

BRIEFS



**TURF RESOURCE LIT OFFERED**

**ROLLING MEADOWS, Ill.** — The Turf Resource Center has released informational four-color brochures about turfgrass sod. Turf Installation Guide demonstrates a four-step process for quick turfgrass sod installation — from measuring and ordering sod to soil preparation and future maintenance. Self-Scoring Method: How To Establish a Lawn compares sod versus seed and hydroseeding, including a checklist to evaluate the importance of each factor and which method best suits specific needs. They are available by sending a self-addressed stamped envelope to the center at 1855-A Hicks Road, Rolling Meadows, Ill. 60008.

**ARIZONA PESTICIDE USE SURVEYED**

The pesticide coordinator's office at the University of Arizona, in cooperation with the Cactus and Pine Golf Course Superintendents Association of Arizona, is conducting a pesticide use survey on Arizona golf courses. The office is attempting to determine, from



these confidential surveys, such information as pesticide use patterns, management strategies and integrated pest management (IPM) practices. The survey was expected to be distributed in January.

**HODGE TAKES CHARGE IN MAINE**

**PORTLAND, Maine** — Jim Hodge of Val Halla Golf Course in Falmouth was elected president, heading a new slate of officers for the Maine Golf Course Superintendents Association, and declared his role will be "that of a communicator" within the organization. Hodge, who replaced Pat Lewis of Portland CC, is joined by Vice President Norm Hevey of Dutch Elm GC in Biddeford and Secretary/Treasurer Dave Child. John Laprey of York Golf & Tennis Club in Cape Neddick was elected to a three-year term to the board of directors. Saying he will be available to discuss concerns and answer questions, Hodge said: "I want to keep all members informed of what's going on in their association."

**PA TOURNEYS RAISE \$19,000**

The Pennsylvania Turfgrass Council grossed \$19,000 at two golf tournaments in October to benefit research, teaching and extension at Penn State University. Sewickley Heights Golf Club in the Pittsburgh area and Chester Valley Golf Club outside Philadelphia hosted the tournaments. Forty-six sponsors and 240 players took part.



A job that's never done

Terry Buchen, rear, checks out another new drain at Double Eagle.

Drainage, drainage, drainage...

By MARK LESLIE

If only superintendents were rice farmers. Then they could applaud rainstorms and not worry about drainage. Insufficient drainage is the plight of superintendents everywhere, whether their course is brand spanking new or was built with horse and scraper.

"There's never enough drainage," said Bob Mitchell, superintendent at The Greenbriar in White Sulphur Springs, W.Va. "We have installed miles and miles of drainage in my 21 years here and we still have not done enough."

"If you install five miles of drainage on a golf course, you're going to need another five miles of it over time," said Larry Rogers of Larry Rogers Design in Lakewood, Colo., who has installed irrigation systems in hundreds of golf facilities.

"By use, you find out more areas that need more drain-

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Supers to designers: Stop! Look! Listen!

By PETER BLAIS

Not only should architects strive to bring superintendents aboard as early as possible in the construction process, they need to listen to them once they are there.

Those were the overriding concerns of superintendents at courses opened in the past year. The superintendents were queried in a *Golf Course News* survey asking them to rate the job done by architects at their courses.

At Collier's Reserve in Naples, Fla., superintendent Tim Hiers worked closely with architects Art Hills and Mike Dasher on the course design and particularly the maintenance area.

"I believe they left here with a better understanding for what makes a well-designed maintenance complex than when they came in," said superintendent Tim Hiers.

"Most architects don't give a lot of thought to the need for a maintenance complex that maximizes human performance, is aesthetically pleasing and has the functional ability to service the golf course. It would help them to work closely with an experienced superintendent and listen to his input."

The same goes for the irrigation system, according to Brad

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A HISTORY

It's a golf world after all

By JIM CONNOLLY

There exist numerous historical accounts on the game of golf from every perspective and point of view. Authors of different persuasions write about "Golf And The Golf Club," "Golf And The Golf Ball," "Golf and the Rules," "Golf's Great Players," ad infinitum, each offering their opinions depending upon point of view.

This following account addresses golf and golf course turfgrass maintenance and how the condition of the putting green influences the game.

Changes in maintenance have influenced other areas of the golf course as well, not just putting greens. However, the putting green is the "heart" of the game and very sensitive to change.

Other developments that have had a profound effect upon the game include development of a more lively golf ball, steel shafts instead of hickory, graphite shafts instead of steel, better athletes (a debatable subject), and increased technology in the area of equipment, player training, etc. Discussions of such subjects are plentiful and often very spirited.

First in a series

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Breeders close to solving *Poa annua* puzzle

By DAVID M. ROSE

*Poa annua*, an invasive annual bluegrass, is a perennial headache for course managers in marine climates all over the world. Strategies for eradicating *Poa annua* exist, but they're labor-intensive and not always successful. Now researchers expect to provide superintendents with a new weapon in the battle against this invasive weed. Their solution? Better *Poa annua*.

"Our goal is to develop perennial *Poa annua* cultivars for golf course use," said Dr. Donald White, leader of the *Poa annua* breeding project at the University of Minnesota. White said perennial varieties may be available commercially by 1998.

"These perennial *Poas* will have improved color, texture, and vigor" when compared to naturalized varieties, White said, adding he hopes they will outperform bentgrass in areas where *Poa annua* thrives.



Cypress Point Golf Club, on California's Monterey Peninsula, has the perfect climate for *Poa annua*.

