

GREEN INDUSTRY NEWS

TURF

Basics emphasized at Virginia Turf Conference

The turfgrass industry has played a major role in increasing the homeowners' expectations and desire to have a perfect, weed-free lawn, according to A. J. Powell. Powell, speaking before 380 persons attending the 19th annual Virginia Turfgrass Conference at the Williamsburg, Virginia conference center, told turf managers that "the turfgrass industry is changing as never before." He noted that although a 100 percent eradication of weeds and crabgrass isn't expected in most areas, it is when the home lawn is the object of the treatment.

He cautioned that lawn managers have to be careful in soil testing. More is needed information about how minerals affect good plant growth, he said. "We don't test for iron because we really don't know how its lack affects growth. This is true in other areas."

"We need a lot of research on how these other minerals affect the growth of turf and determine exactly what their roles are," he added. "We are taking the buffers out of the environment and we should have adequate knowledge as to what is needed."

Palmer Maples of Lawrence, Kan., director of education for the Golf Course Superintendents Association of America, told the largest crowd ever to attend one of the turf conferences that continuing education is necessary in the turfgrass industry, calling it a "tool of management."

Maples noted four reasons why continuing education is needed in the turfgrass industry. They are:

—Government regulations are requiring more and more time and knowledge. Various regulations, local, state and national, are requiring that a turf manager know herbicide and pesticide regulations and their effect on the environment.

—New and more sophisticated equipment are requiring knowledge

and skill in their operation. New developments are occurring regularly and a person must learn how to operate the equipment if he wants to do a better job.

—A person has to keep abreast of the management needs of a company and learn how to meet them. Good management is essential in the operation of a firm and the manager must continually keep abreast of the needed procedures.

—Water will become more and more of an issue. The use of effluent water and the ramifications of its use will continue to grow in importance. Knowledge in this area is essential.

Dennis E. Brown of Richmond, supervisor of the seed and sod section of the Virginia Department of Agriculture and Consumer Services warned that closer labelling of seed is essential and called for the increased use of certification to protect the consumer from noxious weeds in their seed.

Joseph P. Harden, former meteorologist-in-charge of the National Weather Service Office in Rich-



John F. Doss of Suffolk, president of Tidewater Turfgrass Association, presents \$500 check to **Richard E. Schmidt**, associate professor of agronomy at Virginia Tech, to be used for development of turfgrass program at Southern Piedmont Research and Continuing Education Center at Blackstone.

Officers of Virginia Turfgrass Council pose for picture after re-election. They are: from left, **Kenneth P. Giedd**, Richmond, vice president; **Rex H. Harris**, Little Creek, assistant secretary-treasurer; **Earl H. Odell**, Chesapeake, vice president; and **Gus C. Constantino**, Richmond, president.



mond, observed that there are many sources for weather information for those in the turfgrass industry. Local weather bureaus now have available 30-day forecasts which can prove extremely helpful.

Richard E. Schmidt, associate professor of agronomy at Virginia Tech, traced the outline of the turfgrass program at the University. He noted turfgrass research currently is being conducted at Blacksburg, Blackstone, Langley Air Force Base, Newport News, Orange, Petersburg, Remington and South Hill.

He said there currently are 25 variety evaluation tests, 1 overseeding experiment, 12 fertilization projects, 6 bermuda grass programs, 2 irrigation experiments and 4 sod product projects being conducted.

The final session of the one-and-a-half-day meeting involved separate sessions on golf courses and the basics of nitrogen use and management techniques; general turf and athletic fields and the basic practices in turf management, and the basic practices in lawn service.

The annual meeting was sponsored by the Virginia Cooperative Extension Service, Virginia Tech and the Virginia Turfgrass Council, Inc.

GOVERNMENT

UPDATE

EPA will vigorously enforce Silvex ban

A. E. Conroy II, director of the Pesticides and Toxic Substances Enforcement Division said that enforcement of the Environmental Protection Agency's emergency suspension of 2,4,5-T and Silvex on Feb. 28 will be "vigorous". Suspended uses of all pesticides containing Silvex are: commercial and ornamental turf uses including recreational areas, aquatic weed control and ditch bank uses, forestry uses, right-of-ways uses, and home and garden uses.

