

1998 RUTGERS Turfgrass Proceedings



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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, Cook College, Rutgers University in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public. Articles appearing in these proceedings are divided into two sections.

The first section includes lecture notes of papers presented at the 1998 New Jersey Turfgrass Expo. Publication of the New Jersey Turfgrass Expo Notes provides a readily available

source of information covering a wide range of topics. The Expo Notes include technical and popular presentations of importance to the turfgrass industry.

The second section includes research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of this section is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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WEED MANAGEMENT FOR ATHLETIC FIELDS

Dr. John A. Meade¹

Weed problems in athletic fields are very similar to those of other turf areas. As the grass sod is abused by the athletes it opens up and areas bare of grass develop. This allows weeds to germinate and become established.

I see your concerns as follows:

- Keep out crabgrass
- Destroy broadleaf weeds
- Eliminate nutsedge
- Don't injure turf
- Keep down costs
- Avoid environmental insults

Many people don't realize that Integrated Pest Management (IPM) is not only related to insects but also to weed control. Integrated Weed Management speaks to integrating methods of control. These methods include prevention, sanitation, use of cultural practices, and use of herbicides.

Prevention means not buying weed problems. For instance, buy only certified seed from a reliable company. **Sanitation** refers to preventing weeds from going to seed. Not all weed seeds germinate the first year after falling to the ground. Some remain viable for long periods of time waiting for the right conditions to germinate. Thus, letting a weed go to seed could provide new weeds for many years. **Cultural practices** such as mowing height, fertility program, pH level, and use of optimum cultivars can prevent many weed problems. For more information on these factors see the Rutgers Cooperative Extension publication FS105 by James A. Murphy, Specialist in Turfgrass Management. It is avail-

able from the office of your local County Agricultural Agent. **Herbicides** offer an effective, cost-effective way to prevent or remove weeds in an environmentally safe manner.

What weeds are likely to occur?

Nutsedge

This perennial grass-like plant can be identified as a sedge by its three-angled stem, detectable by rolling the stem between thumb and forefinger. It creeps through the turf by means of underground stems called rhizomes. In August, a nutlet forms at the end of the rhizome and overwinters to start up next year. Light and frequent watering greatly encourages its development. Several herbicides are available for control. The postemergence crabgrass herbicides are effective. They require two treatments about 2 weeks apart. Start treatment when the sedge is visible. Do not treat if grass is under heat or drought stress. As always, check the label for information. Bentazon is sold as BASAGRAN T&O and as LESCOGRAN. They are quite effective and safe on the grasses. Treat as soon as you see the nutsedge. MANAGE is labeled for nutsedge control and is very effective and safe to the turf. Where no discoloration can be tolerated, try bentazon or MANAGE.

In general we can divide the rest of the weeds into two groups: grasses and broadleaf weeds.

Annual Grasses

Preemergence. Weedy annual grasses are best controlled by stopping the seed germination and/or emergence of the plant. Cultural practices that encourage growth of a desirable

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sod will help to control germination and emergence of weedy grasses. If necessary, herbicides can be employed to stop seed germination. These include the usual preemergence crabgrass herbicides such as BALAN, BETASAN, TEAM, DACTHAL, and RONSTAR, and formulations containing pendimethalin. More recently, DIMENSION and BARRICADE have become available. When applied during the period of April 1st to 23rd, these products will stop grass seeds from germinating. Reapplication may be necessary as weather conditions dictate.

Note that some of the preemergence materials may inhibit desirable grass seed germination if reseeding is practiced in the fall or if reseeding is done during the summer. Some applicators prefer to apply the preemergence materials earlier to spread out the work and will start in March. You should be aware that some crabgrass germinates in June and July and the herbicide's activity may be gone by then. One way to avoid this is to split the application. Put on one-half in March or early April and one-half in mid-June or so. Some manufacturers suggest putting the herbicide down in the fall, but this could be a disaster if the winter is open and warm, and the activity may not carry-over to mid-summer. Be prepared to look seriously at a postemergence application. A naturally occurring compound has been developed as a preemergence treatment. Corn gluten, a by-product of processing, has been found to have good activity. The rate is rather high (around 800 pounds per acre), but it provided 90% control eight weeks after treatment. A secondary benefit is the nitrogen present in the corn gluten.

