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Working out budget priorities

by Dale Getz

Coaches and athletes will always want more field time, and we'll always have more things on our "wish list" than the budget will allow, so cooperation within the University of Notre Dame's athletic department is vital.

For example, the varsity team in the midst of its playing season receives the highest priority on practice field use. In the fall, football and soccer get the prime time for practices. Secondary priority goes to other varsity teams. Club and intramural sports needs are worked into open slots in the scheduling.

Our area of Indiana has a short season for active turf growth. Turf establishment or renovation must be scheduled around field use. Most such projects begin in early spring and are completed by late fall.

I work directly with coaches on day-today situations like planning field use and rescheduling rained-out practices or games. Low-cost special requests such as field painting that wasn't originally planned generally can be worked into my



Notre Dame's football field to be lowered two feet by staff of Dale Getz (inset).

budget. Requests that require a large allocation of funds or labor hours are submitted to the assistant athletic director for approval and coordination.

Our coaches appreciate the level of maintenance and high standard of field quality. They notice and understand the effect of adjusting mowing height, overseeding, aerating and other procedures. Student athletes, alumni and spectators have also grown to understand the importance of superior sports turf.

I submit three budgets each year: for the football stadium, baseball complex and all other athletic grounds. They break planned expenditures into categories like capital improvements, repairs and maintenance, supplies, utilities, postage and phone.

As the level of play rises, so does the quality of the sports fields. The athletic program and its facilities have grown at the same rate.

We've worked to become more efficient as participation in sports at N.D. has increased at all levels. During the last few years, women's soccer and softball have become varsity sports, creating a need for their share of practice and play time.

To expand field space, we're converting a turfed parking area to practice fields. Also, an artificial turf field has been converted to natural turf.

All of this resulted in a 40 percent increase in the number of turfed sports fields, while my staff has grown by one.

The biggest upcoming project is lowering the football stadium two feet to improve spectator "sight lines," effectively adding 20,000 seats. We will install new drainage and irrigation.

Renovation starts at the end of 1995 season. The field will be ready for play by the 1996 season. Renovation will be completed in 1997.

—Dale Getz is Notre Dame University's athletic facilities manager and active member of the Sports Turf Managers Association.

From the business side...

■ Notre Dame's athletic department contains 40 sub-departments: 16 administrative departments and one for each of the 24 varsity sports. Each sub-department budget is reviewed and submitted to the budget committee for approval in Octo-ber or November. The fiscal year ends June 30th.

We don't budget money to establish or renovate a field, or for other major projects. Those proposed expenditures must be presented as a formal plan.

We prioritize project requests to establish the top 10 according to the total goals of the department and the Univer-sity. This list is presented along with the standard budget requests.

We show 10 special requests, but seek funding for the top four or five. This lays the groundwork for the following year's requests. For example, because women's soccer recently became a varsity sport, we may show a new soccer field as fourth on the list, and bleachers for that field as eighth. This spreads out a \$200,000 project into workable segments, rather than asking for everything at once. Budgets are approved in April or May.

Funds and endowments can be desig-

nated for athletics by contributors through the central development office, creating an area we can tap for smaller special projects. All management personnel and coaches in the athletic department are available to answer questions, show the facilities and explain needs in further detail to potential donors.

Dale Getz reports directly to me on major issues. The coaches report to the assistant athletic directors. Priorities are set by the administration. This helps us properly manage intra-department needs.

The easiest way to have good athletic fields is to have great people and rely on their judgement. Sports turf management takes the ability to coordinate the complex interaction of science and "art." Dale has the expertise to get and keep the fields in shape and the knowledge of what's best for each field and its turf. Just as the athletic trainer has the final call as to whether an athlete can play, Dale has the final call on whether or not a field can be used.

—The author, Bubba Cunningham, is athletic department business manager for the University of Notre Dame.



Winterizing landscapes

Mulching, pruning and barricading are as important in the war against winter as in the battle against summertime problems.

■ The severe winter of 1993-94 damaged many landscapes across the Midwest.

