BRIEFS

SOD INTERNSHIPS AVAILABLE

ROLLING MEADOWS, Ill. — Students seeking "experience through employment" within the turfgrass sod production industry again may use resources of the American Sod Producers Association. ASPA has created a program whereby students can expand their education by putting it to practical use. Internship applications may be obtained by contacting ASPA at 1855-A Hicks Road, Rolling Meadows, Ill. 60008. Phone 708-705-9898.

RUTGERS ALUMNI HONOR HURLEY

NEW BRUNSICK, N.J. — Dr. Richard Hurley, vice president and director of research for Lofts Seed, recently received the Outstanding Achievement Award from the Rutgers Turfgrass Alumni Association. Hurley credits his professional golfer Bruce Crampton for early inspiration to a career in the turfgrass industry. Said Hurley, "While attending college in Florida, I was fortunate enough to caddy for Crampton, who fed my interest in golf and the courses where the game is played." Hurley is president of the New Jersey Turfgrass Association.

Richard Hurley

STUDY OF DEATHS UNDERTAKEN

An independent scientific study of deaths of superintendents is being underwritten by the Golf Course Superintendents Association of America. The study is designed to provide basic evidence about any links between long-term pesticide exposure and certain cancers and illnesses identified as pesticide-related. Researchers will first thoroughly review scientific literature dealing with human exposure to pesticides used on golf courses. A team of epidemiologists will then perform a statistical mortality study of GCSAA members who have died since 1970. The GCSAA hopes to choose researchers by late January.

ECOLOGY, MANAGEMENT TOPICS

BLACKSBURG, Va. — First of two sessions in turfgrass ecology and management is due Jan. 4-8, at Virginia Tech's Donaldson Brown Center for Continuing Education. The course is designed to provide basic information to new turfgrass managers, and to provide experienced turf managers opportunity to update expertise. Thirteen faculty members from turfgrass-related disciplines will provide 36 lecture and laboratory contact hours of instruction. David R. Chalmers, extension agronomist—turf, Virginia Tech, will direct the program. A second course is due here Jan. 25-29.

No longer voodoo science, tailor-made composts coming

By MARK LESLIE

Having conquered the nursery industry, scientists researching the disease-suppressive capabilities of compost anticipate barrier-breaking improvements in the golf and landscape industries in the near future.

"This is no longer voodoo, but real science," said Dr. Harry A.J. Hoitink, professor of plant pathology in the environmental graduate studies program at Ohio State University.

Hoitink, who has been researching solid-waste compost and its disease-suppressive capabilities since 1972, predicts that "tailor-made composts are coming."

Specifically, use of yard-trimming composts in top dressing and in root-zone mixes in golf course construction will bring wide-ranging improvements in turfgrass maintenance, he said.

"The net effect I project in the next decade," Hoitink said, "will probably see a gradual phasing out of fungicides used to control root disease.

"We may see decreased insect problems, also, although much of that remains to be documented. Since stress aggravates insect problems, and compost alleviates stress in plants, it will help in this area as well."

A prize student of Hoitink's from 1978-82, Cornell University Associate Professor of Plant Pathology Eric Nelson agrees that composts will "dramatically reduce" fungicide use.

> *'I project in the next decade we will probably see a gradual phasing out of fungicides used to control root disease.'*
>
> **— Dr. Harry A.J. Hoitink**
> **Ohio State University**

"In some of our monitoring studies on golf courses in the Rochester [N.Y.] area, over a three-year period of strictly using compost on fairways, they reduced Pythium fungicide applications by 89 percent," Nelson said. "We're still pulling together data on fungicide use at other courses. I predict you'll find similar reductions elsewhere...

"Presumably, we would be able to reduce insecticide use as well, particularly if these composts possess insecticidal properties."

To that end, Cornell Professors of Entomology Mike Villani and Roxanne Broadway are searching for insecticidal compounds in composts and have been able to isolate proteins with insecticidal activity.

"We established 10 to 15 years ago that there is not a soil-borne disease in plants that we cannot control with compost," Hoitink said. "If we look at undisturbed natural ecosystems, such as hard-

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Tough challenges threaten golf

By MARK LESLIE

On the one hand, golf is too slow, too expensive, too elaborate and too hard. On the other hand, the outlook for its future is promising, according to a panel of North American experts.

