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VOLUME EIGHT, NUMBER TEN

OCTOBER 1992

MAIN EVENTS

8 FALL FERTILIZATION STRATEGIES

Fall fertilization success hinges on getting the right nutrients to the turf at the right time. Here are timing and selection tips that can help make your fall fertilization program a winner.

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Once a snow mold problem develops on your turf, it may be too late. Stopping the problem starts is the best — and often the only — solution.

16 STMA PROFILE: VERSATILITY SPELLS SUCCESS FOR RAY FLOOD

For Ray Flood, Landscape Technician III, of the grounds maintenance department at the University of Maryland in College Park, the ability to “wear many hats” has been the key to accomplishment. As STMA Chesapeake Chapter President, he adds another hat to his brimming rack.

24 WINTERIZING IRRIGATION SYSTEMS: BEATING THE ELEMENTS

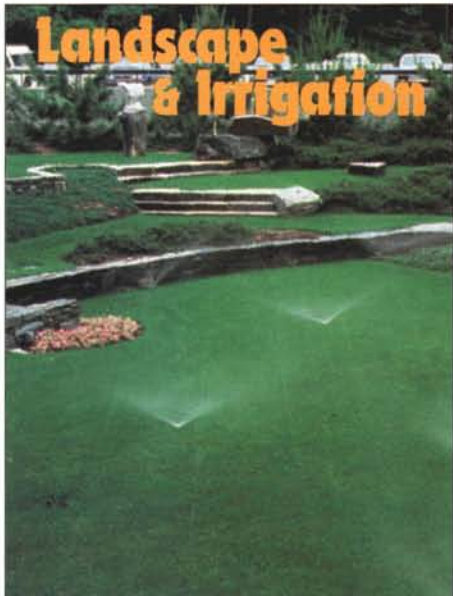
Consensus of opinion is anything but universal when it comes to methods of winterizing irrigation systems. However, in areas that consistently receive freezing temperatures for more than 24 hours, most sports turf managers and superintendents agree that removing water from system components is crucial and must be considered during design and installation of the system.

LINE-UP

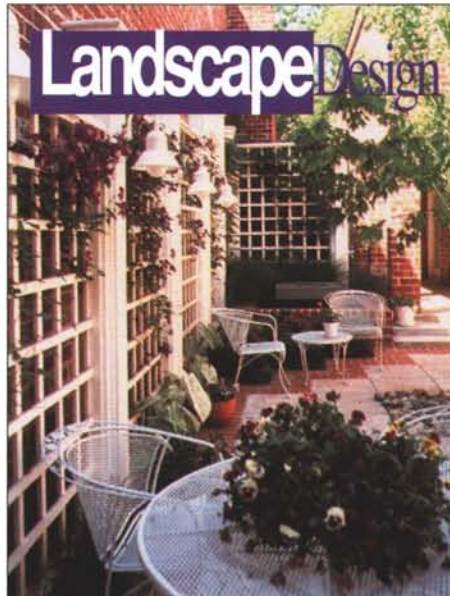
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ON THE COVER: Fall is an ideal time to review your
irrigation winterizing strategy. Photo courtesy Rain Bird Sales.

