC	7.0 lbs./gal.	Use on mineral soils of less than 10% organic matter.	3.5 pts.	(2.6 lbs.)	yes	yes	yes	Delay corn planting 7-10 days after application. Do not use on corn seed stocks.
Lasso (Alachlor)	4.0 lbs./gal.	coarse	2.0 qts.	(2.0 lbs.)	yes	yes	yes	Best performance obtained if applied before emergence of crop or weeds.
		medium	2.5 qts.	(2.5 lbs.)				
		fine	3.0 qts.	(3.0 lbs.)				
Lasso II	15 G	medium heavy	16 lbs. 20 lbs.	(2.4 lbs.) (3.0 lbs.)	yes	yes	yes	If cultivation is necessary, tillage should be shallow to minimize dilution of herbicide.

Table 1. Continued.

Herbicide	Formulation	Soil	Rate/acre		Incorporation	Weeds controlled		Limitations
			Product	Active Ingredient		Annual grass	Broadleaf	
Lorox (Linuron)	50 WP	used only in mixes						
Lorox 4L	4 lbs./gal.	used only in tank mixes						
Princep (Simazine)	80% WP	coarse	2.5 lbs.	(2.0 lbs.)	yes	yes	yes	Do not rotate to any other crop during following year.
		medium	3.0 lbs.	(2.4 lbs.)				
		fine	3.75 lbs.	(2.8 lbs.)				
Prowl (Pendimethalin)	4 lbs./gal.	coarse	3.0 pts.	(1.5 lb.)	no	yes	some	Incorporation may result in serious injury. Will not control established weeds.
		medium	3.0 pts.	(1.5 lb.)				
		fine	3.5 pts.	(1.75 lb.)				
Ramrod (Propachlor)	4 lbs./gal.	coarse	4.5 qts.	(4.5 lbs.)	no	yes	some	Delay cultivation as long as weeds are controlled.
		medium	5.0 qts.	(5.0 lbs.)				
		fine	5.5 qts.	(5.5 lbs.)				
Ramrod 20G	20% granule	sandy loam	20 lbs.	(4 lbs.)	no	yes	some	Apply to freshly worked seedbed that's free of vegetative growth.
		silt loam	22 lbs.	(4.4 lbs.)				
		clay loam	25 lbs.	(5.0 lbs.)				
Sutan + (Butylate)	6.7 lbs./gal.	medium	4.75 pts.	(4.25 lbs.)	yes	yes	no	Do not use on corn seed stocks (breeders, foundation or incese).
		fine	7.3 pts.	(6.2 lbs.)				
Sutan + 10-G	10% granule	light	30 lbs.	(3.0 lbs.)	yes	yes	no	Do not use on corn seed stocks.
		medium	40 lbs.	(4.0 lbs.)				
		fine	40 lbs.	(4.0 lbs.)				
2.4-D Ester	several				no	yes	yes	Provides short-term control of annual weeds.

Table 2. Pre-emergents and sequential combinations.