Precautions added to Kerb uses

The Environmental Protection Agency (EPA) has proposed that uses of the pesticide pronamide, marketed as Kerb, be allowed to continue as currently used on turf, commercial nursery plantings, plus some other agronomic crops, but with additional precautions to reduce potential risks to human health. "In general, EPA has concluded that for all uses the economic benefits of pronamide outweigh its risks," Steven Jellinek, assistant administrator said. The benefits come primarily from its use on lettuce and alfalfa. Jellinek added that approximately \$17.3 million might be lost by growers.

The use of the pesticide would be restricted to trained applicators wearing protective clothing, and pronamide would be marketed only in water soluble packaging to keep down dust emissions when mixing.

EPA's proposal is not a final action. The proposal will be reviewed by the Agency's Scientific Advisory Panel, the USDA, pronamide registrants, environmental groups and other interested parties. EPA will consider comments in reaching a final decision.

AQUATIC

Abscisic acid helps control pondweed

Lars Anderson, with the U.S. Department of Agriculture, suggests using a plant growth regulator and careful water level management to modify pondweed so it is more susceptible to herbicides. The regulator, abscisic acid (ABA), occurs naturally in some fruits and the herbicides are commercially available.

Current attempts to rid canals of aquatic weeds by using herbicides are not very effective and are limited by lack of chemicals registered by the U.S. Environmental Protection Agency. Herbicides, in order to work, must be added to irrigation water in such huge volumes that the cost is prohibitive or the risk of chemical residues on crops being irrigated is too great.

Pondweed is especially troublesome because it spreads by rhizomes, underground stems that send up shoots which eventually grow into other complete weeds. Cutting or other physical control methods are usually a waste of time and effort. The weeds just grow back as fast, or faster, than they can be removed, or are spread further down

the canal.

Normally in spring, pondweed first forms long, narrow submerged leaves, suited for underwater growth. Floating leaves usually are produced later in the season.

Anderson proposes flooding weed-infested irrigation waterways in early spring for 2 to 3 days. After draining the water, pondweed would germinate and begin forming leaves. Under these conditions of water stress, floating-type leaves are normally formed, or could be induced to form with a spray of ABA which causes pondweed to prematurely produce floating leaves. These leaves are much akin to leaves of terrestrial plants and can be killed with direct herbicide spray. Unlike the submerged leaves, floating leaves have stomata on their upper leaf surfaces for exchanging carbon dioxide and oxygen. These stomata may also allow penetration of herbicides. Preliminary greenhouse studies have shown that herbicides such as Dalapon, simazine or glyphosate can control American pondweed when sprayed directly on the weed about 1 week after the ABA treatment or water stress. Anderson suggests that this system could be used in the field before canals are needed for irrigation.

The next phase of Anderson's

research with USDA's Science and Education Administration is to determine minimum spray rates for effective control. He is also experimenting with 6 other growth regulators.

Of course more data must be collected before approval can be obtained from EPA and before any recommendations can be made. However all three herbicides are currently approved for other crop uses, and Dalapon is registered for use on irrigation canals.

TURF

FMC/Bolens-Jacobsen settle out of court

FMC Corporation, manufacturers of Bolens lawn and garden equipment, has reached an out-of-court settlement with Jacobsen Manufacturing Company, Inc., Racine, Wisconsin, in regard to a patent infringement suit initiated by FMC against Jacobsen last fall, according to Robert E. Bergen, division manager of FMC's Outdoor Power Equipment Division.

The suit, filed on November 18, 1977 by FMC was for damages, and to enjoin Jacobsen from infringing U.S. patent No. 3,085,386 which relates to a rotary lawn mower marketed by FMC under the Bolens Mulching Mower trademark.

