

## Weed Control in Home Lawns

*Stephen Hart, Ph.D., Extension Specialist in Weed Science; Darren W. Lycan, Program Associate; and John A. Meade, Ph.D., Extension Specialist Emeritus in Weed Science*

### Turfgrass Management

The presence of weeds not only reduces the aesthetic quality of the turf, but more importantly they compete with the desired turfgrass for water, nutrients, and light. Failure to control weeds often results in a deterioration of the turfgrass stand over time. Weed infestations are often symptomatic of a more basic cultural or soil problem in many cases. If these problems persist, weeds also will be a continuous problem. Thus, a sound weed management strategy not only includes removal of existing weeds, but also using corrective management measures for the factors causing poor quality turfgrass.

### Cultural Control Weeds

Growing a healthy, dense, and vigorous turf is one of the best methods for reducing the potential infestation of weeds in turf. A vigorous, thick turf shades the weed seed and greatly reduces germination. There are several management practices that, when followed, will help to reduce weed encroachment. The following steps can lead to healthy, dense, and vigorous turf, which will resist weed invasion. Plant high quality seed of recommended cultivars. Plant seed of cool-season grasses between late August and early October. Avoid spring or summer seedings. Fertilize cool-season turfgrass in fall with mostly slow release (>50%) nitrogen fertilizers. Soil Fertility testing should be performed every 2 to 3 years. Apply phosphorus, potassium, or lime based on recommendations of the soil test report. Mow lawns at the

recommended height (2.5 to 3.5 inches for Kentucky bluegrass, perennial ryegrass, and fescues). Leaving clippings recycles nutrients, sustains soil fertility, and provides for a healthy, vigorous turf that is more competitive against weeds. When irrigating, apply water when turf begins to wilt (i.e. turf develops a blue-gray color and “footprinting” occurs). Water deeply by wetting the soil to a 4 to 6 inch depth. Frequent, light watering greatly encourages weed encroachment, discourages deeper rooting, and lowers the environmental stress tolerance of turfgrasses.

### Herbicides for Broadleaf Weed Control in Lawns

Broadleaf weeds (i.e. dandelion) are primarily controlled with herbicides that are applied “postemergence” to the weeds. These herbicides are applied to the foliage of the weeds. The herbicide is then absorbed into the weed and moves throughout the entire plant, eventually killing it. These herbicides may be applied as a spray or as a granular (generally on a fertilizer carrier, hence the terminology “weed and feed”). Two or more different herbicides are frequently sold in combination to provide control of as many different broadleaf weeds as possible. These herbicides are sold by many different manufacturers, under different trade names, and in many different formulations and concentrations. Therefore, READ and FOLLOW the label directions on the herbicide container carefully. Applying rates too low may result in inadequate control, while ap-



plying rates too high may cause turfgrass injury. The following herbicides are available for the selective removal of broadleaf weeds from cool season turfgrasses.

### **2,4-D**

2,4-D is the oldest and most widely used herbicide for broadleaf weed control in turfgrass. This chemical is particularly effective for control of weeds with taproots such as dandelion, broadleaf plantain, mustards, and shepherd's purse. Some weeds not controlled well by 2,4-D are white clover, chickweed, purslane, and ground ivy.

### **MCPA/MCPP**

These herbicides are chemically related to 2,4-D and commonly sold in combination with 2,4-D. These herbicides are most effective in the control of several perennial or winter annual weeds such as chickweed and clovers.

### **Dicamba**

Dicamba controls many different weeds, several of which are not easily controlled by 2,4-D or MCPP. Of particular importance are the summer annual weeds that have a prostrate growth habit, including knotweed, purslane, and spurge. Dicamba however, does not control plaintains.

### **Dichloroprop (2,4-DP) and Triclopyr**

These herbicides are sold in prepackaged mixtures with 2,4-D and provide broad spectrum weed control.

To use these herbicides effectively for broadleaf weed control in turf, several points should be remembered:

1. READ and FOLLOW the label directions CAREFULLY.
2. Spray when the temperature is over 70°F and the weeds are actively growing. Do not

spray when the temperature is over 85°F as turfgrass injury may result and some of these products are prone to volatilization causing injury to nearby ornamental plants.

3. Treat only when soil is moist and plants are growing vigorously. Do not apply herbicides during drought periods when soil is dry.
4. Do not mow 1 day prior to and after spraying.
5. Spray formulations (i.e. liquids) are generally more effective than granular forms of broadleaf herbicides, but granular products are easier to handle and apply, especially for homeowners.
6. Granular formulations should be applied when the foliage is moist, during early morning hours when there is a heavy dew.

### **Precautions for Using Broadleaf Herbicides**

1. Ornamental plants, trees, shrubs, and vegetables can be susceptible to these chemicals. Do not spray around homes and gardens when there is a wind. Even a slight breeze is likely to carry spray droplets to susceptible ornamental and garden plants.
2. Dicamba and triclopyr are included in many herbicide combination products and also in some weed and feed (fertilizer-herbicide) combinations. This and other broadleaf herbicides move readily in some soil types and can be absorbed by plant roots. Therefore, products containing dicamba in particular should not be used near the drip-line of trees or near ornamentals where it can be absorbed by roots.
3. Do not use any of these herbicides on newly-seeded turf. Wait until the new lawn has been mowed at least 3 times before treating (usually about 6 to 8 weeks after seedling emergence).