Herbicides	Formulation	Soil	Rate/acre		Surface	Applied		Limitations
			Product	Active ingredient		Incorporation	Sequential	
Aatrex (Atrazine) + Dual 8E	80W 8 lbs./gal.	coarse	1.1 lb. + 1.26 pt.	(.9 lb. + 1.25 lb.)	yes	yes	no	Other brands of Atrazine may be used in this tank mix.
		medium	1.3 lb. + 1.5 pt.	(1.0 lb. + 1.5 lb.)				
		fine	1.8 lb. + 2.0 pts.	(1.6 lb. + 2.0 lbs.)				
Atrazine + Lasso	4 lbs./gal. 4 lbs./gal.	coarse	1.0 qt. + 1.5 qt.	(1.0 lb. + 1.5 lb.)	yes	yes	no	Do not apply in liquid fertilizer after corn emergence.
		medium	1.0 qt. + 1.75 qt.	(1.0 lb. + 1.75 lb.)				
		fine	1.2 qt. + 2.25 qts.	(1.2 lb. + 2.25 lbs.)				
Atrazine + Princep (Simazine)	80W 80W	sandy loam	1.25 lb. + 1.25 lb.	(1.0 lb. + 1.0 lb.)	yes	yes	no	Apply within two weeks before planting.
		silt loam	1.5 lb. + 1.5 lb.	(1.2 lb. + 1.2 lb.)				
		clay loam	1.8 lb. + 1.8 lb.	(1.4 lb. + 1.4 lb.)				
Atrazine + Ramrod (Propachlor)	4 lbs./gal. 4 lbs./gal.	coarse	1.0 qt. + 2.5 qts.	(1.0 lb. + 2.5 lbs.)	yes	no	no	Do not plant soybeans where mix has been furrow-irrigated.
		medium	1.2 qt. + 3.0 qts.	(1.2 lb. + 3.0 lbs.)				
		fine	1.3 qt. + 3.0 qts.	(1.3 lb. + 3.0 lbs.)				
Atrazine + Sutan + (Butylate)	4 lbs./gal. 6.7 lbs./gal.	medium heavy	1.0 qt. + 3.75 pts. 1.5 qt. + 4.75 pts.	(1.0 lb. + 3.3 lbs.) (1.5 lb. + 4.25 lbs.)	no	yes	no	Supplementary cultivation recommended.

Table 2. Continued.