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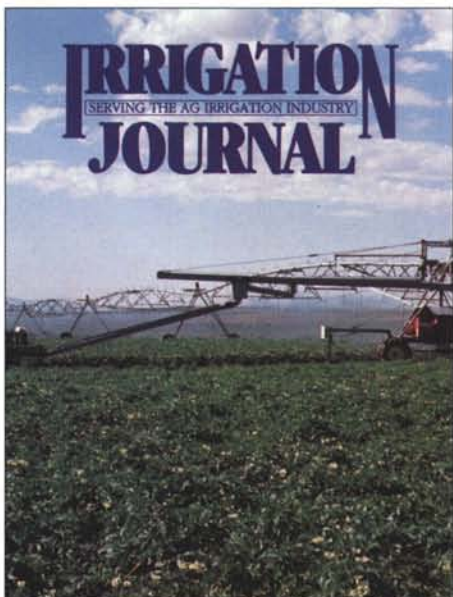
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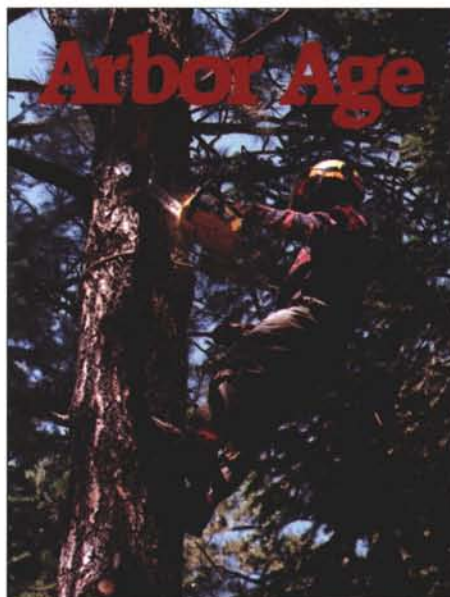
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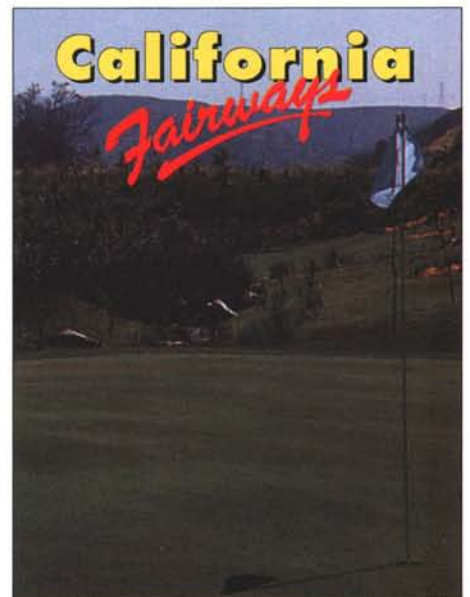
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Title: Irrigation Journal
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Title: Arbor Age
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THE FRONT OFFICE

OPINION PAGE

WHATEVER IT TAKES



In July, the *sportsTURF* cover photo showed two uniformed members of the grounds crew at San Diego's Jack Murphy Stadium using four-inch paint brushes to put the finishing touches on the field's number. It was a clear, real world shot—one that showed how even the simplest of tools can be used to create excellence.

The last thing I expected when I selected this cover was controversy. In truth, I was delighted to get it. Here was a picture, colorful and sharp, of sports turf personnel at work in one of the finest facilities

in the country. However, several people from different segments of the industry objected to the photo. Their motives were all slightly different. However, their basic objection, framed as a rhetorical question, was the same:

Is this the image of the sports turf professional we want to present?

If that image is of someone doing what it takes to get the job done well, my answer is yes. And that includes using four-inch paint brushes, rakes, shovels, and *whatever it takes* to get the job done. Manual labor with hand tools does not mean "unprofessional," at least not by any definition I'm aware of.

The professional sports turf industry is rich in the diverse nature of the individuals who comprise it, from turfgrass professors to part-time crew members. It is made up of people with various talents at various levels. The dedicated laborer running a trencher, or digging a trench with a shovel, is no more or less professional than the turfgrass researcher studying endophytes.

Professionalism isn't an intellectual competition or a fashion show. It's an attitude of commitment, combined with technical expertise, toward whatever work you're doing. The outward signs of professionalism such as sharp, clean uniforms and state-of-the-art equipment are natural extensions of that attitude, but they are no replacement for it.

Does the July cover convey the proper image of sports turf professionals? Judging from the job done at Jack Murphy Stadium year-in and year-out, the answer is yes.

Definitely yes.

Matthew Trulio

EVENTS

CALENDAR

NOVEMBER

8-10 Georgia Golf Course Superintendents Association Meeting, King & Prince Hotel, St. Simons Island, GA. Contact: Karen White, GGCSA (404) 769-4076.

8-11 22nd Annual Education Conference and Show of the National Institute on Park and Ground Management, Richmond, VA. Contact: NIPGM (414) 733-2301.

10-13 Turf and Ground Exposition, Rochester Riverside Convention Center, Rochester, NY. Contact: New York State Turfgrass Association (800) 873-TURF or (518) 783-1229.

12-14 Arbor Expo '92, Clarion Plaza Hotel, Orlando, FL. Contact: Jeff Tappeiner (818) 781-8300.

