

BRIEFS



GOVERNOR APPOINTS CLARK

GREEN VALLEY, Ariz. — Mark K. Clark, head superintendent of Green Valley Country Club here, has been appointed by Arizona Gov. Fife Symington to the Structural Pest Control Commission. Clark is the first person from the "green industry" to hold such a position. His appointment is for three years, and will require monthly meetings which involve travel and a great deal of case study for each meeting. It is a voluntary position.



Mark Clark

PHILLY GCS ELECT GUSTAITIS

PHILADELPHIA — The Philadelphia Association of Golf Course Superintendents has elected Anthony Gustaitis president. Vice President is Joseph Owsik, while Donald R. Brown, CGCS, is treasurer; Henry C. Wetzel, Jr. secretary; and Steve Carpenter sergeant at arms.

PAIUTE RESORT HIRES LOPEZ

LAS VEGAS — William "Willie" Lopez is the new superintendent here at the Las Vegas Paiute Golf Resort, according to Carl von Hake, general manager. Lopez, formerly the assistant superintendent, takes charge of 40 employees and two 18-hole championship courses — Snow and Sun Mountain. He graduated from the Turf Management Program at the College of the Desert in Palm Desert, Calif. Von Hake said Lopez has filled the vacancy left by Jim Sprankle, who has assumed a similar post in Indonesia.

PENN STATE RESEARCH GETS \$130K

STATE COLLEGE, Pa. — The Pennsylvania Turfgrass Council has allocated \$130,000 to the Pennsylvania State University for the 1996-97 fiscal year. The grants, totalling more than \$1 million, have been donated to Penn State by the council over the past nine years. The Pennsylvania Turfgrass Council has a membership of more than 1,200, comprising golf course superintendents, lawn care owners/operators, landscapers, grounds managers, industrial representatives, and many others in the turf industry.



CANADIAN CONFERENCE

Rossi: As knowledge expands, so will IPM

By MARK LESLIE

MONTREAL — Predicting that pest-management careers loom in the future of the turfgrass industry, Dr. Frank Rossi said Integrated Pest Management (IPM) will become more effective as the base of knowledge widens.

Speaking at the Canadian International Turfgrass Conference and Show here, Rossi told superintendents: "As we get more people in turf and the

superintendent gets more and more educated, the jobs are going to be more competitive and you're going to need more trained staff. You'll have lifetime assistants, people who spend a career as pest-management experts on golf courses."

The move in that direction will correlate with knowledge, said the New York State Extension turfgrass specialist and Cornell University assistant professor.

"To me," he said, "IPM is just a matter of making decisions based on what you know — not on how much [pesticide] you have in the shop. We want you to make knowledge-based, not product-based, decisions... We have to know more about the biological system we are managing. This means the plants as well as the pests."

IPM, Rossi said, "is about options. How many options do I have to deal with this

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USGA funds research on floating green

COEUR D'ALENE, Idaho — The U.S. Golf Association (USGA) Green Section will award Washington State University (WSU) a \$24,000 funding grant to study the run-off water used to irrigate the floating green here at the Coeur D'Alene Resort.

A multi-million-dollar, state-of-the-art water-collection system exists underneath the floating green. It collects all rain and irrigation water into huge tanks and prevents any of the water — not to mention any other products used to maintain the floating green — from escaping into Lake Coeur D'Alene.

The water is then pumped back on shore where it's disposed of along with other golf course runoff. In their continuing efforts to make golf courses more environmentally-friendly, WSU and the USGA will study this water and the products it contains.

In 1996, Washington State Golf Asso-

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PROVING GROUND

Hercules Country Club in Wilmington, Del., has been a testing area for fall-applied pre-emergence herbicides for crabgrass control by Sam Snyder, director of facilities and grounds. This shows the signature 15th hole of the 27-hole facility. See story, page 28

QA Danneberger details research into bent and rye

Karl Danneberger is an associate professor of Turfgrass Science at Ohio State University. He coordinates and teaches undergraduate turfgrass science, and conducts research in turf management and physiology. His studies have included plant growth regulator use, green speed studies, alternative spike use, control of moss, and high temperature stress work. At present, he is concentrating on the three research areas discussed in the following article.