Herbicides	Formulation	Soil	Rate/acre		Surface	Applied Incorporation	Sequential	Limitations
			Product	Active ingredient				
Amiben (Chloramben) + Atrazine	2.0 lbs./gal. 80W	silt loam	2.0 qts. + 1.25 lb.	(1.0 lb. + 1.0 lb.)	yes	light	no	Do not use Amiben on corn grown on sandy soil.
		clay loam	3.0 qts. + 2.5 lbs.	(1.5 lb. + 2.0 lb.)				
Bladex (Cyanazine) + Atrazine	4 lbs./gal. 80W	sandy loam	1.2 qt. + 1.5 lb.	(1.2 lb. + 1.2 lb.)	yes	no	no	Do not use on soils with less than 1% organic matter.
		silt loam	1.4 qt. + 1.75 lb.	(1.4 lb. + 1.4 lb.)				
		clay loam	1.6 qt. + 2.0 lbs.	(1.6 lb. + 1.6 lb.)				
Bladex + Dual (Metolachlor)	4 lbs./gal. 8 lbs./gal.	sandy loam	1.4 qt. + 1.5 pt.	(1.5 lb. + 1.5 lb.)	yes	yes	no	Injury may result under high soil moisture.
		silt loam	1.75 pt. + 1.75 pt.	(1.75 lb. + 1.75 lb.)				
		clay loam	2.0 qts. + 2.0 pts.	(2.0 lbs. + 2.0 lbs.)				
Bladex + Lasso (Alachlor)	4 lbs./gal. 4 lbs./gal.	sandy loam	1.2 qt. + 2.0 qts.	(1.2 lb. + 2.0 lbs.)	yes	yes	no	Seedbed should be firm and free from clods or trash.
		loam	1.4 qt. + 2.0 qts.	(1.4 lb. + 2.0 lbs.)				
		clay loam	1.4 qt. + 2.0 qts.	(1.4 lb. + 2.0 lbs.)				
Bladex + Prowl (Pendimethalin)	4 lbs./gal. 4 lbs./gal.	coarse	2.0 lbs. + 2.0 pts.	(2.0 lbs. + 1.0 lb.)	yes	no	no	Do not use on soils of less than 1% organic matter.
		medium	2.0 lbs. + 3.0 pts.	(2.0 lbs. + 1.5 lb.)				
		fine	2.5 lbs. + 3.0 pts.	(2.5 lbs. + 1.5 lb.)				
Bladex + Sutan + (Butylate)	4 lbs./gal. 6.7 lbs./gal.	sandy loam	1.4 qt. + 1.8 qt.	(1.4 lb. + 3.0 lbs.)	no	yes		Do not use for corn seed stocks.
		silt loam	1.6 qt. + 1.8 qt.	(1.6 lb. + 3.0 lbs.)				
		clay loam	1.8 qt. + 1.8 qt.	(1.8 lb. + 3.0 lbs.)				
Bladex + Eradicane (EPTC)	4 lbs./gal. 6.7 lbs./gal.	sandy loam	1.4 qt. + 1.8 qt.	(1.4 lb. + 3.0 lbs.)	no	yes		Do not use for corn seed stocks.
		silt loam	1.6 qt. + 1.8 qt.	(1.6 lb. + 3.0 lbs.)				
		clay loam	1.8 qt. + 1.8 qt.	(1.8 lb. + 3.0 lbs.)				
Eradicane + Atrazine 4L	6.7 lbs./gal. 4 lbs./gal.	soil type	4.75 pts. + 2.0 pts.	(4.25 lbs. + 1.0 lb.)	sprinkler irrigation	yes	yes	Do not use on corn seed stocks.
		not on label						
Eradicane + Princep (Simazine)	6.7 lbs./gal. 4 lbs.	light infest	4.75 pts. + 1.3 qt.	(4.25 lbs. + 1.3 lb.)	sprinkler irrigation	yes	yes	Liquid fertilizer may replace water as carrier.
		heavy infest	7.3 pts. + 1.5 qt.	(5.8 lbs. + 1.5 lb.)				
Lorox (Linuron) + Atrazine	50% WP 80W	sandy loam	1.0 lb. + .67 lb.	(.5 lb. + .5 lb.)	yes	no	no	Plant corn at least 1.75 inches deep.
		silt loam	1.5 lb. + 1.0 lb.	(.75 lb. + .8 lb.)				
		clay loam	1.7 lb. + 1.0 lb.	(.85 + .8 lb.)				
Lorox + Lasso (Alachlor)	50% WP 4 lbs./gal.	sandy loam	.67 lb. + .75 qt.	(.34 lb. + .75 lb.)	yes	no	no	After four months, any other crop may be planted.
		silt loam	1.0 lb. + 1.0 qt.	(.5 lb. + 1.0 lb.)				
		clay loam	1.3 lb. + 1.5 qt.	(.65 lb. + 1.5 lb.)				
Lorox + Ramrod (Propachlor)	50% WP 65 WP	sandy loam	.67 lb. + 1.0 lb.	(.34 lb. + .65 lb.)	yes	no	no	Plant any other crop after four months.
		silt loam	1.0 lb. + 1.5 lb.	(.5 lb. + .98 lb.)				
		clay loam	1.3 lb. + 2.0 lbs.	(1.0 lb. + 1.3 lb.)				
Prowl (Pendimethalin) + Atrazine	4 lbs./gal. 80W	coarse	2.0 pts. + 1.25 lb.	(1.0 lb. + 1.0 lb.)	yes	no	no	Do not incorporate, as serious injury may result.
		medium	3.0 pts. + 1.25 lb.	(1.5 lb. + 1.0 lb.)				
		fine	3.0 pts. + 1.5 lb.	(1.5 lb. + 1.2 lb.)				
Prowl + Banvel (Dicamba)	4 lbs./gal. 4 lbs./gal.	medium	3.0 pts. + .75 pt.	(1.5 lb. + .37 lb.)	yes	no	no	Do not apply by aircraft.
		fine	3.0 pts. + .75 pt.	(1.5 lb. + .37 lb.)				

Table 3. Postemergence.

