



## Short Cutts

**Mark your calendar today:  
the Seventh Annual Turfgrass Management Short Course will be held January 6-10 and January 13-17, 1992**

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### Cornell Cooperative Extension's Turfgrass Management Short Course

Since the first Cornell Turfgrass Management Short Course was held in January of 1986 more than 400 professional turfgrass managers from New York, New Jersey, Connecticut, Delaware, Pennsylvania, Maine, Massachusetts, Vermont, California, Wisconsin, Colorado, Canada and France have graduated. Forty instructors and assistants from Cornell University, SUNY Agricultural and Technical Colleges and the turfgrass industry are involved in teaching the lectures and laboratories. Class enrollment is limited so that laboratory sessions can maximize hands-on experiences. The 2-week Short Course includes 72 teaching hours, covering the principles of turfgrass establishment and maintenance. Topics include grass morphology, species identification and selection, soil science, drainage, irrigation, fertilization, cultivation, renovation and pest management topics (including identification and control strategies for insects, diseases and weeds). Other topics that help develop turfgrass professionals include: the selection, establishment and maintenance of ornamentals; developing budgets, communication skills, customer relations, motivation in management, and turfgrass management strategies. Daily student evaluations are collected and summarized to help improve subsequent Short Courses. A pass/fail final exam is given at the end of the course to assess achievement of the course's educational goals from both the instructor's perspective as well as from the student's perspective.

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Editor-in-Chief: Norman W. Hummel, Jr.

Acting Editor: Joann Gruttadaurio

Masthead Illustration: Benn Nadelman  
Illustrations: Patti Witten and Timothy Tryon

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The Cornell Turfgrass Science Program promotes continuing education and maintains contact with past graduates throughout the year at regional and statewide Cooperative Extension- and industry-sponsored educational programs and conferences. According to our graduates:

"The Cornell Short Course experience has made a positive impact on their job performance and in their careers as turfgrass managers."

The Short Course registration form will be sent out in October. You may want to make arrangements with your supervisor now to secure funding. If you wish to receive a registration form or if you have any questions contact Joann Gruttadaurio, Short Course Coordinator, at 607-255-1792.

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### Norm Hummel Awarded Sabbatical Leave

July 1, 1991 – July 1, 1992

*CUTT* Editor-in-Chief Norm Hummel will leave his Cornell University responsibilities for the next year to pursue a number of projects that will concentrate on developing standard procedures for testing construction or topdressing mixes. A portion of his time will also be devoted to the refinement of existing USGA specifications.

Norm will be travelling all over the country and visiting commercial testing laboratories, as well as golf courses that have greens built to USGA specifications. He will be soliciting golf course architects, superintendents, contractors and academics for their input on greens specifications.

This project will result in better defined greens construction specifications and methods for testing greens mixes.

### Welcome to Dave Davidson

While Norm Hummel is on leave Dave Davidson will be joining the rest of the Turfgrass Work Group (Rod Ferrentino, Joann Gruttadaurio, Joe Neal, Eric Nelson and Marty Petrovic) and assume some turfgrass extension responsibilities. Dave obtained his Masters degree from the University of Guelph where he concentrated on turfgrass plant nutrition. He then came to Cornell in 1984 to work with Norm Hummel. While obtaining his doctorate Dave focused on mineral nutrition of bentgrass grown on sand greens.

Dave is no stranger to turfgrass research and extension activities. He has been a speaker at the New York State Turfgrass Association Confer-

ence and an instructor at the Cornell Turfgrass Management Short Course. He will serve as the primary resource person for questions involving cultural aspects of turfgrass establishment and maintenance for professional turfgrass managers. Of course, your first line of defense is your local county Cooperative Extension agent (with turfgrass responsibilities). If they are not able to help you, you may contact Dave at 607-255-1629. Joann Gruttadaurio will continue to coordinate the Cornell Turfgrass Management Short Course and the Field Diagnostic Summer Course and will serve as the editor of *CUTT*. Any questions regarding these educational programs, call her at 607-255-1792.