Postemergence. If a spring seeding is made, TUPERSAN can be used at the time of seeding to stop crabgrass germination without interfering with the germination of desirable grasses. If weedy grasses do become established then a postemergence herbicide may be used. These include DSMA, MSMA, and CAMA. They should be applied as soon as the crabgrass appears, usually in mid-June. Read the

label for precautions and directions. ACCLAIM is also available for use and should be applied in the first week of July. It is very effective and safe to turf grasses. DIMENSION, although considered a preemergence compound, is effective postemergence if applied very soon after emergence of the crabgrass. It might be useful if weather or other problems prevent the usual preemergence treatment. One could then wait until May or June to apply Dimension to catch the already germinated seeds and to stop further seed germination.

Broadleaf Weeds

Summer annual weeds germinate in the spring, flower in the summer, and die off in the fall. Winter annual weeds germinate in the winter, flower in the spring and die in the summer. Perennial weeds such as dandelion have structures that allow them to live many years. Examples of summer annual weeds include purslane, the plantains (although sometimes they may be perennials), and carpetweed. Winter annual weeds include chickweed, corn chamomile, mustards, and henbit.

Broadleaf weeds in turf are best controlled by proper use of a broadleaf herbicide for lawn areas. There are many formulations available that usually contain 2,4-D in combination with another compound such as MCP, 2,4-DP, dicamba, or triclopyr. The combination products result in much better control of more weeds than do single compounds. In response to concerns about 2,4-D, combinations such as MCP + 2,4-DP or MCP + dicamba are available. The United States Environmental Protection Agency has declared 2,4-D to be a safe compound for use in turf areas. CONFRONT is a combination of triclopyr + clopyralid, an effective treatment with no phenoxy compounds. There may also be other two-way combinations available. Three-way combinations are usually preferred because they control most broadleaf weeds without the problem of identifying the weeds present. The one that was first developed is 2,4-D + MCP + dicamba and known as TRIMEC. Others include 2,4-D + MCP + 2,4-DP and 2,4-D + 2,4-DP + dicamba. Some formulations are available that

are odor free and others are designed for cool weather use. Safe use of all these broadleaf herbicides depends on having the grass in good growing condition.

Baseball Fields

These have the same turf problems and solutions as football, soccer, and other sports but they have some special problems such as the infield and fence lines. If the infield isn't kept weed-free by mechanical means, one could use one of the preemergence crabgrass herbicides. Spot treatment with ROUNDUP, FINALE, or REWARD might be a possibility. Do not use a total vegetation control material here as it might run off and injure the grass in the outfield. A weed-free area along the fence line will make that area less unsightly. The use of ROUNDUP, FINALE, or REWARD is one way to do that. It is probably best to include a preemergence crabgrass herbicide to stop future germination of weeds.

Poison ivy and other brush may be controlled by the use of one of the commercial preparations labeled for that use. These include Dow's GARLON and Ortho's BRUSH-B-GONE containing triclopyr. Treatment should start as soon as

the leaves are opened. ROUNDUP is also useful for brush and poison ivy but spring applications provide poor control. The best time for ROUNDUP applications is July and later.

Safety to the Athletes is not a problem with these compounds. They have been thoroughly tested for human safety and when used as directed they will not harm children, adults, or pets. Refer to Table 1 for suggested waiting periods for reseeding turf after application of some herbicides, or application of some herbicides after seeding.

Suggested References for Weed Identification

"Weeds of the Northeast" by Richard H. Uva, Joseph C. Neal, and Joseph M. DiTomaso. Cornell University Press, 1997. An excellent book with color photos of the seedling and mature stages with photos of flowers.

Visit the Rutgers Cooperative Extension Web site (<http://www.rce.rutgers.edu>) or type "weed images" into your browser. Scroll down to "Plant Images," which contain a collection of most of the weed slides belonging to John A. Meade.

Table 1.

Suggested waiting periods for reseeding turf areas after application of some herbicides.

2,4-D	2 weeks
Acclaim	Fescues and ryegrass no wait; all other species 21 days.
Balan	6 weeks
Barricade	4 to 6 months
Bensulide	4 months
Dacthal	2 months
Dicamba	3 weeks
Dimension	3 months
Pendimethalin	4 months
Roundup	3-5 days
Team	2 to 4 months depending on rate
Turflon	3 weeks

Suggested waiting periods for application of selected herbicides after seeding.

2,4-D, MCPP	2 mowings
Acclaim	4 months for Kentucky bluegrass; 4 weeks for ryegrass and tall fescue.
Dicamba	3 to 5 leaf stage
DSMA, etc.	4 mowings
Trimec	2 to 3 mowings