## Herbicides for Summer Annual Grass Control

Summer annual grasses (i.e. crabgrass) are primarily controlled with herbicides that are applied “Preemergence” to the weeds. These herbicides are applied to the turf and prevent the germination of weed seeds. For effective control these herbicides must be applied prior to weed germination which generally occurs around mid-April in New Jersey. These herbicides are generally applied as granular formulations on a fertilizer carrier. For best results insure good, uniform coverage by applying half the recommended rate in two directions (at right angle to each other) and water in immediately and thoroughly after chemicals are applied.

The most common preemergence herbicides available to homeowners contain the active ingredients: benefin (Balan), benefin + trifluralin (Team), bensulide (Betasan), DCPA (Dacthal), pendimethalin (Halts), and siduron (Tupersan). Only Tupersan is safe to use on newly seeded turf in the spring. The other herbicides may only be applied to well established turf.

Herbicide products containing the active ingredient methanearsonate, which is an organic arsenical, are available for control of crabgrass after it germinates. For best results apply these products to young actively growing crabgrass. As crabgrass becomes larger it will be more difficult to control. Repeat applications at 10 to 14 day intervals may be required for complete control. Expect to see some yellowing on desired turfgrass.

## Turf Renovation

If weeds or weedy grasses become such a problem that you wish you could remove everything and start over, there is a way. In late summer apply Roundup to the weeds and grass. In a few days, as they start to die, scratch through the area with a rake or similar tool to expose soil. New grass seed can be sown in the area 7 days after treatment. Keep the area moist until the grass seeds germinate and begin growth.

## Yellow Nutsedge Control in Home Lawns

Yellow Nutsedge (*Cyperus esculentus L.*) is a common weed found in many home lawns in New Jersey and Delaware. Aside from detracting from the aesthetic quality of the turf, yellow nutsedge can compete with desired turfgrasses for water, nutrients, and sunlight. If allowed to grow, yellow nutsedge can quickly spread to infest large areas of the home lawn.

## Plant Description

Yellow Nutsedge is a grass-like sedge with erect, triangular-shaped stems that are yellow-green in color. The leaves are also yellow-green, with a thick mid-vein and a very waxy surface. The shallow, fibrous root system often produces many nut-like tubers, which are underground food storage organs. Each of these tubers can germinate and produce a new plant. Each new plant can also produce rhizomes which can give rise to additional new plants. Yellow nutsedge is a warm season perennial and the above ground foliage does not survive winters in New Jersey and Delaware.

## Growth Habit

Yellow Nutsedge thrives in warm, wet conditions and is often be found in low lying areas of the lawn with poor drainage. Shoots from underground tubers and rhizomes begin to emerge in late spring/early summer as soil temperatures increase. Heavy infestations in home lawns usually and becomes readily apparent in July and August.

## Cultural Control

Maintaining a dense, vigorous turf is the best and most lasting method for reducing the infestation and spread of yellow nutsedge. It is critical that drainage be improved in low lying areas of the lawn where water accumulates. Avoid frequent light watering or irrigation. Areas of the turf that are thin due to drought stress, insects, or diseases should be repaired by reseeding or sodding.

## Hand Removal

If only a few yellow nutsedge plants are present, hand pulling may be the best way to selectively eradicate the weed. Begin physically removing the plants as soon as they are observed. Remove the entire plant along with the root system by digging around the base of the plant. Hand removal of mature yellow nutsedge plants is difficult as plants break off at the soil surface allowing regrowth and tuber development to continue. After removal, homeowners should check the area periodically for regrowth. This approach is effective only if performed on a regular basis.

## Chemical Control

Unlike most lawn weeds, yellow nutsedge is not controlled by traditional annual grass weed or broadleaf weed control products. The weed is a member of the sedge family and requires specific herbicides to achieve satisfactory control.

## Homeowner Treatment

Where large patches of nutsedge are present, applications of herbicides may be required to achieve satisfactory control before the turf can be improved. Homeowners may purchase, through retailers, herbicides that contain one of the following active ingredients: ammonium methanearsonate (AMA), disodium methanearsonate (DSMA), monoammonium

methanearsonate (MAMA), monosodium methanearsonate (MSMA), or calcium acid methanearsonate (CAMA) to eliminate this weed. Performance of these products is dependent on the homeowner accurately following the "Directions For Use." These herbicides are most effective when applied to turf under good growing conditions and not under drought stress. Applications should be ideally initiated in the late spring/early summer when the nutsedge is young and actively growing. Usually a repeat application must be made 10 to 14 days following the initial application. When applying control products, avoid mowing three to five days before and after treatment. To ensure adequate herbicide absorption, do not water the lawn for at least 24 to 48 hours after product application. In some cases, temporary yellowing of the turf may occur.

## Professional Application

Professional lawn care specialists, who have a certified pesticide applicators license, have access to two herbicides (Basagran and Manage) that are highly effective for yellow nutsedge control. Even with use of these herbicides, a few weeks time may be required to eliminate the plants that are present and repeat applications to control germinating nutlets may be necessary. As with the products available to homeowners, these herbicides perform best when treatments are made on young, actively growing nutsedge plants.

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Desktop publishing by Rutgers-Cook College Resource Center

Revised: August 2003

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N.J. AGRICULTURAL EXPERIMENT STATION  
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