

NONCROPLAND

(Herbicides to control all vegetation)

Recommended rates of the herbicides listed below will kill all vegetation. Low rates, and soils of high clay and organic matter or poor distribution of the herbicide, will all increase the number of escaped weeds and make a repeat application needed. Residual herbicides should never be applied near crops, lawns, shrubbery, or other desirable vegetation or where such plants will be planted within one to four years. The soil life of the herbicide depends on soil type, the particular herbicide, and the rate used. Less “runoff” or lateral movement can be expected where the application is made to a dry soil. Some herbicides are taken up only through the root system, whereas others are foliage- and root-absorbed. In many cases, a combination of a foliar active herbicide and a residual soil herbicide is required to provide “burndown” and residual activity. Spring treatments will control annual weeds, but fall applications often are needed for control of deep-rooted perennial

weeds. Use chemicals with care around valuable plant species on ditch banks and turnrows or where water may wash them to other areas. Do not contaminate water supplies or irrigation water. Read the label before using.

Always calibrate sprayers before herbicide application. For foliar applications, the spray volume will usually vary between 30 and 40 gallons an acre for light to moderate vegetation; whereas, 100 to 200 gallons an acre are often required for large dense vegetation. Mix the suggested per acre rate of herbicide in appropriate volumes of water and spray to wet the vegetation. Labels sometime give specific mixing instructions for foliar herbicide applications.

It is often desirable to know the length of an acre when band spraying areas such as fencerows, rights-of-way, etc. Below are several examples:

Band width (ft)	Distance required to treat one acre	
	Ft	Miles
1	43,560	8.25
2	21,780	4.13
3	14,520	2.75
4	10,890	2.06
5	8,712	1.65
10	4,356	0.8

Soil Treatments

Herbicide	Amount of formulation per 1,000 sq ft per acre		Comments
atrazine			Atrazine will provide good residual activity to shallow-rooted annual and perennial plants. Add surfactant for foliar activity. Use high rates for perennial weeds. The addition of contact or systemic herbicides may be considered to control broad-spectrum vegetative problems. Do not exceed 10 lb ai/A/year.
4 lb/gal	2.2 - 3.6 oz	6 - 10 qt	
90% DF	2.0 - 4.0 oz	5.3 - 11.1 lb	
bromacil			An effective bare-ground herbicide for johnsongrass and other perennial grasses. Use low rates for annual weeds and higher rates for hard-to-kill perennial weeds. The liquid formulation is not compatible with MSMA, Oust, 2,4-D esters, or other acidic formulations.
80% WP	1.1-5.5 oz	3-15 lb	
2 lb/gal	0.40-2.2 pt	2-12 gal	
4% G	2.3-14 lb	100-600 lb	
bromacil 53% + diuron 27% Krovar II DF	0.75-8.4 oz	2-23 lb	
bromacil 2% + diuron 2% Weed Blast 4G	4.6 - 9.2 lb	200 - 400 lb	These diuron-bromacil formulations are effective for control of broad-spectrum weed populations. They control most broadleaf weeds and grasses, both annuals and perennials. Use low rate for short-term control of annuals, intermediate rates for extended control and perennial suppression, and high rates for control of hard to kill perennials and extended preemergence control.

Consult labels for approved adjuvants.

Weed resistance to recommended use-rates of certain herbicides has been documented in Mississippi — SEE PAGE 4.