Herbicide	Formulation	Soil	Rate/acre		Weeds controlled		Limitations
			Product	Active Ingredient	Grass	Broadleaf	
Atrazine	4.0 lbs./gal.	coarse medium fine	4.0 pts. 4.75 pts. 6.0 pts.	(2.0 lbs.) (2.37 lbs.) (3.0 lbs.)	several	yes	Apply before weeds are 1.5 inches in height. Can be applied in water or oil carrier.
Atrazine	80% WP	coarse medium fine	2.5 lbs. 3.0 lbs. 3.75 lbs.	(2.0 lbs.) (2.4 lbs.) (3.0 lbs.)	several	yes	Apply before weeds exceed 1.5 inches. Can be applied in oil or water carrier.
Aatrex 80W + Dual 8E (Metolachlor)	80% WP 8 lbs./gal.	coarse medium fine	1.4 lb. + 1.5 pt. 2.0 lbs. + 2.0 pts. 2.0 lbs. + 2.0 pts.	(1.12 lb. + 1.5 lb.) (1.6 lb. + 2.0 lbs.) (1.6 lb. + 2.0 lbs.)	yes	yes	Apply before weeds reach 2-leaf stage and before corn is 5 inches.
Aatrex 80W + Lasso (Alachlor)	80% WP 4 lbs./gal.	coarse medium fine	1.0 lb. + 1.5 qt. 1.0 lb. + 1.75 qt. 1.2 lb. + 2.25 qts.	(0.8 lb. + 1.5 lb.) (0.8 lb. + 1.75 lb.) (.96 lb. + 2.25 lbs.)	yes	yes	Do not graze or feed treated forage for 21 days after application.
Basagran (Bentazon)	4 lbs./gal.	weed species and size	0.75 qt. to 1.0 qt.	(.75 lb. to 1.0 lb.)	no	yes	Inbred corn hybrids may vary in tolerance.
Basagran + Atrazine 80W	4 lbs./gal. 80% WP	weed species and size	0.5 qt. + 0.6 lb.	(0.5 lb. + 0.5 lb.)	several	yes	Leaf speckling may occur on corn leaves.
Banvel (Dicamba)	4 lbs./gal.	Apply before 3 ft. tall.	0.5 pt.	(.25 lb.)	few	yes	Do not graze or feed before milk stage.
Banvel + 2, 4-D	4 lbs./gal. 4 lbs./gal.		0.5 pt. + .25 lb.	(.25 lb. + .25 lb.)	few	yes	Use caution to prevent drift.
Bladex 80W (Cyanazine)	80% WP		1.5 qt. to 2.5 qts.	(1.2 lb. to 2.0 lbs.)	some	yes	Do not use oil-water emulsion carrier.
Evik 80W (Ametryn)	80% WP	2 in. weeds 2-4 in. weeds 4-6 in. weeds	2.0 lbs. 2.5 lbs. 2.5 lbs.	(1.6 lb.) (2.0 lbs.) (2.0 lbs.)	yes	few	Do not apply over top or within three weeks of tasseling.
Lorox (Linuron) (Post-Directed)	50% WP	small weeds up to 5 in.	1.25 lb. 3.0 lbs.	(0.63 lb.) (1.5 lb.)	yes	yes	Add 1 pt. surfactant WK for each 25 gals. spray.
2,4-D (Amine)	4 lbs./gal.		0.5 pt. to 1.0 pt.	(.25 lb. to .5 lb.)	no	yes	Do not apply from early tasseling to early dough stage.

Three-way tank mixes

- Aatrex + Dual + Princep
- Bladex + Atrazine + Lasso
- Bladex + Atrazine + Sutan
- Bladex + Atrazine — Eradicane
- Bladex + Atrazine + Dual

See labels for component rates.

Banvel (Dicamba)

For pre-emergence and postemergent control of broad-leaf annual weeds in corn. Foliar and soil applications control phenoxy-tolerant annual broadleaf weeds and brush. Legume species are quite sensitive.

Basagran (Bentazon)

Basagran selective herbicide is intended for the post-emergence control of certain broadleaf weeds and sedges. Basagran does not control grasses. It is effective mainly through contact action; therefore, weeds must be thoroughly covered with spray. Large crop-and-weed leaf canopies shelter smaller weeds and prevent adequate spray coverage. Labeled crops are tolerant to Basagran; however, some leaf-speckling and leaf-bronzing may occur under certain conditions.

Bladex (Cyanazine)

Bladex is a selective pre-emergence or postemergence herbicide for the control of annual grasses and broad-leaved weeds in field corn.

When Bladex is used as directed on the label, there is no herbicide carryover that interferes with succeeding crops, and the user can rotate from corn to other crops. Should the corn stand be lost due to adverse weather conditions, the field can be replanted the same season to corn or sorghum.