Speaking at the 44th Canadian Turfgrass Conference and Trade Show in Halifax, Nova Scotia, in December, panelists agreed the industry must be cohesive and superintendents far-sighted in addressing environmental and other issues vital to the game and their jobs.

"The future looks bright. But we must warn ourselves not to become complacent," said Jim Snow, national director of the U.S. Golf Association Green Section. "We can't expect golf to grow by hundreds of courses per year into the future without

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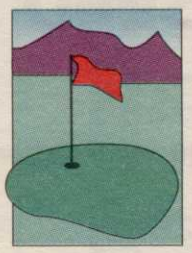
Tour of Duty

HAROLD VAUBEL
LaCosta Country Club
Carlsbad, Calif.
Infiniti Tournament of Champions
Jan. 7-10, NBC

Harold Vaubel, 40, has been head superintendent at LaCosta for three years. He came to Carlsbad from the TPC at Starr Pass in Arizona, where he helped build the course and served as head super. A native of Peoria, Ill., Vaubel is a graduate of the University of Arizona in Tucson.



Things to look for: "From an agronomical standpoint, to get ready for the Tournament of Champions, we've been rebuilding all our greens to USGA specifications. After this year, we'll only have four left [to renovate]. The ones that haven't been rebuilt are all TV holes: 11, 14, 15 and 18."

Made-for-TV preparations: "Basically, most of what we do is a tremendous amount of landscaping. We try to put a bunch of flowering plants and poinsettias behind the tee boxes. I feel this highlights the player a lot better. It makes him stand out better on television.

"We also triplex our fairways specially for the tournament. The rest of the year we use a five-gang, but I think the triplex makes the fairways look more dramatic."

Editor's note: *"Tour of Duty" will be a regulor feature this year in Golf Course News. It is designed to celebrate the PGA Tour's unsung, underpublicized hero: The superintendent.*

GERALD YOZA
Waialae Country Club
Honolulu, Haw.
United Airlines Hawaiian Open
Jan. 14-17, Turner

Gerald Yoza, 40, has spent all of his 16-year turf career at Waialae, "Starting out in the traps, just like everyone else," he recalls. He was named head superintendent two years ago. A native of Oahu, he is also a graduate of the University of Hawaii.

Things to look for: "We've been through a renovation with Desmond Muirhead [and Ed Connors of Golforms] since last year's tournament. We've added some mounding and quite a few strategic traps. Desmond is an excellent guy to work with. He's got a great eye... A lot has happened since last year. We've had a flash flood, a hurricane, a wind storm and a renovation — all in the last 12-13 months. It's been an unusual year. Busy."

Made-for-TV preparations: "Because this is a Bermuda course, we change the mowing height in the rough. If we kept a tournament rough all year around, we'd catch it from the membership... We add one more cutting height for the tournament, an intermediate cut at 1-1/2 inches. We keep the fairways at 7/16ths all year."

TIGHE SHIELDS
TPC of Scottsdale
Scottsdale, Ariz.
Phoenix Open
Jan. 28-31, CBS

Tighe Shields, 42, has been head superintendent at the 36-hole TPC of Scottsdale since 1989. A native of Indiana, he grew up in Arizona and matriculated to Arizona State University in Tempe. Before coming to the TPC, he was head super at Arizona Country Club in downtown Phoenix from 1975-88.

Things to look for: "Being in the belt we're in, we overseed in October and early November to get the golf course reestablished very quickly. We have to be tournament-ready in early January, which is our coldest period of the year. We have to be in the condition you might normally expect in March or April, which is tough for us."

Made-for-TV preparations: "We generally have TV only on the back nine, so we overseed them first and apply an extremely concentrated fertilizer program... We also spray the fairways — four times, wall-to-wall — with liquid applications of iron to get the deepest, darkest green we can. Part of our look is to have extremely dark green playing areas while keeping the bunker outlines a golden yellow. We do this by letting the bunker outlines go dormant, and we spray them with Diquat. We think this better distinguishes the bunker areas on TV — and the players say they like it."

Compost seen as future replacement for methyl bromide

Methyl bromide, used to sterilize putting surfaces for reconstruction, will be replaced by compost mixes on golf courses, according to Ohio State University Professor Harry A.J. Hoitink.

Most of the nursery industry has not used methyl bromide for a decade now, Dr. Hoitink said, adding: "To do that on golf courses will require the same kind of procedure — blending and formulation — that we have perfected over the years for the nursery industry.