Soil Treatments

Herbicide	Amount of formulation per 1,000 sq ft per acre		Comments
dichlobenil 4% G	5.75-7 lb	250-300 lb	For general weed control and for under asphalt. Apply to the finished grade and cover area soon after application with asphalt. Dichlobenil has a shorter soil life than bromacil or prometone, but is less injurious to nearby trees and shrubbery. For general control using surface applications, consult individual labels. Apply when air temperature less than 60 °F for best results.
10% G	2.3-2.8 lb	100-120 lb	
50% WP	7.5-9.0 oz	20-24 lb	
diuron 90% DF	1.8-5.5 oz	5-15 lb	Highly effective for seedling control after perennials have been controlled. Should be applied in late winter or early spring. The addition of a contact or systemic herbicide might be considered for improved control of broad-spectrum problem situations.
diuron 80% WP or	1.8-7.3 oz	15-20 lb	
simazine 80% WP	2.2-4.4 oz	6-12.5 lb	
4 lb/gal	0.37-7.4 oz	5-10 qt	
90% DF	1.8-4.0 oz	5-11.1 lb	
4% G	5.75 lb	250-450 lb	
diuron 40% + bromacil 40% Krovar I	1.5-11.0 oz	4-30 lb	These diuron-bromacil formulations are effective for control of broad-spectrum weed populations. They control most broadleaf weeds and grasses, both annuals and perennials. Use low rate for short-term control of annuals, intermediate rates for extended control and perennial suppression, and high rates for control of hard to kill perennials and extended preemergence control.
diuron 62.22% imazapyr 7.78% Sahara	0.30-0.44 lb	13-19 lb	Use where bare ground is desired in such areas as utility, pipeline, and highway rights-of-way and other noncropland areas. Controls many annual and perennial grasses and broadleaf weeds as well as some brush and vine species. Consult label for recommended adjuvant if used postemergence.
diuron 2% imazapyr 0.5% TopSite	4.6-6.88 lb	200-300 lb	Use where bare ground is desired in such areas as utility, pipeline, and highway rights-of-way and other noncropland areas. Controls many annual and perennial grasses and broadleaf weeds as well as some brush and vine species. Consult label for recommended adjuvant if used postemergence.
prometon Pramitol 25 E	1-5.5 pt	5-30 gal	For use on industrial sites, noncropland, and beneath asphalt pavement. Provides long-lasting residual control. Use higher rate for deep-rooted perennials or beneath asphalt. Do not apply where any roots of desirable plants will enter the treated areas.
Pramitol 5 PS	5-20 lb	217-870 lb	A pelleted herbicide mixture containing chlorate-borate-simazine and prometone. Should be applied before plant growth begins. Will provide more effective control of shallow-rooted plants than prometone alone.
sodium chlorate 30% + sodium metaborate 68%	10-30 lb	435-1,300 lb	There are many formulations available of sodium chlorate + sodium metaborate containing varying amounts of the chlorates-borates. Increase the rate for more dilute formulations. The borate addition reduces fire hazard and provides more effective long-term control of shallow-rooted young plants. Apply before germination of weeds for best results. Also useful before application before paving under asphalt. Very little lateral movement in soils generally occurs. Control can be expected for about one year.

Noncropland, Continued

Herbicide	Amount of formulation per 1,000 sq ft per acre		Comments
sodium chlorate + sodium metaborate + residual herbicide chlorate 30-40% + borates 47-65%	10-30 lb	435-1,304 lb	There are many formulations available containing varying concentrations of these herbicides. There are several granular as well as liquid formulations. Bromacil and prometone are two of the most soluble residual herbicides and can be expected to control deep-rooted perennial plants. These may move from the site of application. Atrazine and diuron are preferred where lateral movement by surface water is expected or where shallow-rooted annual and perennial plant control is desired.
+ bromacil 1.5-4% (or)	20-40 lb	870-1,739 lb	
diuron 1.25% (or)	2.5-10 lb	110-435 lb	
prometon 5%	5-20 lb	217-870 lb	
sulfometuron 75% Oust	0.07-10.18 oz	3-8 oz	For use on noncropland, industrial sites, and beneath asphalt pavement. Rate varies with weed type. Desirable plants may be injured if their roots extend into the treated areas.
tebuthiuron 1% diuron 3% Spraykil SK-13	3.44-9.18 lb	150-400 lb	For use in noncropland areas, under paved surfaces, and on industrial sites. Do not use in cropland. Keep animals off treated areas. Do not apply on or near desirable plants. Don't contaminate irrigation ditches or water used for domestic purposes. Do not use in areas where the water table is 5 feet or less, or in areas which are periodically flooded.
tebuthiuron 2% diuron 6 % Spraykil SK-26	3.44-9.18 lb	150-400 lb	For use in noncropland areas, under paved surfaces, and on industrial sites. Do not use in cropland. Keep animals off treated areas. Do not apply on or near desirable plants. Don't contaminate irrigation ditches or water used for domestic purposes. Do not use in areas where the water table is 5 feet or less, or in areas which are periodically flooded.
tebuthiuron Spike 80% WP Spike 5% G Spike 85% DF	1.8-7.3 oz 1.8-7.3 lb 1.7-6.9 oz	5-20 lb 80-320 lb 4.75-18.7	Very effective on broadleaf and woody plants. Has good activity on privet. Use high rates for perennial grass and shrub control. Apply in winter or early spring. Add a contact herbicide if rapid kill of established weeds is desired. Best control of woody plants is obtained when applied in the spring when rain will leach the herbicide into the soil.
Velpar 90% SP Velpar L	0.75-4.4 oz 3.0-15 oz	2-12 lb 1 to 6 gal	Apply spray in 25 to 100 gallons of water just before or soon after weeds emerge. Use medium to high rates on hard-to-kill species, fine-textured soils or soils with high organic matter, or where season long bare ground is desired. For brush control use medium rates and apply in late winter to early summer as a coarse spray underneath the brush. Lower rates may be used for short-term control or only postemergence control for many annual species. Add 1 quart surfactant to 100 gallons of spray.