## Cornell Turfgrass Field Day

On June 27 more than 400 turfgrass professionals endured the scorching heat of Ithaca to see current research in action. The morning program included reports on projects which focused on:

- the impact of turfgrass culture on water use
- leaching properties of various nitrogen sources
- Pythium root rot control
- biological control of Brown patch
- organic amendments for greens
- golf course and lawn IPM demonstrations
- biological control of *Poa annua*
- crabgrass, veronica and broadleaf weed control studies

The afternoon tours and discussions highlighted the sampling techniques for turf insects and an update on biocontrol options; weed control studies on bentgrass; compost microbiology and how it influences disease suppressive activity of a compost; variety trial results for bentgrass, bluegrass, fine fescues, tall fescue, ryegrass, buffalograss, and zoysiagrass; and fertilizer and pesticide leaching studies.

The results of these studies have been published in the 1989-90 Cornell University Turfgrass Research Report. A limited number of copies are available for \$6 from: Cheryl Koroluck, Department of Floriculture and Ornamental Horticulture, 20 Plant Science Building, Ithaca, NY 14853.

## Cornell's Matching Fund Program Grows

Stephen Smith, President of the New York State Turfgrass Association, presented Dean David Call with a \$35,000 donation during the opening ceremony of the Cornell Turfgrass Field Day. The College of Agriculture and Life Sciences will match this grant and all funds will be designated in support of turfgrass research.

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## Disease Control

Early to mid-autumn is the best time to apply preventive fungicide treatments to control Pythium root rot. For sites with a history of Pythium root rot problems, applications of either Banol, Aliette, Koban, or Subdue (or any other Pythium fungicide with active ingredients contained in the above fungicides) should be made in mid-October to mid-November prior to turf dormancy. To get the most effective control, fungicides should be thoroughly watered-in usually with 3/4 inches of water. Immediately after turf resumes growth in the spring, another follow-up application of a Pythium fungicide should be made. As always, be sure to avoid repeated and continuous applications of the same fungicide on sites with known Pythium root rot problems.

Our research has shown that covering golf course putting greens with composts after turf dormancy will protect playing surfaces from gray snow mold and possibly freezing injury. Only composts that are well-decomposed and mature should be used and can be applied at rates of 200 pounds/1000 sq. ft. It is important that the excess compost remaining in the spring be removed from green surfaces prior to new turf growth, otherwise some turf damage may occur.

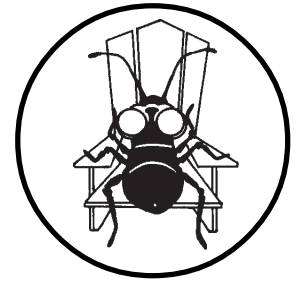
ERIC NELSON, DEPT. OF PLANT PATHOLOGY

## Fall is for Broadleaf Weed Control

Autumn is the recommended time to apply postemergent herbicides for broadleaf weed control in turf. Compared to spring treatments, winter annual broadleaves are easier to control, perennials are more effectively controlled, and the turf has more time to fill-in the gaps before new weed germination. In the Fall 1990 issue of *CUTT*, we discussed this subject in some detail; however, one recurring question is, "How late can I spray?" The best time in upstate New York is from mid-September to mid-October. However, in our research plots we have sprayed as late as mid-November (in a mild Fall) with excellent results. Keep in mind that when you apply your herbicides later in the fall, do not expect to see results until next spring.

In October and November the weeds are not growing vigorously and therefore do not rapidly respond to the herbicides. Have faith! The herbicides are absorbed and translocated to the roots and rhizomes where they begin working on the growing points. The next spring, the weeds will either not grow at all, or may produce one twisted shoot and then die. For more information see the Fall 1990 issue of *CUTT*.

JOSEPH C. NEAL, DEPT. OF FLOR. & ORN. HORT.