As a pre-emergence herbicide, Bladex is active mainly through the roots; and therefore, its effect on weeds is dependent on adequate rainfall to move the herbicide into the root zone. A rotary hoeing or shallow cultivation is recommended if a rainfall or sprinkler irrigation has not occurred within about 10 days after application.

Buctril (Bromoxynil)

Buctril is a contact herbicide that provides effective postemergence control of annual broadleaf weeds in corn. Buctril should be applied to weeds that are 2 to 6 inches tall. The corn can be treated when it is in the 3-leaf stage or greater in size. Refer to the label for further use instructions and precautions.

Dual (Metolachlor)

Dual controls many annual grasses and certain broad-leaf weeds in corn. It should be applied before the emergence of weeds. It may be incorporated into the surface 1 to 2 inches of soil before planting or left on the soil surface during or after planting. Dry weather after application may reduce its effectiveness. Rely on shallow cultivation if weeds develop or if tillage is necessary to improve the physical condition of the soil.

Eradicane (EPTC)

Eradicane is designed to control weeds in corn without leaving a harmful carry-over. It lets you grow corn where it has been impossible before. Eradicane also controls most annual grasses and broadleaf weeds like foxtails, fall panicum, pigweed, and lambs-quarters.

When properly applied and weather conditions exist for normal plant growth through the season, Eradicane will not harm the treated crop, and harmful soil residues will not remain after harvest. However, during germination and early growth, extended periods of unusually cold and wet or hot and dry weather, or during an attack by insects, nematodes, or plant diseases, carry-over soil residues of certain persistent herbicides may weaken crop seedlings. A new formulation, Eradicane Extra, is more effective than regular EPTC.

Evik (Ametryn)

Evik is a selective herbicide for control of broadleaf and grass weeds as a post-directed spray in corn. Rapid foliage penetration minimizes loss from rain after application. Corn plants should be at least 12 inches tall at the time of application.

Genate Plus (EPTC)

Genate Plus controls annual grasses by interfering with normal seed germination and seeding development. It does not control established weeds. All weed growth and crop stubble should be thoroughly worked into the soil before treatment.

Genate Plus is a selective herbicide that you mix (incorporate) or inject into the soil for control of weeds on the label.

When properly applied and weather conditions exist for normal plant growth through the season, Genate Plus will not harm the treated crop, and harmful soil residues will not remain after harvest.

Genep EPTC

Genep EPTC-7EC is a selective herbicide that for most uses must be (incorporated), injected into the soil, or applied in the irrigation water for control of weeds listed on label.

When properly applied and weather conditions exist for normal plant growth through the season, Genep EPTC-7EC will not harm the treated crop, and harmful soil residues will not remain after harvest. However, during germination and early growth, extended periods of unusually cold and wet or hot and dry weather, may create abnormal conditions that weaken crop seedlings. Genep EPTC-7EC used under these abnormal conditions could result in crop injury.

Lasso (Alachlor)

Lasso will control most annual grasses and certain broadleaf weeds in corn. Lasso can be applied pre-plant incorporated, pre-emergence or early postemergence. It is absorbed mainly by germinating plant shoots and secondarily by roots.

Lorox (Linuron)

Lorox weed killer is a wettable powder to be mixed in water and applied as a spray for selective control of weeds in certain crops and for nonselective weed control on non-cropland areas. It is non-corrosive to equipment, non-flammable, and non-volatile.

Lorox is recommended for use with certain other herbicides for treatment of field corn. Observe cautions and limitations on labeling of all products used in mixtures.

Princep (Simazine)

Apply Princep before weeds emerge or after removing weed growth. Princep controls a wide variety of annual broadleaf and grass weeds when used at selective rates in agricultural crops and ornamental plantings. When used at higher, non-selective rates in non-crop areas, it also controls many perennial broadleaf and grass weeds.

Because Princep enters weeds mainly through their roots, moisture is needed to move it into the root zone. Very dry soil conditions and lack of rainfall after application may necessitate shallow cultivation.

