

# WEED CONTROL GUIDE for 1975

This 1975 Weed Control Guide provides the latest recommendations for cultural and chemical control of weeds. Recommendations for use of herbicides on the major field crops are provided and must be followed closely for control of weeds and to minimize risk of crop injury. Particular attention should always be given to reading and following instructions regarding the use of all pesticides. No herbicide, combination of herbicides or other pesticides, additives or liquid fertilizers should be used on any crop unless it has Environmental Protection Agency registration for use on that particular crop. Changes in registration are constantly being made, so some uses suggested in this publication may change by planting time.

Many interacting factors govern the effectiveness of herbicides and the potential for crop injury. Included are environmental conditions such as rainfall, temperature and relative humidity; managerial factors, such as depth of planting, time of planting, time of application, general tillage practices in seedbed preparation, weed species present in the field, rate and kind of chemicals needed to provide greatest economic return from the crop.

Both chemical and trade names are used in this publication. Use of trade names is for clarification to explain the use of the chemical involved. Inclusion of a trade name does not imply endorsement of that particular brand of herbicide and exclusion does not imply nonapproval.

Information in this guide summarizes research on the effectiveness of various methods of cultural and chemical weed control. Data provided is from research conducted by the Iowa Agricultural Experiment Station, research demonstration plots throughout Iowa evaluated by area crop production specialists and county extension directors, plus other sources.

## Weed Control in Row Crops

Most Iowa farmers rely on a combination of cultural and chemical methods to effectively control weeds in corn and soybeans.

### Cultural Practices and Preplant Herbicide Treatments

Primary tillage practices may include moldboard plowing or some form of reduced tillage that will adequately allow preparation of a desirable seedbed in the row.

*Prepared by Vivian M. Jennings, extension botanist and plant pathologist.*

A **conventional tillage program** usually involves moldboard plowing followed by a disc or field cultivator in early spring to destroy early germinating weeds. Preplant chemical treatments are often applied at this time. This should be followed 7 to 10 days later by discing or field cultivating in the opposite direction to more adequately mix preplant treatment. A harrow or leveling device on the disc may be useful. Discing usually provides better mixing of preplant chemicals than a field cultivator. Set the disc to run approximately 5 inches deep and operate at 6 miles per hour for most effective results. Plant as soon as possible after final discing.

A **reduced-tillage program** may employ any of the following as a form of primary tillage, or in many cases final tillage before planting.

A **heavy disc** may be used in soybean stubble going to corn at which time preplant herbicide treatment may be applied followed by cross discing up to 7 to 10 days later at a shallower depth for best weed control. An initial, deep discing may be necessary in corn stubble before application of preplant herbicide treatments. Adequate stands may be more difficult to obtain where last year's corn stubble is being prepared for corn, and particularly soybeans the following year.

A **chisel plow** may be used for primary tillage with nitrogen fertilizer at the same time. This practice is most advantageous in the fall on heavier soils. It may also result in less wind erosion potential than moldboard plowing. Fall chiseling may be treated in the spring similarly to moldboard plowing before planting with preplant herbicide treatments.

**Rotary tillage** is usually performed at final seedbed preparation. The previous years' residue should be disced 7 to 10 days prior to planting with a rototiller equipped with unit planters. Preplant herbicide treatment applied by rototilling is usually adequately mixed with the soil. Application should be directly ahead of the rotors. Rotors should not till deeper than 2 inches. The seed should be placed and firmed into the untilled soil beneath the tilled soil for acceptable stands.

**Till planting** and **no-till planting** do not allow the use of preplant incorporated herbicides, since no primary tillage is done before planting.

### Cultural Practices and Preemergence Herbicide Treatments

Most preemergence herbicide treatments will work effectively where the above tillage practices have been used. Preemergence treatments should be applied as soon after planting as possible to be most effective. Unless the chemical may be used postemergence as





well as preemergence, care should be taken if a form of reduced tillage is used where weeds have already emerged. In this situation, a "burn-down" chemical, a selective postemergence chemical or cultural method of controlling these particular species is needed. Be cautious of excessive residue that may not allow adequate distribution of the preemergence herbicide. Weeds may be very difficult to manage in reduced tillage programs if not adequately controlled each year.

If rainfall is not adequate to activate preemergence herbicides, rotary hoeing may increase the herbicide effectiveness. A good rule of thumb is to rotary hoe if you see weeds emerge even if you have used a pre-emergence herbicide.

### **Cultural Practices and Postemergence Herbicide Treatments**

After the crop has emerged, and when weeds are at or near emergence, rotary hoeing can greatly reduce

weed populations. A harrow may also be used on corn at this time. Row cultivation is also effective when weeds are small, but the crop needs to be tall enough for acceptable weed control. Don't cultivate too deep because shallow root systems may be damaged. A rolling cultivator, if properly set, will provide excellent early weed control and allow faster cultivating speeds than conventional cultivators.

Forms of reduced tillage may not allow the use of a rotary hoe or conventional cultivator. Special cultivators are needed for till planted crops and no cultivation equipment may be acceptable if no-till has been used in a sodded seedbed condition. However, it is usually not needed.

Most postemergence herbicides should be applied when weeds are small and actively growing to be effective. A cultivation after a postemergence herbicide treatment usually provides more complete weed control. In the following tables, rates are given as broadcast rates of commercial product per acre. For band applications adjust rates for band width.

