

# 1997 RUTGERS Turfgrass Proceedings



THE NEW JERSEY TURFGRASS ASSOCIATION

In Cooperation With

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# 1997 RUTGERS TURFGRASS PROCEEDINGS

of the

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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 (white pages) includes lecture notes of papers presented at the 1997 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 (green pages) includes technical research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of these papers is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to those individuals who have provided support to the Rutgers Turf Research Program at Cook College - Rutgers, The State University of New Jersey.

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## WEED CONTROL IN PLANT BEDS

Dr. John A. Meade<sup>1</sup>

Weed control is potentially the most expensive operation in the landscaper's services. Weeds appreciate the opportunity to germinate and grow in a non-competitive environment and in most beds there is very little competition, especially at establishment.

Hand pulling and hoeing are two of the most exciting but most expensive ways of getting rid of weeds. Herbicides provide a less expensive option and in conjunction with judicious use of mulch will allow near weed-free conditions through establishment.

Types of plant beds include:

- **Shrubs** such as *Taxus* (yew), arborvitae, and juniper;
- **Ground covers** such as periwinkle, pachysandra, and *Limonium*;
- **Flowers** (perennials) such as *Hosta*;
- **Bulbs** such as gladioli, tulip, etc. are a different type since they are often found in lawns.

Herbicides for these uses are limited, as you might expect because manufacturers often cannot sell enough material to cover the cost of one expensive lawsuit by the user. Thus, they are reluctant to invest the time and money to obtain label approval for their products. Fortunately, there is an alternative. Enter IR-4, a Federal Government group developed to obtain labeling for minor use crops. Working in conjunction with industry, they have been successful in producing data and evidence to obtain labeling for many herbicides (and other pesticides) for ornamental uses.

Often-times, the labeling is not specific and one must read between the lines to get the best information. The labeling may refer only to nursery situations for certain ornamentals and not mention plant beds.

What types of weeds might one expect in plant beds? Most every type. The annual weeds, those that germinate, live, and set seed in one year, will be very abundant. Examples of this group are crabgrass, a summer annual which germinates in the spring and dies in the fall, and chickweed, a winter annual which germinates in the fall and dies in the spring. The best way to attack these plants is at the weakest point in their life cycle, which is at germination. They are very sensitive to shading so woven mesh or organic chips will help to prevent establishment. Also, at this time they are most sensitive to herbicides. Those that inhibit seed germination are best. They can be used at relatively low rates and in general are not harmful to established or newly planted shrubs and flowers.

Most of the preemergence crabgrass materials are useful in many cases. Pendimethalin appears to be widely available in a variety of formulations. It is effective on many weeds and has enough residual activity to furnish weed control through much of the season. DACTHAL (which may not be available in the future), bensulide, RONSTAR, and BALAN are also available. BARRICADE furnishes good weed control over a long period. SURFLAN has been used for many years for weed control in beds. Caution is needed with SURFLAN because if it washes out into adjacent grass, it may injure the

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grass. The same is true of PENNANT, which is exceptionally useful in controlling nutsedge if applied prior to the germination of the nutlet.

Perennial weeds, those that are already established and have a long life cycle, are more difficult to control. Established grasses can be controlled by the use of VANTAGE, FUSILADE/ORNAMEC, or ACCLAIM. These compounds are safe on most conifers, broadleaf shrubs, and herbaceous perennial ornamentals. Weeds other than grasses present special problems because the herbicides used to control them are also capable of injuring desirable plants. Hence, these materials such as ROUNDUP, FINALE, TOUCHDOWN, and SYCTHE must be directed to the weeds and kept off of the ornamental species. There is an opportunity here to wipe these compounds onto the weed leaves without touching the desirable plants. This can be accomplished with commercial wipers or with something as simple as a sponge. The herbicide is then moved into the root system causing destruction of the weed.

Another approach to weed control is to fumigate the soil prior to planting the bed. BASAMID is a granular product that is spread on the desired area and then worked into the soil and covered with water or plastic. It turns into a gas that destroys weed seeds, underground vegetative

structures, and diseases. It is primarily useful on small areas. VAPAM is used for the same purpose. Both require working the soil after a few days to eliminate left-over material so that plants may be put into the ground.

Mulches and herbicides work well together to provide weed control and present a pleasant appearance as well as preventing erosion. Once the bed is shaped and planted, a preemergence herbicide can be applied and covered with an appropriate mulch. Be aware that some herbicide labels call for a waiting period between planting and application. This allows the soil to close around the roots and protects them from the herbicide. If it is an existing bed, the use of a granular formulation will allow the particles to respond to gravity and fall through the mulch to contact the soil. A little help from irrigation or rainfall would be beneficial.

#### **WEED IDENTIFICATION REFERENCES**

Weeds of the Northeast by Uva et al. Cornell Univ Press. P.O. Box 6525, Ithaca NY 14851-6525. \$30.

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