Golf Course News: Could you discuss your research involving creeping bentgrass and perennial ryegrass cultivar identification?

Karl Danneberger: Golf course superintendents choose specific cultivars to fill specific needs. Superintendents base their selection on information listed in seed catalogs, and National Turfgrass Evalu-



Karl Danneberger

ation Program (NTEP) reports. These two entities report cultivar's resistance to disease, insects, levels of endophyte, performance under stress, color, texture and growth habit.

Understandably, when superintendents purchase a lot of seed of a particular cultivar they expect it to perform similar to

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COOLING THE CANOPY

Technology advances fans

By TERRY BUCHEN

DALLAS — Growing bentgrass greens, in the transition zone or warm-season climates, is difficult at best, but has been made easier with the advent of greens fans installed at a superintendent's discretion.

"Since we have installed our fans, we have seen the quality go from fair/mediocre to excellent summer greens," said Mark Price, greens and

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ON THE GREEN

New way found to bring fan relief to turf.

An easy breeze is quite enough

MONTREAL — Knowing air, soil and canopy temperatures — and taking measures to control them — are crucial to keeping turfgrass alive, according to Dr. Joseph DiPaola.

Well-known for his research in turf-growth regulation, water stress and cold hardiness, DiPaola told Canadian superintendents: "The entire system of turfgrass stresses is largely

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## IPM know-how

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particular pest problem? If I'm only thinking about it when I get the pest, my options are narrow...

"But if I'm thinking about options when I'm putting the site in, choosing my root zone grass and micro-environment, adapting that situation for good grass-growing techniques, I have a lot of options."

Regularly observing the turf, the superintendent detects and identifies pest infestations, then decides the economic significance of the pest — for instance, how much turf will a grub eat and how much money will be lost. Based on this decision, the superintendent chooses a method of action and later evaluates the control.

"Many people don't feel like they are doing IPM until they get a pest," Rossi said. "I think

that is a problem of terminology. Everything you do sets the plant up to be more, less or not injured by that pest."

Mowing, watering, fertilization and other practices, he said, "can have a huge impact on our pest management because it may help us avoid a pest problem."

Rossi passed on these IPM-related comments:

- Remove trees.
- Under high-stress situa-

tions, and to avoid problems like pythium root rot, override the safety switch on the HydroJect machine, poking a hole through the soil profile and blowing a wider hole. The force of the water pushes the turf down instead of lifting it up. "If you're moving water through the soil profile," he said, "you might solve a disease problem. This is IPM and it has nothing to do with waiting for the pest to appear."

• Choose a grass that fits the club's quality expectations and the type of use. This is getting to be a more critical decision with the newer cultivars of bentgrass in particular, he said.

• In seeding bentgrasses, lower the rate to 1/2 pound per 1,000 square feet and use Apron fungicide-treated seed since Apron enhances survival. Tests using seeding rates of 1/2, 1, 2 and 4 pounds per 1,000 square feet found that as the seeding rate is increased, the percent germination decreases. "A majority of these seedlings come up but are killed off by pythium, or are simply out-competed and die off," he said.

• Higher-cut turf typically resists weed infestation. "We know if you have a deeper and denser root system, it can tolerate higher levels of grub infestation," he said. Rutgers University research found that a higher cut means less summer patch, for instance.

"Shortening the cutting height narrows your margin of error," Rossi said. "Any opportunity you have — whether it's vertical mowing, rolling or choosing upright bentgrasses — if you're under high-speed requirements ... you really have to think about this."

• Focus fertility on late-season. It is important to apply fertilizer when it is used for storing food, or improving the root system. Do not fertilize in the spring until after peak top growth has occurred. Nitrogen applied too early in the season promotes top growth at the expense of root growth and can make plants more susceptible to snow mold and winter injury.

• Hand-water. "I don't care how good your irrigation system is, an important part of IPM, particularly from a disease perspective, is hand-watering," he said. "Not putting on the water for 5 minutes everywhere when you've got a high spot that may need more water, or a low spot that needs less water. We generally don't have disease problems where things are dry..."