# CORN HERBICIDES

## Weed Response to Selected Corn Herbicides

E = Excellent G = Good F = Fair P = Poor

Preplant	Crop Tolerance	Grasses						Broadleaves									
		Barnyard Grass	Crabgrass	Fall Panicum	Foxtail (spp.)	Nutsedge	Shatter Cane	Black Nightshade	Cocklebur	Jimson Weed	Lambsquarter	Mustard	Pigweed	Ragweed	Smartweed	Sunflower	Velvetleaf
AAtrex or Atrazine	E	G	F	P	F	F	F	E	G	E	E	E	E	E	E	G	G
Sutan +	E	E	E	E	E	G	G	G	P	P	G	P	P	P	P	P	P
Sutan + + AAtrex	E	E	E	E	E	G	G	E	F	G	E	E	E	E	E	F	G
Sutan + + Bladex	G	E	E	E	E	G	G	E	F	F	E	G	G	E	E	F	F
Eradicane	E	E	E	E	E	G	E	E	P	P	G	F	G	F	P	P	F
Lasso	E	G-E	G-E	G-E	G-E	G	F	F	P	P	P	P	G	F	P	P	P
<b>Preemergence</b>																	
AAtrex or Atrazine	E	G	F	P	F-G	F	P	E	G	E	E	E	E	E	E	G	E
Bladex	G	G	G	G	G	F	P	G	G	G	G	G	F	G	E	F	G
Lasso	E	E	E	E	E	G	F	F	P	P	F	P	G	F	F	P	P
Lasso + AAtrex	E	E	E	G	E	F	F	E	G	G	E	E	E	E	E	G	E
Lasso + Bladex	E	E	E	E	E	F	F	E	F	F	E	E	E	E	E	F	G
Lasso + Banvel	G	E	E	G	E	F	F	G	F	F	G	G	E	E	E	F	F
Lorox + Lasso	F	E	E	G	E	F	F	G	F	F	E	E	E	E	G	F	F
Ramrod	E	E	E	G	E	F	F	G	P	P	G	P	F	P	P	P	P
Ramrod + Atrazine	E	E	G	G	E	F	F	E	F	F	E	G	G	G	E	G	G
<b>Postemergence</b>																	
AAtrex or Atrazine + crop oil	G	G	F	P	F	G	P	E	E	E	E	E	E	E	E	E	E
Bladex	F	G	F	F	G	F	P	E	F	G	G	E	G	E	E	F	F
2,4-D	F	P	P	P	P	P	P	F	E	G	G	G	G	G	P	F	G
2,4-D + Banvel	F	P	P	P	P	P	P	F	E	G	G	G	G	E	E	G	G

This chart should be used only as a guide. Ratings of chemicals may be higher or lower than indicated depending on soil characteristics, managerial factors and environmental variables.



**PREPLANT INCORPORATED TREATMENTS—To be applied prior to planting the crop incorporated into the soil**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
AAtrex 80W or 4L Atrazine 80W	Use 2½-3¾ lb AAtrex or Atrazine 80W or 2-3 qt AAtrex 4L	For use on field corn, sweet corn, silage corn, popcorn and seed production fields. Atrazine may cause injury to succeeding crops. Carryover is usually greater on calcareous soils.	Annual broadleaf weeds and some grasses	Do not graze or feed forage for 21 days after treatment.
Sutan + (butylate plus safening additive) Available as 6E or 6.7E Sutan available as 10G	6E ⅔ gal/A 6.7E 4¾ pt/A	Incorporate immediately with a disc. Set at 4 to 6 inch depth and operated at 4 to 8 mph followed by a leveling device or spiketooth harrow. Safening additive reduces risk of corn injury.	Annual grasses. Suppresses yellow nutsedge	None
Sutan + AAtrex or Atrazine (butylate plus atrazine). Use Sutan 6E or 6.7E plus 80W tank mix.	Use ½ gal Sutan 6E or 3¾ pt Sutan 6.7E plus 1¼-2 lb AAtrex 80W or use ⅔ gal Sutan 6E or 4¾ pt Sutan 6.7E plus 2 lb AAtrex 80W	Incorporate immediately with a disc. See remarks under AAtrex and Sutan. Use higher rate of Sutan on soils above 5% organic matter or on heavy infestations of shattercane or yellow nutsedge.	Annual grasses and broadleaf weeds; shattercane and yellow nutsedge	Do not graze or feed forage for 21 days after treatment.
Sutan + plus Bladex (butylate plus cyanazine) Sutan 6E or 6.7E plus Bladex 80W	Use ½ gal Sutan 6E or 3¾ pt Sutan 6.7E plus from 1¼-2 lb Bladex 80W or use ⅔ gal Sutan 6E or 4¾ pt Sutan 6.7E plus 2½ lb Bladex 80W	Incorporate immediately with a disc. May plant any crop the following year. Do not use on sands, loamy sands, or soils less than 1% organic matter. See remarks under Sutan.	Annual grasses and broadleaf weeds, but weak on pigweed and velvet leaf	None
Eradicane (EPTC plus safening additive) 6.7E	Use 4¾ pt Eradicane 6.7E	Do not use on seed crop. Incorporate immediately.	Annual grasses and some broadleaf weeds, shattercane and sandbur.	None
Lasso (alachlor) 4E or 15G	Use 3-4 qt Lasso 4E Use 16-26 lb Lasso II 15G	Preemergence treatments are better for annual grass control.	Yellow nutsedge	Do not graze or feed forage for 21 days after treatment.
Lasso plus AAtrex or Atrazine (alachlor plus atrazine) 4E + 80W or AAtrex 4L	Use 2-2½ qt Lasso 4E plus 1½ to 2 lb 80W or 1.2 to 1.6 qt AAtrex 4L	Apply within 7 days of planting and incorporate no more than necessary for maximum Lasso activity. See remarks under AAtrex.	Annual grasses and broadleaf weeds	Do not graze or feed forage for 21 days after treatment.