"The record-breaking temperatures, deep snow and ice storms took their toll on almost everyone's landscape," says Dr. J. Robert Nuss, professor of ornamental horticulture in Penn State's College of Agricultural Sciences.

"The deep snow provided some insulation. but many plants still were not hardy enough to withstand the cold."

During the past decade of mild winters, many homeowners planted broadleaf evergreens and other plants that couldn't stand the cold. Leaf and flower buds and stems and branches were all destroyed.

"Some marginally hardy plants were killed down to the soil line, even though they were protected by snow," says Nuss.

The best way to plan for a hard winter is

to protect the plants. Here are

some tips from Charles Owen, formerly with the Holden Arboretum, Mentor, Ohio, now horticulturist at the Cleveland Metroparks

Mulching-Mulch is the best thing you can do for landscape plants. It helps moderate the soil temperature and moisture, which reduces the chance of injury by dessication. Keep the soil cool a bit longer in spring, to delay bud break and thus avoid damage from a late frost.

Mulch will also reduce frost-heaving. which is caused by the soil freezing and thawing alternately. Frost-heaving occurs mostly with herbaceous material planted in the fall.

Organic material is preferable for mulching, but must be replaced every few vears.

Apply mulch to a uniform thickness over the entire bed or under the drip line of trees. The thickness of the layer depends on the material, but 2 to 3 inches is right for most material. Use less if you are using something that mats down, like fresh leaves or lawn clippings, and more if you use fluffy material. such as straw.

Inorganic materials-black plastic, stone or other landscape fabrics-don't moderate changes in soil temperature as well as organic mulches do.

Whichever mulch you use, pull it back from the stem or crown of plants. The moisture-retaining properties of mulch can otherwise be fatal, as rots and molds can enter at the crown if this area is too wet.

Pruning-A severe form of weather-related plant damage is breakage caused by wind, snow and ice. Winter breakage occurs mostly on evergreen plants, especially large ones with a flat-topped, spreading habit.

Deciduous trees are often broken up by the wet snows sometimes seen in November.

You can greatly reduce breakage in the long run by pruning young trees so they grow to be pyramidal. Also, prune branches with weak mechanical attachment, such as narrow crotches.

On older trees, and trees that will not grow in pyramidal manner, cabling and bracing are the only way to reduce damage from ice and snow. You can create wind breaks in order to reduce breakage throughout the

Winter injury is also caused by ice that forms inside plant tissue. This is seen most often after spring freezes and frosts, as plants come out of dormancy. The best advice in this case is to select and place plants properly.



Advice for the mountain zone

"I don't think the Midwest has to irrigate during winter, but here, we

have to make sure soil is moist and plants are hydrated," says Bill Carlos, horticulture program coordinator for the cooperative extension in Reno, Nev.

"Plants continue to lose moisture through their leaves, particularly evergreens. If we get a real dry winter, they will experience winter dessication, as well as heaving and thawing of root ball; you have to insulate the soil with a three-inch layer of mulch."

Overnight lows in northern Nevada can descend to 10°F, or colder, depending on the winter. On any winter day, the temperature might fluctuate between 60° above to 30° below.

If you're in Colorado, northern Utah, Idaho or northern Nevada, read on:

Select and plant cold-hardy trees and shrubs, adapted to inorganic, alkaline soils and a hot, dry climate.

- Select plants for their snow tolerant architecture: low, spreading habit and strong wood.
- Break up caliche (calcium carbonate) layers and hardpans prior to planting.
- Amend light and heavy soils with organic matter before planting.
 - Mulch around the base of plants.
- Locate plants to avoid freezing, drying, winter winds and direct sun.
- Locate plants away from areas where snow accumulates or is piled up.
 - Provide winter protection, if plants are exposed.
 - Maintain plants in good vigor during the growing season.
- Replenish soil moisture before the ground freezes, but after the plants have gone dormant.
- Don't irrigate excessively, prune or fertilize late in the season. Let plants go dormant.