Foliage Treatments

Herbicide	1,000 sq ft	Rate/Acre	Comments
2,4-D, 2,4-DP, MCPA, mecoprop, (MCP), triclopyr, dicamba, or dichlorprop (2,4-DP).	0.75-3 oz	1 to 4 lb a.i. (or) 1-4 qt of 4 lb/gal formulation	For control of broadleaf species only. Use low-volatile esters during cool or drouthy conditions but not when temperatures or windy conditions present drift problems. Repeat as necessary — provides short-term control. Apply in 50 to 100 gallons water with surfactant to uniformly cover broadleaf weeds. Apply when plants are actively growing. Rates are especially effective on woody plants. Reduced rates may be used for herbaceous broadleaf plants.
Note: There are many prepackage mixtures containing 2,4-D plus one to three other herbicides all of which can be very effective on a wide variety of broadleaf weeds. Herbicides such as 2,4-DP, MCPA, MCP, dicamba, and triclopyr are all excellent broadleaf herbicides each having a little different spectrum of weed control. See woody plants section for additional information. See labels for specific rates and for weeds controlled. In some cases, you should mix grass herbicides such as MSMA or Roundup to provide total vegetation control. See individual section for suggested rates.			
amitrole Amitrole T-21% liquid Amizol-90% powder Also available under several other trade names	3-6 oz 6-24 oz	1-2 gal 2-8 lb	Use low rates for annual grasses, broadleaf weeds, poison ivy, and poison oak. Medium rates are for honeysuckle, kudzu, and perennial grass suppression. High rate is for large perennial grasses and woody plants. Apply in 100 gallons/A to wet all foliage after it has fully developed but before frost. Spot treat any regrowth. Amitrole may be mixed with 2,4-D, atrazine, diuron, or simazine for more effective control.
diquat Reward	0.75-1.5 oz	1-2 qt	Applied to fully wet all foliage. Provides kill or “burn back” of most succulent plants. Useful around buildings, walkways, fences, dry ditches, and clear aquatic areas. Do not use treated water for animal consumption, spray, or irrigation within 10 days after treatment.
fluazifop Fusilade DX	0.74-1.1 oz	8-16 oz	Apply as a foliar spray for control of annual and perennial grasses. Add to spray solution either 0.25% surfactant or 1.0% crop oil concentrate. Apply to cover actively growing grasses. Repeat treatment as needed as regrowth occurs. See cotton and soybean sections for additional suggestions.
fosamine Krenite S		1.5-3.0 gal	Apply to brush in late summer or early fall in water to wet all foliage parts. Injury symptoms appear the following spring as failure to produce new leaf growth or growth suppression. Pines may show a response soon after application.
glyphosate	1.0-3.0 oz	3-4 qt	Apply as a broadcast treatment in 10-40 gallons of water/A containing 0.5% surfactant when weeds are actively growing. For handgun or spot treatments use 2 to 4 quarts in 100 gallons water containing 0.5% surfactant. Retreat to control regrowth.
imazapyr Arsenal 2 lb/gal		2.0-6.0 pt	For control of most annuals and perennials including brush species. May apply preemergence but the preferred treatment, especially for perennials, is foliar applications. Complete kill may require several weeks. Make foliar applications using 20 to 60 gallons spray on acre and add 1 quart surfactant/100 gal spray especially if high spray volumes are used.
MSMA	1.1-2.2 oz	2-4 lb a.i. or 3.0 to 6 pt of 6.0 lb/gal	Apply sufficient water to provide spray coverage - usually 20-50 gallons/A. Use lower rates of MSMA for small annual grasses and upper rates for established perennial grasses. Under adverse growing conditions, use up to 0.5% surfactant. Repeated applications will probably be necessary.
paraquat Gramoxone Extra	0.75-1.1 oz	2.0-3.0 pt	Apply in sufficient water to provide spray coverage — usually 20-50 gallons/A. Add 1 quart of nonionic surfactant/100 gal spray. Kills green vegetation covered. Repeat when needed.
sulfometuron Oust — See Turf Section			
See Woody Plants section for additional foliage treatment suggestions.			