**PREEMERGENCE TREATMENTS—Applied from planting time to crop or weed emergence.**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
AAtrex 80W or 4L Atrazine 80W	Use 2½-3¾ lb AAtrex or Atrazine 80W or 2-3 qt AAtrex 4L	See preplant remarks and use accordingly.	Annual broadleaf weeds and some grasses	Do not graze or feed forage for 21 days after treatment.
Bladex (cyanazine) 80w, 4WDS and 15 G	Use 1½-5 lb Bladex 80W. Use 1¼-4 qt Bladex 4WDS. Use 10-27 lb Bladex 15 G	<b>Do not</b> use on soils less than 1% organic matter or on sands or loamy sand soils. Very responsive to organic matter and soil texture—may cause injury if rates are exceeded for soil type and organic matter and under extreme environmental conditions. Do not use on peat or muck soils.	Annual broadleaf weeds and grasses	None
Lasso (alachlor) 4E or 15G (Lasso II)	Use 2-3½ qt Lasso 4E. Use 16 to 26 lb Lasso 15G	Use on field corn, seed corn, silage corn and sweet corn. Do not use with liquid fertilizer on sweet corn. Lasso II is not cleared on sweet corn.	Annual grasses, pigweed, lambs-quarter	Do not graze or feed forage for 21 days after treatment.
Lasso plus AAtrex or Atrazine (alachlor plus atrazine) 4E plus 80W or AAtrex 4L	Use 1½-2½ qt Lasso 4E plus 1¼-2 lb AAtrex or Atrazine 80W or 1-1.6 qt AAtrex 4L	This combination provides excellent annual grass and broadleaf weed control.	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment.
Lasso plus Bladex (alachlor plus cyanazine) 4E plus 80W	Use 2-2½ qt Lasso 4E plus 1¾-2¾ lb Bladex 80W	<b>Do not</b> use on sands or loamy sands or soils with less than 1% organic matter. Velvet leaf not often controlled. Field corn and silage corn only.	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment.
Lasso plus Banvel (alachlor plus dicamba) 4E plus 4E	Use 2½ qt Lasso 4E plus 1 pt Banvel 4E	Banvel increases broadleaf weed control and is useful on variable soils, since it is not greatly affected by organic matter. Banvel should be used only on soils above 2½% organic matter and of a silty clay loam or clay texture. Crop injury may occur on sandy soils following heavy precipitation. Field corn only.	Annual broadleaf weeds and grasses	Do not graze or harvest for feed before milk stage.
Lorox plus Lasso (linuron plus alachlor) 50W plus 4E	Use 1-2½ lb Lorox 50W plus 1-2½ qt Lasso 4E	Plant corn no less than 1¾ inches deep. <b>Do not</b> use on sands, loamy sands or soils with less than 1% organic matter. On soils above 4%, broadleaf control with Lorox will be reduced.	Annual broadleaf weeds and grasses	Do not graze or harvest immature corn for feed within 12 days of treatment.
Ramrod (propachlor) 65W or 20G	Use 6-9½ lb Ramrod 65W. Use 20-30 lb Ramrod 20G.	Use on field corn, silage corn, sweet corn, and seed fields. Best used on soils above 3% organic matter. May cause irritation to applicator.	Annual grasses and pigweed	None
Ramrod plus AAtrex or Atrazine (propachlor plus atrazine) 65W plus 80W and 69%W. AAtram 20G is a granular formulation of propachlor + atrazine	Use 3.8-6.0 lb Ramrod 65W plus 1.3-2.0 lb 80W or use 5-8 lb Ramrod/atrazine 69% W. Use 15-30 lb AAtram 20G.	Use on field corn, silage corn, sweet corn and seed fields. See comments under AAtrex and Ramrod.	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment.



**PREEMERGENCE TREATMENTS—Applied from planting time to crop or weed emergence. (cont.)**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
Amiben plus AAtrex (choramben plus atrazine) 2L plus 80W	Use ½-1 gal. Amiben 2L plus 1¼-2½ lb AAtrex 80W	Do not use on sandy or loamy sand soils	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment
Prowl (AC-92553, label pending) 4E plus Atrazine 80W or Bladex 80W (cyanazine)	Use 1½-2 qt Prowl 4E alone or use 1½ qt. Prowl 4E plus 1¼-2 lb Atrazine 80W or 2-3 lb of Bladex 80W	Do not use on sands or loamy sands or soils with less than 1½% organic matter. Do not use on peat or muck soils. Use higher rates with heavy weed populations and on above 3% organic matter soils.	Annual grasses and broadleaf weeds (if Atrazine or Bladex is used).	Do not graze or cut for forage for 21 days after treatment.