"The technology exists to replace methyl bromide with compost because compost, produced and cured properly, can be colonized with appropriate micro-organisms to control those soil-borne plant pathogens against which we fumigate with methyl bromide."

In 1972 OSU revealed technology with procedures of composting which essentially led to the elimination of methyl bromide by the nursery and greenhouse industry by 1976. Very few nurseries have used methyl bromide since then.

Hoitink predicted that in agriculture, "by and large, only those crops fumigated with methyl bromide today will be able to pay a relatively high price for compost. The reason is that compost will substitute for methyl bromide for control of soil-borne plant pathogens.

In addition, fungicide applications required after fumigation are reduced or eliminated in some cases. This is due to the disease-suppressive properties of composts used by nurserymen today. Proof for this was first published from OSU in 1978. It has been practiced increasingly by both florists and nurserymen since that time.

Compost research

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wood forests, you never see an epidemic of soil-borne diseases. Only in disturbed ecosystems do we see epidemics of soil-borne plant pathogens."

Nelson said he started five years ago trying to identify composts that were suppressive as top dressing applications to a variety of turfgrass diseases.

"Every disease for which we've looked for a suppressive compost, we've found at least one," Nelson said. "We now can suppress brown patch, dollar spot, Pythium blight, Pythium root rot, Typhula blight [gray snow mold] and red thread.

"Other composts have shown suppression of necrotic ring spot. In the coming years we will look at pink snow mold, anthracnose and leaf spot."

Hoitink, Nelson and their colleagues are trying to understand more of the microbiology of the composting process itself. And, more importantly, the microbiology of suppressive composts.

"We clearly know that disease suppression in most of the composts we work with is related to the microflora in that compost," Nelson said. "So there are key elements in the microflora providing the disease control. We need to understand what the activity of those key components are.

"We hope to characterize the disease-suppressive microfloras and have a fingerprint of what it looks like," Nelson said. "Once we've been able to fingerprint these communities, we'll have a biochemical picture of what a suppressive microflora looks like. Then we can go to other composts, take similar pictures and try to more accurately predict suppressive properties."

That done, they will be able to inoculate compost with the disease-suppressive microflora.

For potting mixes, the ideal biocontrol agents already have been identified at OSU.

"It's a tall task but it's possible with what we know already," Nelson said.

Calling the fine-particled yard-trimming composts "ideal for construction of golf courses," Hoitink said more of it will be available as time goes on and landfills are closed to grass, leaves and brush.

Dr. Eric Nelson

Nurseries use coarse-particle compost.

"Yard-trimming composts are not waste. They are resources, because the topsoil industry has capitalized on them by producing a rather homogeneous-in-quality compost," Hoitink said. "The result is, they can start to blend these materials with soils and sands and produce products that can be used in construction of golf courses, in the extreme, and very much so for gardens and lawn construction for homeowners..."

Nelson predicted it will be five or 10 years before scientists will have "a good handle on the microbiology of disease suppressiveness and the predictable use of composts on golf course turf. The problem ... is that sometimes they work and sometimes they don't. A given batch of a material might work sometimes and not others, on some sites and not others, and we have no understanding why that is happening."

Turf research is different than container ornamentals research because turf and pathogens are perennial, Nelson said. "In a container you start with a clean plant and you can protect it more effectively than a plant like turf that's already infected."

Nelson said, however, that in new plantings turf is very similar to container mixes.

"In fact, we've used compost as construction mix amendments — replacing peat with compost — and we get dramatic results, especially in regard to Pythium root rot control," he said.

"In the absence of any amendment, or in the presence of peat, you get complete destruction of turf within two weeks after inoculating with a root-rotting Pythium application. With these compost amendments, disease losses can be avoided."

Country Club of Rochester (N.Y.) superintendent Bob Feindt, who has experienced extraordinary results in tests he has done with Nelson on his course, said: "Other superintendents were laughing at me when we started five or six years ago. But we're seeing promise now, so people aren't laughing any more."

Feindt is also using organic fertilizers, turkey and brewery wastes, but said: "This is not a panacea. There is a lot of promise, but a lot of things are happening we don't understand. There are variables to deal with, from different climates to different soils. We need more research. There are so many variables — climate, terrain...

"We're [the industry] growing grass under stress. We're cutting it so short and putting a lot of stress on the grass, so we're relying on chemicals to keep the grass alive. I think we have to start feeding our grasses more, raising the height of cut and other cultural things as well as using natural organics."