16-19 Green Industry Expo, Indianapolis Convention Center, Indianapolis, IN. Contact: ALCA (703) 241-4004.

20-21 National Water Features Association Second Annual Trade Show and Meeting, Orlando, FL. Contact: NWFA (813) 263-4029.

NOV/DEC

29- 2 44th Canadian Turfgrass Conference and Trade Show, World Trade and Convention Centre, Halifax, Nova Scotia. Contact: Lisa North (for the conference) or Chuck Desveaux (for the trade show) (416) 602-8873, or in Canada (800) 387-1056.

30- 2 North Central Turfgrass Exposition, Pheasant Run Resort, St. Charles, IL. Contact: ITF (312) 616-0800.

DECEMBER

2-3 Pacific Coast Turf and Landscape Conference and Trade Show, Seattle, WA. Contact: Scott White (206) 292-9198 (800) 275-9198 Fax (206) 292-0559.

Send announcements on your events two months in advance to editor, *sportsTURF* magazine, P.O. Box 8420, Van Nuys, CA 91409 or FAX to (818) 781-8517.



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Fall Fertilization Strategies

By Dr. Dean K. Mosdell

A good turf fertilization program is designed to ensure optimum utility of the turf-grass stand by providing required nutrients at the proper time. Sports fields are generally evaluated by their playability, although standards vary considerably. A significant aspect of a good turf fertilization program is fertilizer applications to cool-season grasses in the fall.

Research has shown that such applications of fertilizer improve turf density and color in the fall, ability of turf to withstand winter stress, and early spring green-up. Since top growth of the turf has slowed, the theory is that more nutrients are stored rather than immediately utilized by the plant.

Timing

The first step of a fall fertilization program is to improve turf density and help the turf recover from summer stresses by applying fertilizer in late summer/early fall.

This application of fertilizer helps “set-up” the turf for a late fall application. The early application occurs while the turf is still actively growing. Also, additional phosphorus or potassium can be applied to correct any deficiencies of these nutrients.

The late fall application should be applied as the growth of the grass slows. The general recommendation is to coincide fertilizer application with the last regular mowing. However, this timetable would vary with the source of nitrogen applied.

Organic nitrogen sources such as methylene ureas, ureaform, & natural organic forms require microbial activity to convert organic nitrogen to plant available inorganic nitrogen.

This fall strategy allows for up take of the nutrients, primarily nitrogen, without causing additional top growth. However, applications need to be made before the ground is frozen to realize the full benefits of fall fertilization.

Selection Of Fertilizer

There are numerous fertilizers available that contain various nitrogen sources from all-soluble to controlled-release that can be used in a fall fertilization program. However, it is important to understand how the nitrogen converts to plant available forms to determine timing and rate.

Slow release nitrogen sources can be divided into chemical and coated controlled-release sources. Coated fertilizers have a soluble core of nitrogen covered with a water insoluble barrier. Water must penetrate this barrier to initiate release of nitrogen. Temperature is the primary factor affecting nitrogen release rate.

Organic nitrogen sources such as methylene ureas, ureaform, and natural organic forms require microbial activity to convert organic nitrogen to plant available inorganic nitrogen. Methylene ureas contain some simple-organic nitrogen forms that do not require microbial activity. Factors affecting microbial activity, such as temperature, play a role in nitrogen release rate from these nitrogen sources.

Isobutylidene diurea is a slow-release



To reap the full benefits of fall fertilization, applications must be made before the ground is frozen.
Photo courtesy The O.M. Scott & Sons Company.

nitrogen source that reacts with water to form plant available nitrogen. Factors, such as particle size, soil pH, and , to a lesser extent, temperature and water, affect the nitrogen release rate.

Late summer applications of fertilizers are made during a period of active turf growth and possibly periods of high air temperatures. Use of slow release nitrogen sources significantly reduces the chance of salt injury and excess top growth. Rates of 0.9 to 1.5 pounds nitrogen per 1,000 square feet of a controlled-release nitrogen source can be applied at this time. If soluble nitrogen sources are selected, their split application of 0.5 pounds nitrogen per 1,000 square feet can be applied at a three to four week interval. Also, this period is a good time for addition of potassium and phosphorus as required. High potash containing fertilizer can be

used to increase soil potassium levels. At this point, turf is still actively growing to maximize potassium uptake by the plant.