Winter pests

■ Mice, rabbits, and deer take over in winter as insect pests lie

Mice and rabbits eat the cambium, the living tissue just under the tree bark. Look for this injury on low-growing shrubs, especially evergreens, and on young fruit trees.

If the cambium is removed from the entire perimetercalled girdling-everything terminal to the girdled site loses contact with the root system and dies.

So when the trunk is girdled, the tree's entire top dies.

Deer damage plants in two ways. First, they eat twigs, buds and leaves. Although this is annoying because it can deform landscape plants, the damage usually is not fatal.

The second type of deer damage is worse and sometimes lethal. When bucks rub their antlers on tree trunks, the cambium is destroyed. It takes several years for the tree to grow new tissue, but the bucks often return to rub the same

trees year after year.

Snow fences, chicken wire, hardware cloth or other fabrics can help protect plants from these hungry marauders, but they'll only work on individual plants. Deer can clear fences, and other animals can burrow under them.

> -Charles Owens, the Holden Arboretum, Mentor, Ohio



Shrub damage caused by hungry deer. Holden Arboretum



A new whey to de-ice

 Salt used for de-icing roads and sidewalks causes conifer needles along some of the nation's

most scenic byways to turn brown. Around the home or beside well-landscaped parking lots, dissolved salt washes into the soil and can cause nearby trees to slowly die.

The good news is that researchers are trying to find ways to economically ferment cheese whey to produce calcium magnesium acetate, an effective and apparently harmless de-icer.

The Wall Street Journal says 20 billion pounds of whey are poured down the drain annually as waste. When perfected, however, the calcium compound will probably sound expensive to city officials. At a projected cost of \$300 per ton, it will seem to compare unfavorably to cheap salt, which sells for only about \$30 per ton. That is, until the aggregate damage from salt is calculated-a cost that some studies suggest required up to \$1000 per ton to rectify.

-National Landscape Association News

Take-all patch springs up on Southern golf courses

A disease that appears to be either brown patch or grub damage, but upon closer inspection is not.

By James E. Guyette

A relatively new turfgrass disease called take-all patch has been attacking St. Augustine and bermudagrass in Florida, Alabama, Texas and throughout the Gulf Coast states. The damage this fungus causes is similar to that of brown patch.

"Take-all causes costly damage to parks and golf courses, as well as to commercial sod farms," says Dr. Janell Johnk, Texas A&M extension specialist, Dallas, It hits home lawns, too.

"Left untreated, the damage increases year-to-year, and ultimately it destroys an entire lawn or field," Johnk notes. "St. Augustine seems to be sustaining greater dam- Take-all prefers alkaline soils. age than bermudagrass. It's

cropping up wherever grass is found," she adds.

Dr. Joe Krausz, Texas A&M plant pathologist, College Station, first identified take-all in Texas in 1991. The culprit is the fungus Gaeumannomyces graminis var. graminis. This same fungus is one of the three that cause spring dead spot in bermudagrass. "It's probably been here a



long time, but we're probably just learning about it now," Krausz explains, "In the past, they would probably scratch their heads and attribute it to other things.

"The fungus prefers alkaline (high pH) soils. We're studying that now. It may be our mild winters have let this soil-borne disease get a foothold and



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FECH CENTER

continued from page 34

become as severe as it is this year. And once you've got it, it's a real problem," says Krausz.

"The damage approaches epidemic proportions across the state, except for the desert areas," says Johnk. "Unfortunately, this fungal disease imitates brown patch and grubworm damage. What we use to treat for grubworms, for instance, has no effect on this disease. On the other other hand, the appropriate chemicals to control take-all work on brown patch, but some chemicals for brown patch are not labeled for take-all."

The two fungicides labeled for take-all are fenarimol (Rubigan) and tridimefon (Bayleton). The best defense against takeall is a strong stand of turf. "It's a longterm management thing," says Krausz.

The best time to apply fungicides is in the fall, when the rainy season starts and evening temperatures dip to below 70°F. Local conditions usually help with timing.