## Pest Watch

*Early to mid autumn is the best time to apply preventive fungicide treatments to control Pythium root rot.*

*The best time to apply postemergent herbicides for broadleaf weed control in turf in upstate New York is from mid-September to mid-October.*





## Scanning the Journals

*A review of current  
journal articles*

**Researchers report the successful suppression of dollar spot in both preventative and curative applications by a biological control agent, the bacteria *Enterobacter cloacae*, in field experiments on putting greens in New York.**

**Extremely low levels of atrazine in irrigation water can significantly damage creeping bentgrass, especially when applied over a long period of time.**

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### Bacterial Agent Suppresses Dollar Spot

In one of the few studies of its kind, Cornell researchers Eric Nelson and Cheryl Craft (Dept. Plant Pathology, College of Agriculture and Life Sciences) report the successful suppression of dollar spot in both preventative and curative applications by a biological control agent, the bacteria *Enterobacter cloacae*, in field experiments on putting greens in New York. While laboratory and greenhouse studies of similar biocontrol agents are not uncommon, investigations under actual field conditions are rare.

The two-year study was conducted on 60 year-old native soil putting greens (alkaline clay-loam, pH 7.2) at the Country Club of Rochester. Greens turf consisted of a mixture of creeping bentgrass and annual bluegrass, with a natural infestation of dollar spot.

In 1988, a one-time-only topdressing with the bacterial agent was applied as a preventive measure, and in a separate experiment a curative application was compared to the fungicide iprodione on highly diseased turf. The preventive application significantly reduced dollar spot as compared to control, and the curative application was as effective as the fungicide.

In 1989 monthly preventive treatments of the bacteria were applied, paired with parallel applications of the fungicide propiconazole. The bacterial agent was as effective as the fungicide, both achieving significant suppression of dollar spot as compared to controls. For some strains of bacteria, significant suppression of disease was observed for up to 2 months after application in both the preventive and curative studies. The bacterial agent was considered more effective as a preventive than a curative. The mechanism by which *E. cloacae* inhibits the fungal pathogen is unknown, but the authors suggest that both an enhanced nitrogen uptake by the plant as well as direct interference with fungal adherence to the host may be responsible. The authors further note that application of suitable bacterial strains could be made during routine topdressing of greens and tees, hence requiring no additional scheduling to achieve the preventive benefit.

*(From: E.B. Nelson and C.M. Craft. 1991. Introduction and Establishment of Strains of Enterobacter cloacae in Golf Course Turf for the Biological Control of Dollar Spot. Plant Disease 75(5): 510-514.)*

### Creeping Bentgrass Ultra-sensitive to Atrazine

Researchers at Kansas State University, Manhattan, have discovered that extremely low levels of atrazine in irrigation water can significantly damage creeping bentgrass, especially when applied over a long period of time. Workers tested mature and seedling 'Penncross' creeping bentgrass in greenhouse pots with daily waterings contaminated by atrazine at levels ranging from 0.01 to 2.56 mg/liter. After 20 days of watering, damage thresholds were established at 0.05 and 0.08 mg/liter for seedling and mature bentgrass, respectively. Compare these numbers to the atrazine concentrations found in some groundwaters in the Midwest: 21.1 - 42.4 mg/liter, as reported in this paper!

The authors point out that warm season turfgrasses (Zoysiagrass, bermudagrass, centipedegrass, St. Augustinegrass) can detoxify atrazine whereas cool season turfgrasses cannot. Therefore, this problem can be especially acute in the north-south transition zone where both types of turfgrass may be grown on the same golf course, irrigated from the same groundwater source, and where atrazine is used for weed control on the warm season turf species. In these situations, sudden declines in the quality of bentgrass greens may be due to atrazine contamination of irrigation water, rather than disease.

*(From: J.L. Nus and M.A. Sandburg. 1991. Creeping Bentgrass Damaged by Low Levels of Atrazine in Irrigation Water. HortScience 26(4):392-394.)*

### Short Cutts

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### Continuing Support Appreciated

A special thanks goes out to those who have donated equipment in support of Cornell's Turfgrass Program:

Sponsor:	Equipment Donations:
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