**POSTEMERGENCE TREATMENTS—To be applied after emergence of weed or crop**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
AAtrex 80W or 4L Atrazine 80W	Use 2½ lb AAtrex or Atrazine 80W or 2 qt AAtrex 4L	Apply before weeds are 1½ inches tall. Adding 1 gal/A of crop oil increases control of grassy weeds. Use 1½ lb AAtrex or Atrazine 80W or 1.2 qt AAtrex 4L for annual broadleaf weeds only. Injury may occur if cold, wet conditions follow application of Atrazine in oil. <b>Do not</b> add 2,4-D.	Annual broadleaf weeds and some grasses	Do not graze or feed forage for 21 days after treatment.
Bladex (cyanazine) 80W	Use up to 2½ lb Bladex 80W in water	If 2½ lb/A exceeds recommended preemergence rate for your soil type, use the lower preemergence rate for postemergence application. <b>Do not</b> apply on sands or loamy sand soil types or on soils with less than 1% organic matter. Weeds should be no more than 1 to 1½ inches high and corn must not exceed the 4-leaf stage. Do not use Bladex as a postemergence treatment with nitrogen solutions. See remarks in Preemergence section.	Annual broadleaf weeds and grasses	None
Outfox (cyprazine) 1 lb per gal in oil	Use 3 qt Outfox	When grassy weeds are less than 2 inches tall and corn does not exceed 10 inches in height, <b>do not</b> add additives to Outfox. Plow and thoroughly till the soil to minimize possible injury on spring-seeded crops other than corn.	Annual broadleaf weeds and some grasses.	Do not cut for feed or silage for 30 days after application.



Lasso plus AAtrex or Atrazine (alachlor plus atrazine) 4E plus 80W	Same as preemergence	May be applied until corn is 5 inches tall but is less effective if weeds have gone beyond the 2-leaf stage.	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment.
Ramrod plus Atrazine 65W plus 80W	Same as preemergence	May be applied until corn is 5 inches tall but is less effective if weeds have gone beyond the 2-leaf stage.	Annual broadleaf weeds and grasses	Do not graze or feed forage for 21 days after treatment.
2,4-D Amine 4 lb. a.e.	Use 1 pt 4 lb a.e.	Apply at the 2 to 5 leaf stage and not after. Corn is most susceptible to injury from 2,4-D when growing rapidly. After the 5-leaf stage, use as a rescue <b>only</b> with drop nozzles.	Broadleaf weeds	None
2,4-D Ester low volatile 4 and 6 lb a.e.	Use ½ pt of 4 lb a.e.			
2,4-D Amine plus Banvel (2,4-D plus dicamba) 4 lb a.e. plus 4 EC	½ pt 2,4-D Amine plus ¼ pt Banvel	Addition of Banvel provides better control of smartweed. Precaution should be taken to follow the Banvel label to avoid injury to nearby soybeans. This combination should not be applied beyond June 20.	Annual broadleaf weeds	Do not graze or harvest for feed before milk stage.

**No-Till and Reduced Tillage Weed Control in Corn—To be applied on emerged weeds but prior to crop emergence**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds most Effectively Controlled	EPA Limitations on Crop Use
AAtrex or Atrazine 80W Plus Paraquat 2L Plus non-ionic spreader	Use 2.5-3.75 lb AAtrex or Atrazine 80W plus 1-2 pt. Paraquat 2L plus 1 pt non-ionic spreader/100 gal spray solution	Add AAtrex or Atrazine and mix followed by Paraquat. <b>Do not</b> use with suspension or high phosphate liquid fertilizers as carriers. Observe precautionary safety statements on the Paraquat label before using. Use 20 to 60 gal of spray solution per acre. Higher gallonage provides better coverage and control.	Burndown of existing vegetation and broadleaf and some grassy weeds	Do not graze or feed forage from treated areas within 21 days after treatment
Bladex (cyanazine) 80W Plus Paraquat 2L Plus non-ionic spreader	Use 2-5 lb Bladex 80W plus 1-2 pt Paraquat 2L plus 1-2 pt non-ionic sticker/100 gal spray solution	Add Bladex and mix followed by Paraquat. See precautionary statements under Bladex pre-emergence. <b>Do not</b> use with liquid fertilizer. Observe precautionary safety statements on the Paraquat label before using. Use 20 to 60 gal of water per acre. Higher gallonage provides better coverage and control.	Burndown of existing vegetation and broadleaf and annual grassy weeds	None
Lasso (alachlor) 4E Plus AAtrex or Atrazine 80W Plus Paraquat 2L Plus non-ionic spreader	Use 2-2½ qt Lasso 4EC plus 1¼-2½ lb AAtrex or Atrazine 80W plus 1-2 pt non-ionic spreader/100 gal spray solution	Add AAtrex or Atrazine, mix, add Lasso and Paraquat and mix thoroughly. <b>Do not</b> use with suspension or high phosphate liquid fertilizers as carriers. Observe precautionary safety statements on the Paraquat label before using. Use 20 to 60 gal of spray solution per acre. Higher gallonage provides better coverage and control.	Burndown of existing vegetation and broadleaf and annual grassy weeds	Do not graze or feed forage from treated area within 21 days after treatment.