"Don't use a fungicide unless you're sure that you have take-all, and then only at the right time—in the fall," says Johnk. Adds Krausz: "These fungicides are most effective as preventive treatments and much less effective as curative treatments after the disease is established."

This disease is characterized by large irregular patches of dead turf, often ranging from a foot to several yards in diameter. Affected areas show irregular patterns as individual spots merge or as the disease subsides temporarily and weeds fill thinned areas.

Most visible in early spring and summer, damage usually occurs following stress, such as the first hot, dry days or after applying a quick-release fertilizer.

While take-all patch can be mistaken for brown patch or grub worm damage, a close look reveals several distinguishing factors. "It's a root rotter," Krausz explains. Entire stolons may be lifted easily from the turf. Once the roots are destroyed, they don't recover. Re-growth has to come from the unaffected edges of the diseased patch or new sod.

Brown patch, on the other hand, doesn't affect the roots, and the turf recovers when warm weather arrives. With brown patch, the base of the leaf sheath is often slimy and rotted and the leaf pulls from the rest of the plant with a gentle tug. Although white grub damage looks similar on the surface, grubs will be found in the soil. Also, grub-damaged roots don't appear rotted.

"Turfgrass with a vigorous root system resists the damage from take-all patch fungus," says Johnk.

Recommended procedures to deal with the disease:

- Eliminate areas where water accumulates in low spots.
- Water only when needed. Infrequent but thorough watering is best.
- Use fertilizers that lower the soil pH, such as ammonium sulfate. Fertilize the last time in early September if nitrogen is needed, taking into account local climate conditions.
- Prevent thatch and aerate to alleviate soil compaction.
- Preventive fungicide treatments in the fall should be repeated for at least two years.

-The author, former editor of Lawn Care Industry magazine, is a frequent contributor to LM.

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Expo, conferences take spotlight in St. Louis

ST. LOUIS-It all comes together for three green industry organizations here Nov. 13-17.

The Professional Lawn Care Association of America (PLCAA), the Associated Landscape Contractors of America (ALCA) and the Professional Grounds Management Society (PGMS) will each have annual meetings and conferences concurrent with the fifth annual Green Industry Expo, the green industry's second-largest trade show (after the GCSAA show). More than 300 exhibitors will occupy more than 500 booth spaces.

"Booth sales are right around 90 percent of being sold out. We're in a much bigger hall this year, so compared to previous shows we're on a very good pace," says Eleanor Ellison, who was hired in January as the GIE's first full-time trade show manager. "We expect this to be a sell-out as well."

GIE/94 goes by the tag line "The National Expo for Lawn & Landscape Professionals." It will be held at America's Center convention center.

The PLCAA conference will feature seminars on business, regulatory and turf/plant technology, along with a complimentary President's Reception and Casino Night.

ALCA's theme is "Competing in a Dynamic Economy...Growth Over the Horizon." More than 500 members are expected to attend the Expo and 14 ALCA educational sessions.

"The ability to network with peers, dis-

GREEN INDUSTRY EXPO
The National Expo For Lawn & Landscape Professionals

cuss current technology and view state-ofthe-art products is worth the price of admission," says Russell Adsit of Adsit Landscape and Design, Memphis, Tenn. "If you miss this one, you just miss out, since there is not another conference and trade show like it anywhere."

The PGMS conference has been dubbed "The Gateway to Professionalism." Some of the speakers are Dr. Dave Minner of the University of Missouri, representatives of the Davey Tree Co., Bill Foster of O.M. Scotts and Rob McCartney of Sea World of

"We have purposely geared the conference to the stated needs of grounds managers, and have balanced the program to be of equal value to everyone," says PGMS president Robert F. Rubel.

