

# Weed Control Notes

## LAWN WEED CONTROL

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Herbicides are now available that will selectively remove many broadleaf and grassy weeds from lawns. Resistant weeds may be removed by nonselective treatments followed by reseeding or resodding.

Successful chemical weed control requires the uniform application of the correct amount of herbicide over the desired area. Herbicides for home owners' use are often available in various formulations--liquids, granules, or mixed with fertilizer. Each product label specifies the amount of herbicidal active ingredient in the formulation. Virginia Polytechnic Institute and State University recommends a herbicide on the basis of active ingredient per unit area. As this amount varies greatly from product to product, it is important that you follow label directions carefully.

For example, if Virginia Polytechnic Institute and State University recommends the use of 1 lb of 2,4-D per acre, you must know how much 2,4-D is in the product that you purchase. Liquid formulations of 2,4-D may contain from less than 1 lb to as high as 6 lb of active 2,4-D per gallon of product. Obviously, it would take only 1/6 as much of the 6 lb/gal material as for the 1 lb/gal material. Also many products may contain 2 or more herbicides. When 2 herbicides are used together, the killing power may be additive or, in some cases, more than additive. Thus, the rates for materials used in combination are usually less than the individual rates of each. The information included on the container label will provide you with the proper rate of application and necessary safety precautions.

### PREEMERGENCE CONTROL OF ANNUAL GRASSES (Crabgrass, foxtails, goosegrass, annual bluegrass)

Annual grasses can be effectively controlled by use of preemergence herbicides. These herbicides must be applied prior to the germination of the annual grasses. This will be in the spring for most annual grasses and in the fall for annual bluegrass. A variety of formulations are available with various amounts of active ingredient. Follow label directions carefully as to the proper rate of application and necessary safety precautions.

If both spring germinating grasses and annual bluegrass are present, spring and fall chemical treatment will be required. In Virginia Polytechnic Institute and State University tests where both were present, excellent results were obtained by using a fall application of benefin for annual bluegrass control and one of the other materials for annual grass control in the spring.

Goosegrass is more difficult to control with preemergent herbicides than other annual grasses and treatments are seldom 100% effective. Postemergent treatments are generally more effective for goosegrass control.

Bandane: Apply 35 lb of actual bandane per acre or 0.8 lb per 1000 sq ft. Using a 7.5% granule, this is equivalent to 466 lb per acre or 10.7 lb per 1000 sq ft. Do not reseed within 3 months after treatment.

Benefin (Balan): Use 3 lb of active ingredient per acre. This is equivalent to 2.75 lb of 2.5% granular formulation per 1000 sq ft. Do not apply until lawn is well established. Do not reseed within 4 months after treatment.

Bensulide (Betasan, Presan): Use 12 1/2 lb of active ingredient per acre. This is equivalent to 0.6 pt of a formulation which contains 4 lb per gal of bensulide or 2.4 lb of a 12.5% granular formulation per 1000 sq ft. Do not reseed thin or bare areas within 4 months after application.

DCPA (Dacthal): Use 10 lb of active ingredient per acre (1/2 lb of 50W formulation per 1000 sq ft). Do not attempt to reseed thin or bare areas for 3 months after treatment. Newly seeded areas should not be treated until enough growth has occurred to require at least 2 clippings.

Siduron (Tupersan, Trey): Use siduron at the rate of 4.5 to 9.0 lb of active ingredient per acre. This is equivalent to 4.4 to 8.8 lb of 2.34% formulation per 1000 sq ft. The 4.4 lb rate may be used at the time of seeding without injury to bluegrass and fescue. Do not use on bermudagrass.

Terbutol (Azak): Use terbutol at the rate of 10 lb of active ingredient per acre. This is equivalent to 0.28 lb of 80% WP or 4 lb of 5.5% granular formulation per 1000 sq ft. Apply in the fall or early spring before crabgrass germinates. Slight discoloration of bermudagrass may occur.