## GRAIN SORGHUM HERBICIDES

Herbicide and Formulations Available	Rate Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
AAtrex or Atrazine AAtrex 80W or 4L Atrazine 80W	Use 2.5 to 3 lb AAtrex or Atrazine 80W or 2 to 2.4 qt AAtrex 4L	Use <b>Preplant or Preemergence</b> . <b>Do not</b> use on sandy soils or soils low in organic matter. Heavy rains following application may cause crop injury. Use preplant treatments only on fine textured soils.	Annual broadleaf weeds and some grasses	Do not graze or feed forage from treated area within 21 days of application
Ramrod plus Atrazine (Propachlor plus Atrazine) 65W plus 80W or 69WP	Use 3.7 lb Ramrod 65W and 1.25 lb AAtrex or Atrazine 80W. Use 5 lb of Ramrod/Atrazine 69WP	<b>Use Preemergence</b> . See also precautionary remarks under AAtrex. Fairly good grain sorghum tolerance.	Annual broadleaf weeds and grasses	Do not graze or feed forage to dairy animals. Do not graze or feed forage from treated area within 21 days of application to other animals.
AAtrex or Atrazine AAtrex 80W or 4L Atrazine 80W	Use 2½-3 lbs of AAtrex or Atrazine 80W. Use 2-2.4 qts of AAtrex 4L	Use <b>Postemergence</b> on well established grain sorghum or sorghum-sudan grass hybrids. <b>Do not</b> use on sandy or sandy loam soils or soils low in organic matter. Carryover may be a problem if applied late and/or on calcareous soils.	Annual broadleaf weeds and some grasses	Do not graze or feed forage from treated area for 21 days after application
AAtrex or Atrazine 80W and 4L	Use 1½ lbs w/oil		Broadleaf weeds only	Do not graze or feed forage from treated area for 21 days after application
2,4-D amine 4 lb a.e.	Use 1 pt of 4 lb a.e. 2,4-D amine	Use <b>Postemergence</b> when crop is 4 to 12 inches tall; 2,4-D may slow growth, cause brittleness and cause increased lodging and stalk breakage.	Broadleaf weeds	None



## CHEMICAL CONTROL OF TROUBLESOME WEEDS

Weed	Herbicide	Rate of Commercial Product/A	Time of Application	Remarks
Canada Thistle	2,4-D or 2,4-D plus Banvel (dicamba)	2 qt of 4 lb a.e.  1 qt of 4 lb a.e. plus 1 pt Banvel	Apply in fall "rosette" stage and in the spring at early bud stage.	<b>Do not</b> till for 5 weeks before and 1 week after application. Several treatments may be necessary.  Follow only with corn the next year. Several annual treat- ments may be required for complete control.
	AAtrex (atrazine) 80W or 4L	2½ + 2½ lbs of AAtrex 80W or 2 qts + 2 qts of AAtrex 4L as a split treatment.	Apply during or shortly after planting corn 2½ lb of 80W or 2 qts of 4L before corn and thistle emergence followed by a second equivalent treat- ment with 1 gallon crop oil after crop and thistle emergence, but before thistles are 6 inches tall.	
Hemp	2,4-D	1 pt to 1 qt of 4 lb a.e.	Apply 1 pt when hemp is less than 12 inches tall. Apply 1 qt at taller growth stages.	
Hemp dogbane	2,4-D	<b>Spring</b> - 1-2 pts <b>Fall</b> -2-3 pts	<b>Spring</b> - apply 1 pt of 2,4-D in crops and 2 pts elsewhere in the spring bud stage. <b>Fall</b> - Apply 2 to 3 pts in corn with a surfactant in September on actively growing plants.	Retreatment will be necessary. Retreatment will be necessary.
Shattercane Johnson grass (from seed)	Sutan + (butylate) or Eradicane (EPTC plus safener) Treflan (trifluralin)	4¾ pt of Sutan + 6.7E or Eradicane 6.7E  1 qt of Treflan 4E	<b>Corn</b> - Apply preplant incorporated with a tandem disc and cross disc to mix thoroughly.  <b>Soybeans</b> - Apply preplant incorporated with a tandem disc and cross disc to mix thoroughly.	
	Sutan + (butylate) Eradicane (EPTC) Lasso (alachlor)	4¾ pts of Sutan + 6.7E or Eradicane 6.7E or 3-4 qts Lasso 4E	<b>Corn</b> - Apply preplant incorporated with a tandem disc and cross disc to mix thoroughly	
Yellow nutsedge	Vernam (vernolate) Lasso (alachlor)	3½ pts Vernam 7E or 3-4 qts Lasso 4E	<b>Soybeans</b> - Apply preplant incorporated with a tandem disc and cross disc to mix thoroughly.	
	Basagran (bentazon)	1-1½ qts of Basagran	Apply postemergence to soybeans and emerged nutsedge. Will not provide complete control.	
Quackgrass and Wirestem Muhly	AAtrex (atrazine) 80W or 4L	2½ lbs + 2½ lbs AAtrex 80W or 2 qts + 2qts AAtrex 4L as a split treatment	Apply 2½ lb of 80W or 2 qts 4L in fall or spring and plow one to three weeks later. Apply a second equivalent application in spring before, during or after planting but before annual weeds and grasses are 1½ inches high.	Follow only with corn the next year.