Here are some other highlights:

- Inspirational keynote speech by football great Rocky Bleier. The former Pittsburgh Steeler was wounded in Vietnam and went on to become a member of the Super Bowl champion Steelers in the 1970s. His talk, "Being the Best You Can Be," is Monday, Nov. 14 from 2:30 to 3:45 p.m.
- Trade show sneak preview and reception. Following Bleier's speech, you can mingle with friends and get an advance look at the trade show itself, 4 to 6 p.m. Nov. 14.
- Two days of exhibits. The hall will be open Tuesday and Wednesday, Nov. 15-16 from 10 a.m. to 4 p.m.
- \$500 grand prize drawing. The drawing will take place at 3 p.m. on Wednesday, Nov. 16-and you must be present to win.
- GIE Theater. A series of informative video workshops is being provided by exhibitors and screened by GIE show management. Free popcorn!
- New product showcase. Literature holders located at the entrance to the exhibit hall.
- Equipment demonstrations. The popular Outdoor Equipment Demonstration will be held Nov. 17 from 9 a.m. to noon at Cricket Field in Forest Park. Complimentary shuttle service is available,

ELSEWHERE

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Penn State gets new turf museum, page 39

Words of wisdom from our readers, page 41

HOTTOPICS

and food and beverage is provided.

A special pre-conference seminar and tour will be held at the Missouri Botanical Garden on Sunday, Nov. 13. Sponsored by the Professional Lawn Care Association of Mid-America (PLCAMA), it will feature Dr. John Kaufmann of Monsanto speaking on "Green Lawns and Global Issues." Registration fee of \$55 for PLCAA members and \$70 for non-members includes brunch, program, tour and tram ticket. Transport provided by DowElanco from the Adams Mark Hotel to the garden.

Headquarters hotels are the Adam's Mark for PLCAA, the Marriott Pavilion for ALCA and the Doubletree/Mayfair Suites for PGMS. Complimentary shuttle service to America's Center will serve the Adam's Mark and Marriott Pavilion.

For more information, here are the organizations involved and their addresses and phone numbers:

GIE Exhibitors: GIE, 1000 Johnson Ferry Rd., NE, Suite C-135, Marietta, GA 30068; (voice) 404-973-2019; (fax) 404-578-6071.

GIE Information: GIE, 1000 Johnson Ferry Rd., NE, Suite C-135, Marietta, GA 30068; (voice) 404-973-2019; (fax) 404-578-6071.

Botanical Garden Tour: PLCAMA, P.O. Box 419264, Kansas City, MO 64141; (voice) 816-561-5323.

ALCA Registration: ALCA, 12200 Sunrise Valley Dr., Suite 150, Reston, VA 22091; (voice) 703-620-6363; (fax) 703-620-6365.

PGMS Registration: PGMS, 120 Cockeysville Rd., Suite 104, Hunt Valley, MD 21031; (voice) 410-584-9754; (fax) 410-584-9756.

PLCAA Registration: PLCAA, 1000 Johnson Ferry Rd., NE, Suite C-135, Marietta, GA 30068; (voice) 404-977-5222; (fax) 404-578-6071.

Amstutz to lead PLCAA; Chapman heading PGMS

ST. LOUIS—The Green Industry Expo here Nov. 13-17 signals new leadership for the Professional Lawn Care Association of America (PLCAA) and the Professional Grounds Management Society (PGMS).

Dale Amstutz becomes the 15th president of PLCAA, while Steven W. Chapman, CGM, takes over as president of PGMS.

Amstutz, president of Northern Lawns, Inc., Omaha, Neb., has been in the lawn care business since 1975. He's a founding member and past president of the Nebraska Professional Lawn Care Association, and past president of the Nebraska Turf Foundation. He has served on the PLCAA Board since 1992, cochaired the Member Services Committee, and chaired the Live Auction Committee.

Joining Amstutz on the executive committee will be President-Elect John Buechner, director of technical services at Lawn Doctor, Inc., Marlboro, N.J.; Vice President Dick Ficco, president of Partners Quality Lawn Service, Inc., Easton, Mass; Secretary/Treasurer Steve Hyland, president of Hyland Brothers Lawn Care, Fort Collins, Colo.; and Immediate Past President Lou Wierichs, Jr., president of Pro-X Systems, Fox Cities and Green Bay, Wis.