#### POSTEMERGENCE CONTROL OF ANNUAL GRASSES (crabgrass, foxtail, goosegrass, etc.)

Although preemergent control is by far the more desirable method for control of annual grasses, many people wait until such grasses appear before becoming concerned. Various postemergent materials are available. Postemergent chemicals cause some discoloration of turfgrasses and if a large amount of undesirable grass is present an unsightly bare area will result. For best results the control should be applied when annual grasses are less than 1" tall (usually June). About 7 to 10 days later the application must be repeated. Many formulations are available. Label directions will give the correct rate for the formulation which you are using. Postemergent treatments give better goosegrass control than the preemergent treatments.

DSMA: Mix 1 1/2 to 3 oz of 70% formulation in 1 gal of water and apply uniformly over 1000 sq ft. Use 1 1/2 oz rate when mid-day temperature is expected to exceed 85°. DSMA may be used on bentgrass at the 1 1/2 oz rate.

CMA: Mix 16 to 32 tablespoons (1 to 2 cups) of 10% liquid CMA in 1 gal of water and apply uniformly to 1000 sq ft. CMA may be used on bentgrass at the 16 tablespoon rate.

MAMA: Use 2 3/4 to 4 1/2 oz of 20% MAMA in 1 gal of water and apply uniformly to 1000 sq ft.

## POSTEMERGENCE CONTROL OF PERENNIAL GRASSES

(dallisgrass, orchardgrass, quackgrass, bermudagrass, nutsedge, etc.)

DALAPON: Use 10 tablespoons of dalapon plus 2 teaspoons of detergent in 1 gal of water and apply to 1000 sq ft or wet foliage of undesirable grasses. Apply after active growth of grassy weed resumes in the spring and repeat treatment at 7 to 10 day intervals until complete control is obtained. In warm, moist soil dalapon will disappear within 30 days, and reseeding or resodding may be accomplished. Since dalapon also kills desirable grasses, reseeding or resodding is necessary.

DSMA: To selectively control dallisgrass or nutsedge from lawn grasses use DSMA. Use 3 oz of a 70% DSMA powder in 1 gal of water per 1000 sq ft. Apply DSMA between June and September when mid-day temperature is not expected to exceed 85°F. Make 2 or 3 applications at 7 to 10 day intervals. Some discoloration of turf is to be expected. Do not use on bentgrass.

## BROADLEAF WEED CONTROL

The phenoxy herbicides (2,4-D and related compounds) are growth regulators. They are taken up through plant foliage and then moved throughout the plant. They are extremely active in low concentrations and care must be taken to see that they do not contact desirable broadleaf plants. When applied as a spray, spray drift must be prevented. To do this spray when the wind is not blowing, keep the sprayer pressure low (20 to 30 psi) and use a nozzle that will deliver large droplets rather than a fine mist (8003 fan type, TK 2.5 flooding tip, or equivalent). Do not use a sprayer that has contained a growth regulator to spray shrubs or garden plants. Do not apply herbicides with a hose proportioner.

Several herbicides have been combined with fertilizers to facilitate application. As the 2,4-D-like materials are primarily active through the foliage, application must be made at a time when the material will adhere. This is usually in the morning when a light dew is on the grass and weeds. Dicamba (Banvel-D) is active through the soil and plant roots as well as through the plant foliage. Because of its soil activity, it usually gives better control of many weeds than the 2,4-D-like materials. It also controls weeds such as dock and red sorrel (sheep sorrel) that are resistant to the phenoxy herbicides. Problems have resulted with use of dicamba used in conjunction with fertilizers. As this material is soil active it may also injure ornamentals if applied above their root systems. Injury is increased by over application in an attempt to fertilize shrubs and trees. Also movement of dicamba in the soil is influenced by soil type and rainfall. Thus with sandy soil or heavy rainfall the chances of injury are increased.