# SOYBEAN HERBICIDES

## Weed Response to Selected Soybean Herbicides

**E = Excellent**  
**G = Good**  
**F = Fair**  
**P = Poor**

Preplant	Crop Tolerance	Grasses						Broadleaves								
		Barnyard Grass	Crabgrass	Fall Panicum	Foxtail (spp.)	Nutsedge	Shatter Cane	Black Nightshade	Cocklebur	Jimson Weed	Lambs-quarter	Mustard	Pigweed	Smartweed	Sunflower	Velvetleaf
Treflan	G	E	E	E	E	P	G	P	P	P	G	P	G	P	P	P
Cobex	F	E	E	E	E	P	G	P	P	P	G	P	G	F	P	F
Tolban	E	E	E	E	E	P	G	P	P	P	G	P	G	F	P	P
Vernam	E	E	E	E	E	G	G	P	P	P	G	F	G	P	P	P
Lasso	E	G-E	G-E	G-E	G-E	G	F	F	P	P	P	P	G	F	P	P
<b>Preplant + overlay</b>																
Treflan (PPI) + Amiben G	G	E	E	E	E	P	G	F	F	F	E	G	E	G	P	G
Treflan (PPI) + Lorox	F	E	E	E	E	P	G	F	F	G	E	G	E	G	F	G
Treflan (PPI) + Furloe	G	E	E	E	E	P	G	F	P	P	G	F	G	E	P	P
Treflan (PPI) + Sencor/Lexone	F	E	E	E	E	F	G	F	G	G	E	E	E	G	F	E
<b>Preemergence</b>																
Amiben	G	E	G	G	G	P	P	G	F	F	E	G	E	G	F	G
Lasso	E	E	E	E	E	G	F	F	P	P	F	P	G	F	P	P
Lasso + Lorox	G	E	E	E	E	F	F	G	F	G	E	E	E	E	F	G
Lasso + Sencor/Lexone	G	E	E	E	E	F	F	G	G	G	E	E	E	E	F	G
Lasso + Maloran	G	E	E	E	E	F	F	G	F	G	E	E	E	E	F	G
Lasso + Furloe	E	E	E	E	E	F	F	F	P	P	G	F	G	E	P	P
Lasso + Solo	G	E	E	E	E	F	F	G	F	F	G	F	G	E	P	F
<b>Postemergence</b>																
Basagran	E	P	P	P	P	F	P	G	E	G	F	E	F	E	G	G
Tenoran	F	P	P	P	P	P	P	F	F-G	F	F	G	F	G	P	F
2,4-DB	P	P	P	P	P	P	P	F	E	G	P	P	P	P	P	P

This chart should be used only as a guide. Ratings of chemicals may be higher or lower than indicated depending on soil characteristics, managerial factors and environmental variables.



**PREPLANT INCORPORATED TREATMENTS—To be applied prior to planting the crop incorporated into the soil.**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
Treflan (trifluralin) 4E and 5G	Use ½-1 qt Treflan 4E. Use 10 to 20 lb Treflan 5G	May be applied up to 10 weeks before planting. Thorough incorporation by discing 4 to 6 inches deep is important. Incorporation should be as soon as possible after application but no longer than 8 hours. A second discing 7 to 10 days afterwards is desirable.	Annual grassy weeds	None
Cobex (dinitramine) 2E	Use ⅔-1⅓ qt Cobex 2E	Apply Cobex during final seedbed preparation. Incorporate at a shallower depth than when applying Treflan for effective weed control and less crop injury problems. Incorporate within 24 hours. A field cultivator with a leveling device behind may also be used to incorporate Cobex.	Annual grassy weeds	None
Tolban (profluralin) 4E	Use ½-1 qt of Tolban 4E	Apply and incorporate as with Treflan. One qt/A rate may not be as effective on higher organic matter soils. Incorporate within 4 hours after application.	Annual grassy weeds	None
Vernam (vernolate) 7E, 10G and 10GK	Use 3-3½ pt Vernam 7E. Use 20 to 25 lb Vernam 10G or 10GK	Must be incorporated into soil immediately. May be tank mixed with Treflan. Use 2⅓ pt Vernam 7E plus 1 pt Treflan 4E.	Annual grasses and pigweed; velvetleaf at higher rates	None
Furloe plus Treflan (chlorpropham plus trifluralin) 4E and 4E (label pending)	Use 2-3 qt Furloe 4E and ½-1 qt Treflan 4E	Apply and incorporate as with Treflan alone. Furloe may also be used as an overlay treatment.	Annual grasses and smartweed	None
Lasso (alachlor) 4E and 15G (Lasso II)	Use 3-4 qt Lasso 4E. Use 16 to 26 lb Lasso II 15G	Preemergence treatments are better for annual grass control.	Yellow nutsedge	None

**PREPLANT INCORPORATED + OVERLAY TREATMENTS—Preplant to be applied prior to planting the crop incorporated into the soil**

**Overlay to be applied after planting but before crop emergence**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
Treflan (trifluralin) 4E PPI + Amiben (chloramben) 2L and 10G	Use ½-1 qt Treflan 4E and overlay with 1 gal Amiben 2L or 20 lb Amiben 10G	Use proportionately less for band applications of overlay treatment. Shallow incorporation by rotary hoeing may aid Amiben.	Annual grassy and broadleaf weeds	None
Treflan (trifluralin) 4E PPI + Lorox (linuron) 50W	Use ½-1 qt Treflan 4E and overlay with ½ recommended for soil type.	Lorox is best adapted to silt loam soils with less than 4% organic matter. Rate must be adjusted to soil type to obtain acceptable control and to avoid crop injury. <b>Do not</b> use on sandy or sandy loam soils with less than 1% organic matter.	Annual grassy and broadleaf weeds	None
Treflan (trifluralin) 4E PPI + Sencor/Lexone (metribuzin) 50W	Use ½-1 qt Treflan 4E and overlay with ½ to 1 lb Sencor or Lexone 50W	Provides excellent broad-spectrum weed control. <b>Warning:</b> If atrazine was used the previous year, injury could occur. <b>Do not</b> use on soils above pH of 7.4 and/or calcareous. <b>Do not</b> use on sandy loam soils or soils with less than 2% organic matter. Treflan + Sencor may also be tank-mixed and applied preplant incorporated on uniform soils not varying greatly in organic matter, pH, and texture.	Annual grassy and broadleaf weeds	None