In the terms of the settlement, FMC granted a license agreement to Jacobsen (for an undisclosed amount) covering the life of the Bolens Mulching Mower patent.

According to FMC, the patented Bolens Mulching Mower revolutionized the rotary lawn mower industry in the 1960's. The mower utilizes a special cutting chamber without a discharge chute along with a multi-pitched blade which cuts and then re-cuts the grass clippings, blowing them down into the lawn, thereby eliminating the need for raking and bagging.

SOIL

Texas scientists study effects of iron oxide

Research is underway at Texas A&M University to develop ways to predict whether certain soil management practices, such as liming or heavy fertilization, will improve or hurt soil properties by changing the reaction of iron oxides. Scientists with The Texas Agricultural Experiment Station say that iron oxide min-

Spec guide, maintenance report published

The second edition of the *ALCA Guide to Specifications for Interior Landscaping* has been released by the Associated Landscape Contractors of America (ALCA). The new 57-page manual represents a major expansion of the material contained in the original document. The manual contains four sections: an expanded introduction with a full explanation of the interior landscaping industry; a complete set of recommended bid preparation instructions; a complete recommended standard form of agreement; and a complete set of specifications of interior plants, including installation requirements and photographs.

The *ALCA Landscape Maintenance Report* is a 62-page report based in part on the proceedings of the Association's Maintenance Symposium held this past December in San Jose, Calif. It contains six papers originally presented at the meeting, including: "Tricks of the Maintenance Trade" by Herman Carruth; "Management Planning and Organization Development" by Rod Bailey; "Choosing the Right Herbicide for the Job" by David Hanson; "Marketing and Promoting Maintenance Services" by Roger Harris; "Cost Control and Financial Management" by E. Gray Payne; and "Problems to Avoid" by Douglas Hamilton.

Copies of either are available at \$12.00 each (\$5.00 to ALCA members) from: ALCA Publications, 1750 Old Meadow Rd., McLean, VA 22102.

Reward offered for theft information

The California Landscape & Irrigation Council, Inc., is offering a thousand dollar reward for information leading to the arrest and conviction of persons who steal, burglarize, or vandalize equipment and supplies belonging to contractors who are signatory to the Council's labor agreements.

The reward is jointly underwritten by CLIC and the Irrigation & Lawn Sprinkler Fitters Union, Local 345, and went into effect on Feb. 1. Large two-color posters and water-proof decals are being printed, and will be distributed to all landscape and irrigation contractors throughout Southern California who are signatory to the Council's labor agreements. Contractors will be encouraged to post the signs on their job sites and at their places of business, and to affix the decals on tools, equipment, and other items of value.

"Persons who become aware of theft, burglary, or vandalism should notify the company concerned, the local police, or the CLIC office," says Ahlers. "Once a suspect is apprehended, arrested, and convicted, the reward will be paid in full to the informant with monies placed in a special fund for this purpose."

Container trees used in reclamation

Tree seedlings grown in small containers in a greenhouse can be used to revegetate land strip-mined for coal, according to Russell J. Hutnik and Edgar H. Palpant of the Agricultural Experiment Station at Pennsylvania State University.

One of the major advantages of this system, they claim, is that the container keeps the root system intact and protected in a fertile growing medium. In contrast, conventional nursery-grown tree seedlings are planted in a bare root condition and are subject to injury during processing for shipment.

For many years relatively large container-grown seedling trees were used in the high plains country of the West, to establish windbreaks where moisture was limited. These container-grown seedlings proved to be more vigorous than bare-root nursery stock and survival improved greatly.

According to recent studies at Penn State, however, the container-

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erals such as goethite and hematite are widespread and abundant in many of our warm climate soils.

Iron oxides have a strong capacity to absorb anionic (negatively charged ions) plant nutrients such as phosphorus, nitrogen, sulfur, molybdenum, and boron. Such oxides also improve soil structure by binding clay particles into aggregates.

Seedbed quality, erodibility, and water infiltration are examples of soil properties likely to be influenced by this effect. Station scientists, studying the effects of iron oxide-clay bonding on soil properties, find there is an intimate physical association between silicate clays and iron oxides.