Princep is non-corrosive to equipment, nonflammable, and has low electrical conductivity.

Prowl (Pendimethalin)

Prowl controls most annual grasses and certain broadleaf weeds as they germinate but will not control established weeds. Unusually cold, excessively wet, or hot and dry conditions that delay germination or extend germination over a long period of time can reduce weed control.

Applied according to label directions and under normal growing conditions, Prowl or Prowl tank-mix combinations will not cause crop injury. But over-application can result in crop stand loss, crop injury, or soil residues.

Ramrod (Propachlor)

This product is recommended for control of many annual grasses and certain broadleaf weeds. For best results apply it to the soil surface before crop or weeds emerge. The seedbed should be fine, firm and free of clods and trash. Apply within five days after the last tillage for weed control. Do not apply when conditions favor drift.

Moisture, either as rain or irrigation, is required after application to activate this product. On coarse soils $\frac{1}{3}$ inch of rainfall, and on medium and fine-textured and high organic soils $\frac{1}{3}$ to $\frac{3}{4}$ inch of rainfall is required depending upon original soil moisture. Better results are obtained when moisture occurs within 10 days after application. Generally, lower amounts of rainfall are required when soil moisture is high at planting time.

Roundup (Glyphosate) (spot treatment)

Roundup, a water soluble liquid, mixes readily with water to be applied as a foliage spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field sprayers after dilution and thorough mixing with water, according to label instructions.

This product moves through the plant from the point of foliage contact to and into the root system.

Visible effects on most annual weeds occur within two to four days. But on most perennial weeds, effects may not be visible for seven days or more. Extremely cool or cloudy weather after treatment may slow down activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above-ground growth and deterioration of underground plant parts.

Sutan + (Butylate)

Sutan controls grasses. If applied according to directions and under normal growing conditions, Sutan + 6.7-E will not harm the treated crop. During germination and early stages of growth, an extended period of unusually cold and wet or hot and dry weather may create abnormal conditions that weaken crop seedings. Sutan + used under these abnormal conditions could result in crop injury.

Loss of weed control will result from any delay in incorporation if Sutan + 6.7-E is applied to a moist soil surface.

Several brands (2,4-D)

Apply the ester form as a pre-emergent, and the amine form as a postemergent. Observe precautions to prevent drift from the treated area. 2,4-D will control most annual broadleaf weeds as a postemergent application.

Tandem* (not assigned)

Tandem is an experimental herbicide that will be used in a tank mix with either Atrazine, Bladex, 80W, or both. These tank mixes offer more reliable and a broader spectrum of control than Atrazine or Bladex 80W used alone.

Tandem has its own mode of action against grasses, thus greatly increasing the spectrum of weeds under control.

Tandem enhances the activity of Atrazine and Bladex 80W. It blocks an enzyme system that acts as a natural defense in small weeds against Triazine herbicides (Atrazine and Bladex 80W). When this enzyme system is blocked, the Triazine herbicides become more effective.

A postemergence application of a Tandem combination can extend a weed control program.

*Experimental

An *Experimental* designation indicates that the treatment (1) is new and not adequately observed under Missouri conditions to allow an accurate description of its characteristics, or (2) although new, it has been found to be marginal in weed control performance or crop safety, and a longer time is required to determine the degree of dependability.

It is suggested that *Experimental Treatments* be used on a limited basis until their performance has been determined.

Use rates on the label.

Fertilizers as herbicide carriers (mixes)

Because of the variability of fluid or dry fertilizer grades, make compatibility checks with each batch of fertilizer. Also determine the compatibility of herbicide mixes with the specific fertilizer to be used.

General compatibility

Aatrex.....	Liquid fertilizer
Bladex.....	Liquid fertilizer
Bicep.....	Liquid fertilizer
Dual.....	Liquid fertilizer
Eradicane.....	Dry bulk or liquid
Evik.....	Nitrogen solution
Lasso.....	Dry bulk or liquid
Princep.....	Liquid fertilizer
Prowl.....	Dry bulk or liquid
Ramrod.....	Liquid fertilizer
Sutan +.....	Dry bulk or liquid