**PREEMERGENCE TREATMENTS—Applied from planting time to crop or weed emergence.**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
Amiben (chloramben) 2 lb per gal liquid and 10G	Use 1-1½ gals Amiben 2 lb. Use 20-30 lb Amiben 10G	Apply as soon after planting as possible. If no rain, 4 to 6 days after treatment, rotary hoe.	Annual broadleaf weeds and grasses	None
Lasso (alachlor) 4E and 15G (Lasso II)	Use 2-3½ qt Lasso 4E. Use 16-26 lb Lasso II 15G	Vary rates with organic matter and soil texture.	Annual grassy weeds	None
Lasso plus Lorox (alachlor plus linuron) 4E and 50W	Use 1½-3 qt Lasso 4E plus 1-3 lb Lorox 50W	Best adapted to silt loam soils with less than 4% organic matter. Rate must be adjusted for soil type to obtain acceptable control and to avoid crop injury. Do not use on sandy or sandy loam soils with less than 1% organic matter.	Annual broadleaf weeds and grasses	None



Lasso plus Sencor or Lexone (alachlor plus metrebuzin) 4E and 50W	Use 2-2½ qt Lasso E plus ½-1 lb Sencor or Lexone 50W	Provides excellent broad-spectrum weed control. <b>Warning:</b> If atrazine was used the previous year, injury could occur. <b>Do not</b> use on soils above pH 7.4 and/or calcareous. <b>Do not</b> use on sands or loamy sands with less than 2% organic matter.	Annual broadleaf weeds and grasses	None
Lasso plus Maloran (alachlor plus chlorbromuron) 4E and 50W	Use 1½-2½ qt Lasso E plus 1½-4 lb Maloran 50W	<b>Do not</b> use on sandy or sandy loam soils with less than 1% organic matter. Best adapted to silt loam soils with less than 4% organic matter. Rates must be adjusted for soil types to obtain acceptable control and to avoid soybean injury.	Annual broadleaf weeds and grasses	Do not graze treated fields or feed treated forage to livestock.
Lasso plus Furloe (alachlor plus chlorpropham) 4E and 4EC	Use 2-3 qt Lasso E plus 2-3 qt Furloe E	Primarily for increasing smartweed control. Most often used with Lasso or as an overlay with Treflan. Furloe label guarantees smartweed control.	Annual grasses and smartweed	None
Lasso plus Solo (alachlor plus naptalamchlorpropham) 4E	Use 2 qt Lasso E plus 4 qt Solo E	For annual grass and smartweed control.	Annual grassy weeds and smartweed	None

**POSTEMERGENCE TREATMENTS—To be applied after emergence of weed or crop.**

Herbicide and Formulations Available	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
Basagran (bentazon) 4 lb per gal liquid (label pending)	Use ¾-1 qt	May be applied at first to third trifoliolate leaf stage of soybean growth. Early application when weeds are small (2- to 4-leaf stage) provides best control. The larger the weeds, the higher the rate needed for acceptable control. Complete spray coverage of leaf surface is essential. Adding a wetting agent improves control under stress conditions.	Most annual broadleaf weeds, including cocklebur, smartweed, velvetleaf, sunflower and jimson weed. Nutsedge may be suppressed. Pigweed and lambsquarter are poorly controlled.	Do not apply within 65 days of harvest. Do not feed treated forage or hay to livestock
Tenoran (chloroxuron)	Use 2-3 lb Tenoran 50W plus 1 pt surfactant in 25 gal water	Timely application is important in controlling susceptible broadleaf species. Some stunting of beans may occur.	Annual broadleaf weeds	Do not apply within 90 days of harvest, treated field should not be grazed.
2,4-DB Butyrac 200 or Butox-one SB	Follow label directions	Effective primarily against heavy stands of cocklebur and should be considered only a rescue treatment.	Cocklebur	Do not harvest within 60 days after application.

## WEED CONTROL IN SMALL GRAIN

Herbicide	Rate of Commercial Product/A	Remarks	Weeds Most Effectively Controlled	EPA Limitations on Crop Use
<b>Oats or Wheat</b>				
2,4-D (amine)	Use 1-2 pts 4 lb a.e.	Use from sixth leaf stage to early boot. May damage under seeded legume.	Many annual broadleaf weeds.	<b>Do not</b> use forage or graze for 1 week after treatment.
MCPA (amine)	Use 1-2 pts 4 lb. a.e.	Use from two leaf stage to early boot. More expensive than 2,4-D.	Many annual broadleaf weeds.	None.
Bromoxynil (Buctril or Brominal)	Use 1 ½ pts 4 lb a.e.	Use from two leaf stage to early boot.	Wild buckwheat and smartweed.	None.
Banvel (dicamba) plus MCPA	Use ¼ pt Banvel plus ½ pt MCPA 4 lb a.e.	Use from two to five leaf stage.	Many annual broadleaf weeds plus wild buckwheat and smartweed.	<b>Do not</b> graze or feed threshings to livestock.
<b>Wheat only</b>				
2,4-D (ester)	Use ⅓-1 pt of 4 lb a.e.	Use from fifth leaf stage to early boot. May be more injurious than amine formulation to crop and under seeded legume.	Many annual broadleaf weeds.	<b>Do not</b> use forage or graze for 1 week after treatment.