Late fall applications of fertilizer are timed to coincide with cessation of top growth. However, since soil temperatures are declining at this time as well, nitrogen sources that are significantly affected by soil temperature should be applied three to four weeks earlier than soluble nitrogen sources. This timing permits some nitrogen availability in the fall before dormancy without reducing spring green-up. Soluble nitrogen sources can be applied in late fall, but rates should be reduced to 0.5 to 0.75 pounds of nitrogen per 1,000 square feet especially in sandy soils. Controlled-release nitrogen sources can be applied at one to 1.5 pounds nitrogen per 1,000 square feet.

Research has shown high nitrogen analysis or nitrogen only fertilizers can be used successfully as a late season application. This period is generally not the most efficient time to correct plant nutrient deficiencies.

Fall fertilization is simply one part of a good turfgrass fertility program to ensure optimum playability of a sports field. However, benefits derived from a fertilizer application at this time of the year make it a significant turf management practice. □

Editor's Note: Dr. Dean K. Mosdell is manager, product development for Research & Development at The O.M. Scott & Sons Company. He identifies and executes research programs in the areas of fertilizer and plant growth regulators.

CHEMICAL LOG

HANDLING PESTICIDES SAFELY

By Cynthia Drake

In pest control operations, employee and environmental safety should be your foremost concern. This article will discuss the safe and proper methods for mixing, rinsing, storage, and disposal of pesticides.

Additional information and employee training documents are available through your local or state farm bureau, cooperative extension, or agriculture department. Each state has different regulations governing the safe and legal handling of pesticides, and I would encourage you to contact the sources listed above for further assistance.

Mixing Stations

Prior to handling any pesticide, read the label. Among other things, the label will indicate the amount of pesticide needed for the application, precautions in handling the pesticide, possibilities for tank mixing more than one pesticide, and safety clothing requirements.

The greatest chance for a pesticide poisoning exposure comes from the mixing operation. The greatest potential for pesticide exposure poisonings occur during the mixing and handling of undiluted pesticides.

It is recommended that the applicator wear goggles or a face shield, rubber boots and gloves, a respirator, and either a rubber apron or water-retardant protective clothing.

It is mandatory that you provide an available water source at the mixing site for emergency decontamination. Soap, paper towels, and an additional change of clothing must be available to the applicator as well. An eye wash station is also recommended.

Always mix and load pesticides below eye level to avoid splashes into the face and eyes. Use a level sur-

face to measure pesticides. For best results, you should use calibrated weighing scales and standard measuring spoons and cups. The water you use should be clear of debris and grit. It is best to measure the pH of the water prior to mixing, should a buffering or acidifying agent be required.

Most Category 1 pesticides will require a closed mixing system. Your state agriculture department will have information on closed mixing requirements. Following the mixing and loading operation, you will either properly seal and store the pesticide container you used or triple rinse

and dispose of it.

Rinsing

Each state has its own manner of handling used pesticide containers and rinsate from pest control operators. It is mandatory in most states that you triple rinse your containers prior to disposal. The rinsate from the container can be added to your mixed solution. The container can then be punctured or destroyed prior to disposal.

Some companies are now providing containers that can be turned in for reuse. Some states are offering plastic container recycling, to produce park benches, plastic fencing, and other items. Containers that *cannot* be triple rinsed pose a hazardous waste problem. Check with your state EPA and agriculture department for disposal requirements of aerosol cans, pressurized injection units, and sealed containers. Using pesticides in such containers may require you to have hazardous waste storage and disposal documentation.

The rinsate from cleaning your spray tank should be directed onto the area that has been treated, never onto off-site areas or down the drain. The rinsate from washing spray equipment and vehicles should be collected and reused as well.

Disposal

The improper disposal of pesticides and their waste can lead to environmental and human health hazards. It is a federal offense to illegally dispose of your pesticides waste and containers. Check with your state EPA and agriculture department for laws regarding disposal.

Container disposal has become one of the largest problems we face. Our landfills are filling up. With tons of plastic and metal containers being turned

Prior to handling any pesticide, read the label. Among other things, the label will indicate the amount of pesticide needed for the application, precautions in handling the pesticide, possibilities for tank mixing more than one pesticide, and safety clothing requirements.