As the name suggests, most naturally occurring varieties of *Poa annua* have an annual life cycle, seeding heavily in the spring and dying off in the summer

months. Because of their heavy seed production, they infest weak spots on bentgrass greens and quickly take over.

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## Poa belt solution: Better Poa, scientists say

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"The annual *Poas* are voracious," said Ray Davies, superintendent at Merced (Calif.) Golf and Country Club. While the relatively warm weather at Merced helps keep *Poa* in check, the problem was much more severe at Davies' previous course, Virginia Country Club in Huntington, Calif. "In coastal California, we haven't been successful in keeping bentgrass for more than a few years, and the *Poa* is very competitive."

The most common approach to dealing with *Poa* is eradication, but that isn't always possible or even desirable. "[At Virginia], we were really *Poa*-dependent," said Davies. "The greens were 100 percent *Poa*, and, at that point, you can't just kill it off."

Unfortunately, living with existing *Poas* isn't easy. "The annual *Poas* have tremendous genetic diversity," Davies explained. "They're not uniform, so you get a very patchy green."

In addition, heavy seed produc-

tion in the spring can create a bumpy surface that is difficult to mow and difficult to play. Perhaps most troubling of all, much of the green dies off in the summer.

Even when eradication is possible, it comes at a cost. Ted Horton is director of golf course maintenance at Pebble Beach, in the heart of what might be called the *Poa* belt.

"At Pebble Beach we've had a successful eradication program on the fairways, but it's very in-

tense," he said. "We've used complete conversion, followed by both pre- and post-emersion herbicides. If we could find an alternative that requires less intensive management, it would be great."

White agreed. "My primary motivation [for the *Poa* breeding project] is and has been ecological," he said.

In cool-season climates like coastal California, *Poa* simply has a selective advantage over introduced bentgrass. Rather than fight a losing battle against *Poa* with heavy herbicide use and other intensive techniques, White's approach is to turn the

*'I'm sold on the idea [of developing a better *Poa*].'*

— Ted Horton, vp  
Pebble Beach

positive growth characteristics of *Poa annua* to the advantage of golf course managers by providing them with improved strains of *Poa annua*.

Central to the success of the breeding project is the observation (made as early as the 1950's) that some varieties of *Poa annua*, their name notwithstanding, are actually perennials. In contrast to annual varieties, the growth of these perennial strains, known as *Poa annua* var. reptans, is largely vegetative, through the production of stolons. Seed production is reduced, flowering time is more narrowly defined, and because they are perennials these *Poas* perform well year round.

White and his colleagues have been identifying perennial *Poas* with desirable characteristics, determining the heritability of those traits, and then recombining them through interbreeding.

In addition to the technical hurdles, there may be political obstacles to the commercial production of *Poa* seed.

"*Poa annua* is classified as a noxious weed," said Dr. Richard Hurley, vice president of Research and Professional Sales at Lofts Seed.

First, seed farmers may be reluctant to grow *Poa annua*. "You're asking them to contaminate their land with *Poa*," Hurley pointed out, "and they may want to go back to bluegrass production later."

In addition, many states, fearing infestation, have laws prohibiting the introduction of *Poa annua* seed across state lines.

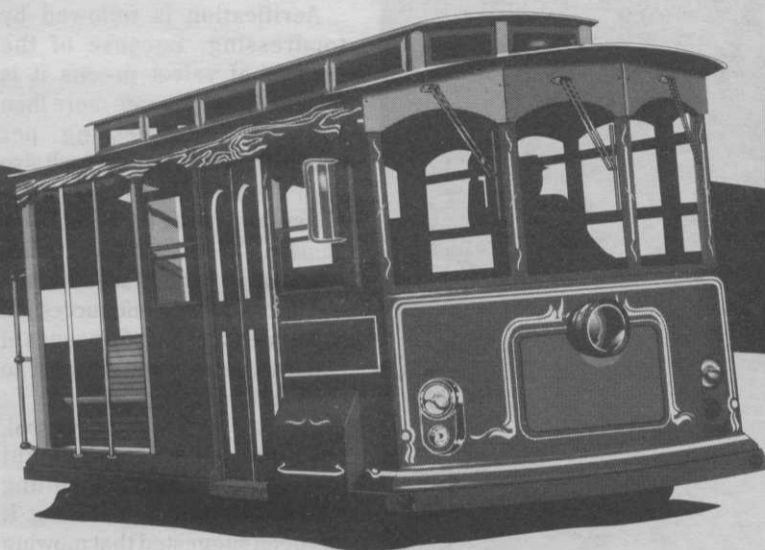
White conceded that these issues may be psychologically important, but doubts they are insurmountable. He pointed out the invasiveness characteristic of *Poas* is less of a problem with the perennial varieties he is developing. "It's pretty easy to kill," he said, "and in the seed production area they deal with these issues all the time."

Beleaguered golf course superintendents, for their part, are optimistic.

"A lot of older greens are mostly perennial *Poa*, and we know by history that these *Poas* do pretty well year 'round," said Davies. "We just won't know how well they'll perform until we can try them, but I think it's really important to get these seeds out."

"I'm sold on the idea," agreed Horton. "Right now, nothing beats a good, true, clean bentgrass green. Hopefully, they'll develop a strain of *Poa* that can accomplish the same thing."

*Dr. David M. Rose, who earned his PhD in cellular developmental biology, is a research fellow in the Department of Genetics at Harvard Medical School.*



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