Mike Dietrich, director of lawn care sales at Lesco, Inc., Rocky River, Ohio, was elected to the Board as associate director and PLCAA's associate representative on the Green Industry Expo Board.

Chapman is grounds manager for Digital Equipment Corp. of Salem, N.H. A past PGMS treasurer and member of the board, he's also been active in the New England branch.



Dale Amstutz of Northern Lawns Inc., Omaha, Neb., is the PLCAA's new president.

Teddi Davis, vp of sales for Garick Corp./Landscape Wholesale, Inc. of Cleveland, will be first vice president of PGMS this coming year. Membership will choose from Doyle Watson and Steve Wharton for the second vice president position. Watson is landscape superintendent, Belle Meade Country Club, Nashville, Tenn. Wharton is staff horticulturist, Minot Park District, Minot, N.D. The PGMS treasurer will be Jeffrey A. Bourne, director of parks and recreation for Howard County, Md.

George Van Haasteren, Jr., CGM, is the new Northeast Regional Director. He's grounds manager of Dwight-Englewood School, Englewood, N.J. The Southwest Regional Director will be Randy Willis, CGM, grounds supervisor at Northwest Missouri State University. Mark Nettleship, who will continue as Director at Large, is ground supervisor of a large Baltimore apartment complex.

Artificial turf: it comes and goes

EAST LANSING, Mich./KANSAS CITY, Mo.—Every new football season sees some artificial turf fields come and some go. It's no different this season.

World Cup soccer was played on a turfgrass surface inside the Pontiac Silverdome in July. By most accounts, the firstround games just north of Detroit delighted millions of viewers worldwide.

At East Lansing though, MSU will be replacing the artificial turf at its football stadium with—you guessed it—artificial turf. MSU has decided to lower the football

field about six feet and cover it with a new synthetic turf surface.

"George Perles (MSU head football coach) still runs the football field," says a spokesman there. "He says it's not in the best interest of the student body to have grass in there like at Michigan (University) where it's only used seven times a year, for six home games and graduation. The MSU Stadium football field was used 150 times last year, for bands, soccer, and field hockey too. The facility gets maximum use."

But, according to an Associated Press

story, the Kansas City sports teams will have natural grass to play on by baseball season 1995. The Chiefs converted Arrowhead Stadium to natural turf this season, and the baseball Royals will switch to grass at Kauffman Stadium in 1995. Both fields are part of the Harry S. Truman Sports Complex in the eastern portion of Kansas City.

According to the AP report, Chiefs president Carl Peterson said the decision to switch was based on "improved drainage techniques, technological advances in grass systems and other uses for Arrowhead."

HOT

Penn State dedicates new turfgrass museum

UNIVERSITY PARK, Pa.—Penn State University dedicated its new turf museum to Tom Mascaro and Eberhard Steiniger in ceremonies during the Penn State Turfgrass Field Days in August.

The 40,000 sq.ft. museum displays many of Mascaro's and Steiniger's inventions. It is the conception of retired turfgrass professor Dr. Joe Duich.







Eberhard Steiniger

Mascaro was president of West Point

Products for 55 years before founding Turf-Tec International with his son John in 1986.

Steiniger was superintendent at Pine Valley Golf Club in Clementon, N.J. for 57 years. He is known for converting a sand waste layout with only scrub pine into the No.1 golf course in the world.

New, easy lending program from SBA

WASHINGTON—The U.S. Small Business Administration (SBA) has a new lending program that allows small businesses to borrow up to \$100,000. The SBA's Low Documentation Lending Program (LowDoc) has a one-page application that depends on a lender's experience and judgement in granting small business loans. For more information, contact the SBA district office in your state, or call the SBA's Washington answer desk at (800) 827-5722.