"I'd rather spend my time and give my crew the responsibilities of good hand-watering rather than riding the sprayer spot-spraying."

• Passive overseeding of poa annua. At heavy seeding, core aerate and then fertilize. Allow the poa to send out seedheads and overseed itself.

• Preventive fungicides are important to fight poa annua's prevalent root pathogen problems. Use light, frequent irrigation — 1/10th of an inch every day. Also, collect clippings during the growing season so that clumps are not left on the ground to accumulate heat, since annual bluegrass is very heat-intolerant.

• Keep track of growing degree days to know the thermal units, or heat load, the plants are responding to instead of manag-

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## Danneberger

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NTEP reports. In other words, they expect a bag of seed they buy to be genetically identical to the seed used in tests.

Some method of cultivar identification is needed to ensure that managers get the cultivar they have selected. In the past, few methods were available for the identification of turfgrass cultivars. Most morphological attributes are affected by the environment. Many characteristics are not apparent until plants have reached a maturity. This makes cultivar identification based on seed lots difficult.

Recently, however, molecular methods have shown promise in identifying cultivars. We have been successful in using random amplified polymorphic DNA (RAPDD) techniques for the iden-

## IPM know-how

Continued from previous page

ing turf based on the calendar.

- Use the Envirocaster and pest-prediction models.

- Scout for grubs. Eighty percent of all insecticide applications made on turf in New York State are either ineffective or not needed, according to a Cornell turfgrass pathologist.

- Calibrate spray equipment. A University of Nebraska study a number of years ago on 53 golf courses found that 83 percent misapplied pesticides.

- Choose a fungicide based on its potential for runoff, or leaching.

- Know the soils, the properties of the pesticides and fertilizers. Adjust applications based on weather, how much you put down and when you put it down, and make sure you're applying the right amount of water.

- Communicate. Take a lesson from superintendent John Gurke of Aurora (Ill.) Country Club, who puts out a board at the 1st tee each day telling golfers the day's maintenance schedule.

"Noticeably absent from the program," said Rossi, "is pests. You'd better have set up those plants to be as healthy as they can be before you get a pest."

"We're looking at pest levels that reduce the visual quality below an acceptable level. What's acceptable? It's very much dependent on how much the area gets used, how you maintain it, and what the golfers think."

In regard to that, he cited a national survey that found golfers are most bothered by ballmarks. Second are unlevel or bumpy tees. The complaints of not enough drinking water, the bunkers and rough height are all more despised than dead grass.

"Yet, we act as though [dead grass] is the number-one answer," Rossi said, conceding, "Certainly if it dies it becomes the number-one answer."

tification of creeping bentgrass and perennial ryegrass cultivars.

**GCN:** What has your work on the use of creeping bentgrass blends shown?

**KD:** The use of blends, two or more cultivars of the same turfgrass species planted together, is a common practice on golf courses to broaden the genetic basis of the turfgrass species. Lately, the concept of blending creeping bentgrass cultivars

has increased in popularity.

The purpose of our work was to evaluate the performance of a blend as affected by disease pressure to see if blending was a significant benefit to turfgrass managers. We established plots of 50:50 blend of Penncross and Crenshaw creeping bentgrasses.

Dollar spot was allowed to develop to various levels within the blends. After two years, disease did not have an effect on the com-

position of the blend, but one cultivar predominated, possibly due to its aggressiveness. These results suggest that turf managers should consult the regional NTEP studies prior to selecting cultivars.

**GCN:** What has your work shown on the effect of temporal shade on bentgrass?

**KD:** Shade is generally believed to be detrimental to turfgrass growth. Creeping bentgrass is a relatively shade-tolerant species,

but declines rapidly when exposed to low-light conditions and short mowing heights.

A few researchers believe creeping bentgrass exposed to morning shade declines more rapidly than plants exposed to afternoon shade. We're testing this hypothesis. An understanding of shade and its temporal effects provides a basis for effective decisions concerning tree removal and adjustments in management practices.



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