The ability of the mixture to buffer changes in soil acidity, often associated with high nitrogen fertilization, is influenced by reaction of iron compounds with surfaces of other soil particles. Future experiments on soil properties involving the reactivity of iron oxides will be designed to prevent essential soil management practices, such as liming or heavy fertilization, from damaging soil quality.

SEED

New bluegrass variety introduced by NAPB

North American Plant Breeders (NAPB) have introduced Enmundi Kentucky bluegrass, which it claims is the most disease resistant variety on the market. The variety is said to show good winter color, and with respect to adaptation, NAPB says Enmundi's cold hardiness extends its range throughout the American north, well into Canada. In the transition zone, southward, it has exhibited excellent heat and drought tolerance.

In Missouri turf trials, Enmundi performed within the top third at Columbia and in the state's southeast and southwest trials. The variety has done well in tests conducted by the University of California at a location half way between Los Angeles and San Diego. There, Enmundi's performance has ranked fourth or fifth among some 30 commercially-available bluegrass varieties tested during 1976 to 1978.

Enmundi showed the best resistance to Fusarium blight out of 89 Kentucky bluegrass varieties and blends evaluated in 1978 at Rutgers University in New Jersey, says NAPB. It suffered only 0.2% damage, while Fusarium levels of 15-25%

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were quite common and some varieties showed over 50% damage. In the same test, Enmundi was one of the few varieties classed as showing good resistance to striped smut.

In a study commissioned by turf-grass interests to do a comprehensive Fusarium study at Cornell University in New York, Enmundi was included in bluegrass trials and showed unusual resistance to Fusarium blight.

Another serious bluegrass disease, Helminthosporium, has not troubled Enmundi anywhere. It also has exhibited excellent resistance to rust and to brown patch, according to NAPB.

In studies at Penn State, Enmundi was singled out as having a more pronounced horizontal growth habit than is usually observed in bluegrasses. This characteristic generally associated with the ability of grass to perform well under low mowing heights.

Limited stocks of Enmundi bluegrass seed are now moving into distribution channels.

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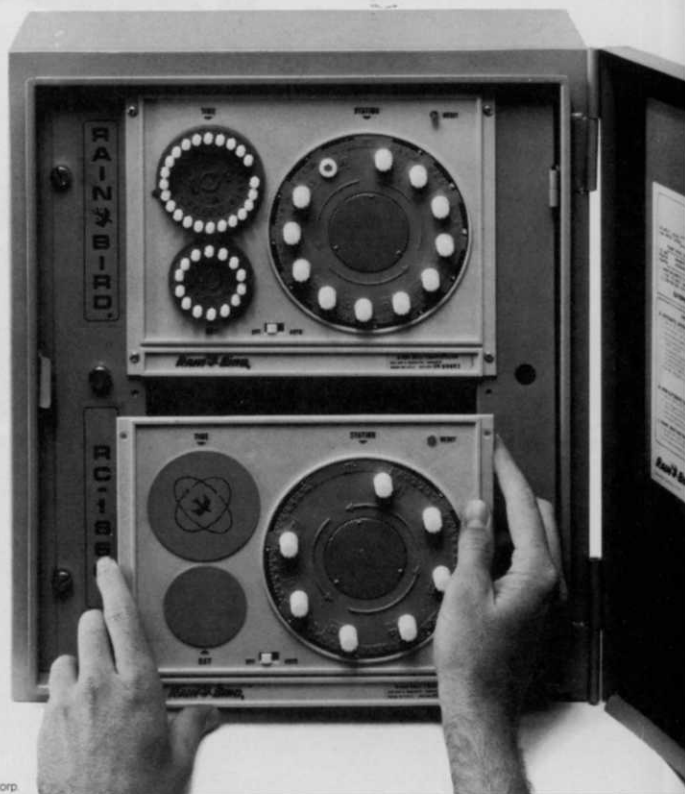
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