New name for sod producers: TPI

ROLLING MEADOWS, III.—Members of the American Sod Producers Association (ASPA) unanimously voted to change the name and logo of the 27-year-old organization to Turfgrass Producers International (TPI) at their summer convention in Newport, R.I. The new name, members agree, better represents the growing international membership. 227 of the organization's 940 members are from outside the U.S.

Business notes...

...Arden Jacklin, 82, a co-founder of Jacklin Seed Co., passed away over the summer in Spokane, Wash. The highly-respected former president of Jacklin Seed was also director of the American Seed Trade Assn. and past Lawn Seed Division Chairman. He was named 1982 Honorary Member of the ASTA. News of his death arrived in the LM editorial offices too late for the August issue...

...Karen Plumley will earn her Ph.D. in turfgrass pathology from Rutgers University this fall after receiving more than \$50,000 in financial support from the Peter S. Loft Scholarship Fund...

...George Hamilton Jr. was awarded the "Innovator of the Year" award by the North East Weed Science Society for developing and patenting the PennPro Collector, the first device to make spreader calibration easy and accurate...

...AgrEvo—a world-wide joint venture between Hoechst AG, Frankfurt, and Schering AG, Berlin—becomes the second-largest agricultural chemicals marketer in the world. In North America, the crop protection operations of AgrEvo will be composed of Hoechst-Roussel Agri-Vet, Hoechst Canada and Nor-Am Chemical Co...

...Neal Howell will develop a new micronutrient fertilizer for United Horticultural Supply. UHS will work with Howell's company, Key Solutions, to develop and market the products. Howell was instrumental in developing micronutrient fertilizers for PBI/Gordon and Lesco...

...The Stadium Managers Association has named **Dakota Peat** its official organic material, and awarded Dakota Peat an exclusive national contract to supply members.

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Useful literature and videos for the green industry

FOR PESTS...The University of California has released "Pests of Landscape Trees and Shrubs," an integrated pest management guide authored by Steve H. Dreistadt and edited by Mary Louise Flint. The book was prepared under the auspices of the university's Statewide IPM Project, directed by Frank G. Zalom. Its 328 pages include hundreds of four-color photos and charts. Cost of \$32 includes applicable taxes, shipping and handling. To order, phone (510) 642-2431 and ask for Publication 3359. Or send check, money order. Visa or MasterCard orders to: ANR Publications, 6701 San Pablo Ave., Oakland, CA 94608-5470.

CONSTRUCTION ESTIMATES...The 14th (1994) edition of the book "Kerr's Cost Data for Landscape Construction" covers per diems, crew and equipment installation and materials costs. Tables are provided for calculating everything from the area of a work site and the quantity of equip-

ment needed on a particular job to the spread of plant roots. Software and estimating worksheets are included. Cost for the 224-page paperback is \$49.95. For more information, write Van Nostrand Reinhold, 115 Fifth Ave., New York, NY 10003 or phone (212) 254-3232.

IRRIGATION MANUAL...Weather-Matic has released the "Turf Irrigation Manual, Fifth Edition" by Richard B. Choate. The step-by-step instruction manual contains new ways to calculate hydraulics, a practical discussion of irrigation methods and efficiency, and new designs. It sells for \$49.95 and is available from the GCSAA (800) 472-7878; the American Society of Landscape Architects (800) 787-2665; and the Irrigation Association (703) 573-3551.

PROTECTION STANDARDS... "Meeting Worker Protection Standard Guidelines" is designed to help nursery professionals comply with the new Worker Protection

Standard (WPS) requirements. The 11-page guide gives nursery professionals compliance dates and new WPS requirements. DowElanco offers the guide *free* to nursery professionals who call (800) 352-6776. Ask for WPS form #301-00-030.

NEW IRRIGATION... "Advancing the Science of Irrigation" is a new video on design, installation and maintenance of a Techline subsurface drip irrigation in the landscape. To order the free video, call Liz Maxwell, Techline Customer Service: (209) 498-6880.