## WEED CONTROL IN PERMANENT GRASS PASTURES

2,4-D	Use ½-2 qts	<p><b>Spring</b> - Apply at least 1 qt of 4 lb a.e. ester or low volatile ester 2,4-D when most weeds are 4 to 6 inches tall and actively growing.</p> <p><b>Fall</b> - Apply at least 1 qt of 4 lb a.e. amine, ester or low volatile ester 2,4-D when biennial and winter annual type weeds are in the rosette stage (mid-September to mid-October).</p> <p><b>Woody plants</b> - Apply only in spring when plant leaves are fully expanded.</p>	<p><b>Spring</b> -Most annual broadleaf weeds.</p> <p><b>Fall</b> - Many biennial and winter annual broadleaf weeds - thistles, etc.</p>	<b>Do not</b> graze dairy animals on treated areas within 7 days after application.
2,4,5-T or 2,4,5-TP (Silvex)	Use 1-2 qts of 4 lb a.e.	Use in spring on woody plants with fully expanded leaves and as a supplement to 2,4-D	Many woody species and hard to control perennial broadleaf weeds.	<b>Do not</b> graze dairy animals within 6 wks or slaughter meat animals within 2 wks of 2,4,5-T application.
Banvel (dicamba)	Use 1-2 pts	Use as directed under remarks for 2,4-D and 2,4,5-T. <b>Do not</b> apply if soybeans are growing nearby.	Many woody and hard to control perennial broadleaf weeds.	<b>Do not</b> graze dairy animals for 7 to 21 days after application at these rates.



## TRADE AND COMMON (GENERIC) NAMES OF HERBICIDES

AAtram 20G	atrazine-propachlor	Lasso	alachlor
AAtrex	atrazine	Lasso-AAtrex	alachlor-atrazine
AAtrex-Amiben	atrazine-chloramben	Lasso-Banvel D	alachlor-dicamba
AAtrex-Lasso	atrazine-alachlor	Lexone	metribuzin
AAtrex-Lorox	atrazine-linuron	Lorox	linuron
AAtrex-Ramrod	atrazine-propachlor	Lorox-AAtrex	linuron-atrazine
Agak	terbutol	Maloran	chlorbromuron
Agroxone	MCPA	Methoxone	MCPA
Alanap	naptalam	MH-30	MH (maleic hydrazide)
Amiben	chloramben	Milogard	propazine
Amiben-AAtrex	chloramben-atrazine	Modown	bifenox
Amino-triazole	amitrole	Noraben	chloramben-norea
Ammate	AMS	Outfox	cyprazine
Ammate X	AMS	Phytar	cacodylic acid
Amon	picloram	Polybor	borax; US borax
Ansar	MSMA	Pramitol	prometone
Ansar (Ansul; MSMA also under this trade name)	DSMA	Premerge	dinoseb (DNBP)
Antor	H-22234	Prefix	cyprazine-ethiolate
Atratol	atrazine-prometone	Princep	simazine
Balan	benefin	Prowl	AC-92533
Banvel D	dicamba	Radapon	dalapon
Banvel D-Lasso	dicamba-alachlor	Ramrod	propachlor
Baron	erbon	Ramrod-AAtrex	propachlor-atrazine
Basagran	bentazon	Retard	MH (maleic hydrazide)
Basfapon	dalapon	Roundup	glyphosate
Bladex	cyazazine	Sencor	metribuzin
Borascu	all US borax	Sesone	sesone
Borocil	borax plus bromacil	Simox	dinoseb (DNBP)
Brominil	bromoxynil	Solan	solan
Buctril	bromoxnil	Solo	naptalam + chlorpropham
CG-18762	procyazine	Sutan +	butylate + safening additive
Cobex	dinitramine	Tandex	karbutilate
Dananite	dinoseb (DNBP)	TCA-Telvar	TCA-monuron
DB granular	borax plus 2,4-D	Telvar	monuron
Dowpon	dalapon	Telvar-TCA	monuron-TCA
Dow General	dinoseb (DNBP)	Tenoran	chloroxuron
Dyanap	naptalam-dinoseb	Tolban	profluralin
Dybar	fenuron	Treflan	trifluralin
Dymid	diphenamid	Tordon	picloram
Enide	diphenamid	Urab	fenuron plus TCA
Eptam	EPTC	Ureabor	borax plus monuron
Eradicane	EPTC + safening additive	Urox	monuron-TCA
Evik	ametryne	Vernam	vernolate
Fenax	fenac	Weedar	MCPA
Fox-4	cyprazine	Weedazol	amitrole
Karmex	diuron	Weed Killer	dinoseb (DNBP)
Kuron	silvex	Weedmaster	2,4-Damine-dicamba
		Weedone	MCPA
		Weedone 2,4,5-TP	silvex

Cooperative Extension Service, Iowa State University of Science and Technology and the United States Department of Agriculture cooperating. Charles E. Donhove, director, Ames, Iowa. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

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