2,4-D: Some of the common weeds that can be controlled with 2,4-D are: bittercress, buttercup, wild carrot, cat's ear, chickory, cranesbill, dandelion, hawkweed, spotted knapweed, mustards, pennycress, broadleaf and narrowleaf plantains, ponyfoot (Dicandra repens), shepherds purse, thistles, and wild garlic (see Control Series 76 for a more complete listing of weeds response to herbicides). Use 1-1/2 lbs 2,4-D in 40 gal of water per acre. This would be equal to about 2 tablespoons (4 lb per gal acid equivalent) of 2,4-D in 1 gal of water for each 1000 sq ft of surface to be treated. Apply either in late fall or early spring. The late fall is preferred for most of the turf areas. For desirable results, mid-day temperature should be 60°F or above. Apply 2,4-D when weeds and turf are actively growing. Do not apply to bentgrasses or near susceptible plants (tomatoes, grapes, roses, beans, etc.). Do not use on new turf until grass has been mowed twice. White clover will be damaged but usually recovers.

SILVEX: This chemical will control chickweed (common and mouse-eared), creeping charlie or ground ivy, black medic, henbit, german moss or knawel, prostrate spurge, white clover, wild strawberry, and yarrow. It will also control many of the weeds which are susceptible to 2,4-D. Apply 1-1/2 lb of silvex in 20 to 40 gal of water per acre. This is equivalent to 2 tablespoons (4 lb per gal acid equivalent) silvex in 1 gal of water for each 1000 sq ft of lawn surface treated.

For those plants germinating late in the fall and living over the winter, it is best to apply silvex in late fall. A spring application is better for controlling plants that develop in the spring. Use a coarse spray droplet to prevent drift of the chemical to desirable shrubs growing in the area. Do not use silvex on newly seeded lawns or on established bentgrass turf.

DICAMBA (Banvel-D): Dicamba may be used to kill certain weeds which 2,4-D will not control. Dicamba will control most of the weeds listed under "silvex" plus hawkweed, knotweed, curly dock, and red sorrel. Use 1/2 lb of dicamba per acre (2 teaspoons of 4 lb per gal formulation) in 1 gal of water for each 1000 sq ft. Apply when weeds and turf are actively growing. Do not spray under branches of newly set ornamentals. Use coarse spray to prevent drift of chemical to desirable plants. The soil of established ornamentals may be treated without damage, but do not spray the base of these plants. Do not apply dicamba to the root area of shallow rooted shrubs and trees. Do not apply to sandy soil. Reduced rates may be used on bentgrasses (not more than 1/3 lb per acre) for control of white clover and chickweed. Also see general remarks for broadleaf weed control.

MCPP: Chickweed and white clover can be controlled with 1-1/2 to 2 lb MCPP in 20 to 40 gal of water per acre (4 tablespoons of 2.5 lb per gallon formulation in 1 gal of water per 1000 sq ft). Spring application is best. This treatment may also be used on bentgrass turf.

2,4-D AND SILVEX: Combinations of these herbicides will control a wide range of broadleaf weeds (see above list of weeds under 2,4-D and silvex). Apply 1 lb of 2,4-D and 1/2 lb of silvex per acre. For 1000 sq ft, use 4 teaspoons of 2,4-D (4 lb/gal formulation) + 2 teaspoons of silvex (4 lb/gal formulation) in 1 gallon of water. Apply in the fall or early spring when weeds and turf are actively growing. Do not use on bentgrass or near susceptible plants. Several commercial formulations are available which contain both 2,4-D and silvex. Follow directions on the label for rate of application.

2,4-D AND DICAMBA: Combinations of these herbicides will control a wide range of broadleaf weeds (see above lists of weeds under 2,4-D and dicamba). Apply 1 lb of 2,4-D and 1/4 lb of dicamba in at least 20 gallons of water per acre. This is equal to 4 teaspoons of 2,4-D plus 1 teaspoon of dicamba (both 4 lb per gallon formulations) in 1 gal water to each 1000 sq ft. Apply late in fall or early spring when weeds and turf are actively growing. Do not use on bentgrasses or near susceptible plants. See precautions above for 2,4-D and dicamba. Several commercial formulations are available which contain both 2,4-D and dicamba. Follow directions on the label for rate of application.

Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.

#### KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label. If disposal instructions are not printed on the label, burn the containers where smoke will not be a hazard, or bury them at least 18" deep in a place where water supplies will not be contaminated.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.