TREE CLIMBER ART...A limited edition print of a watercolor by Todd Moell depicts the tree climber at work. "Tree Climbers: The Strength of the Industry" is available from the International Society of Arboriculture. It costs \$50 for members. Write the ISA, P.O. Box GG, Savoy, IL 61874; or call (217) 355-9516. Visa/Master Card accepted.

EVENTS

What's going on in the industry

NOVEMBER

- **3-4:** Washington Association of Landscape Professionals State Conference, Bellevue. Phone: (206) 236-1707.
- **3-4:** South Carolina Urban Forestry Conference, Fort Mill. Phone: Clark Beavans, (803) 329-5534.
- **3-5:** California Landscape Contractors Assn. Annual Convention. Phone: CLCA, (916) 448-2522.
- 5: Iowa Sports Turf Managers Assn. meeting, Atlantic, Ia. Phone: (515) 791-0765.
- **6-9:** National Institute on Park & Grounds Management, Orlando, Fla. Phone: (414) 733-2301.
- **6-9:** Irrigation Assn. International Exposition and Technical Conference, Atlanta. Phone: IA, (703) 573-3551.
- 7: California Certified Nursery Professional exam, San Ramon. Phone: CAN, (916) 567-0200
- **7-9: Kentucky Turfgrass Conference,** Louisville. Phone: Kentucky Turfgrass Council, (606) 622-2228.
- **8-10:** Penn State Golf Turf Conference, University Park. Phone: (814) 863-1017.
 - 8-11: Oklahoma Turf Conference, Oklahoma

- City. Phone: Oklahoma Turf Research Foundation, (918) 251-4868.
- **8-11:** New York Turf & Grounds Exposition, Rochester. Phone: NYSTA, (518) 783-1229.
- **11:** Landscape Maintenance Assn. Equipment & Supply Show, West Palm Beach. Phone: (813) 680-4008.
- **11-12: Golf Course Expo,** Orlando, Fla. Phone: (207) 846-0600.
- 12-13: John Deere Team Championship Golf Tournament, La Quinta, Calif. Phone: by invitation only.
- **13-17: Green Industry Expo** and annual conferences for Professional Lawn Care Association of America, Associated Landscape Contractors of America and Professional Grounds Management Society, St. Louis, Mo. Phone: PLCAA, (404) 977-5222; ALCA, (703) 620-6363; PGMS, (410) 584-9754.
- **16-18:** Composting Council Annual Conference, Washington, D.C. Phone: The Composting Council, (703) 739-2401.
- **17: California Certified Nursery Professional exam**, Anaheim. Phone: CAN, (916) 567-0200.
- **17-19:** Tree Care Industry Expo, Philadelphia, Pa. Phone: National Arborist Assn., (603) 673-3311.
- 17-20: International Golf Show, Madrid.

- Spain. Phone: (011) 34-1-350-1564.
- **18-20:** Golf Summit '94, Scottsdale, Ariz. Phone: National Golf Foundation, (407) 744-6006.
- **19:** Women in Horticulture Conference "Profiting from Integrity," Seattle. Phone: (206) 525-7844 or (206) 937-2815.
- 22: Alliance for Environmental Concerns Annual Meeting. Phone: AEC, (201) 595-7172.
- 28-29: Southern Turfgrass Association Annual Conference, Memphis, Tenn. Phone: (913) 749-5885.
- **28-30:** North Central Turfgrass Exposition, St. Charles, Ill. Phone: Illinois Turfgrass Assn., (312) 616-0800.
- 28-30: Southern Turfgrass Assn. Conference and Show, Memphis, Tenn. Phone: (901) 749-5885.
- 29: "Practical Approachs for Effective Erosion and Sediment Control," Orlando, Fla. Phone: International Erosion Control Association, (303) 879-3010.
- 29-Dec. 1: Rocky Mountain Turf Conference & Trade Show, Denver. Phone: (303) 688-3440.
- **29-Dec. 1: Golf Course Europe,** Paris, France. Phone: (510) 526-6922; (510) 526-5387.
- 29-Dec. 1: New Jersey Turfgrass Expo, Atlantic City. Phone: (908) 821-7134.