Study gives fungicides 'green light'

By DOUGLAS PAGE

Fungicide use on golf courses, long suspected of contaminating into surface- and ground-water runoff, has been given a green light by a Purdue University environmental study.

Four years of research at Purdue's Turfgrass Research Center found that fungicides do not seep into surface-water runoff or leach into ground water as previously feared.

"In terms of golf course superintendents, what we've shown is that they can use the chemicals without fear of huge negative impact on the environment," said Ronald Turco, professor of agronomy and director of Purdue's Environmental Sciences and Engineering Institute. Fungicides, he said, do not present a problem to the environment if they are applied according to the manufacturer's recommendations.

"The reality of any fungicide application to dense turf is that most of the fungicides do not reach the ground," said Turco. "About 90 percent of the fungicide remains on the grass leaf blade, where it is absorbed by the plant within 48 hours."

While fungicides make up less than 10 percent of all the pesticides used in the United States, they are used on many types of plants, including vegetables and fruits. By far their most popular use is on golf course greens and tee boxes. Extensive use in such small areas led to the concerns.

Fungicides are known to cause birth defects and sterility in laboratory animals. Their long-term consequences on plants and animals are unknown. According to recent estimates, homeowners and lawn-care companies apply as much as 70 million pounds of fungicide annually in the United States.

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Merrill 9 joins Ross in Maine

By PETER BLAIS

LOVELL, Maine — Just in case architect Geoffrey Cornish and Golf Digest architectural editor Ron Whitten are interested, here's a new listing for their records: Lovell's nine-hole golf course is in Ross land.

Donald Ross, who designed the original nine at Lake Kezar near the New Hampshire/Maine border back in 1923, is a name most in the golf business likely recognize. But Brian Merrill, who designed the adjacent nine-hole addition that opened this summer, is probably a tad less familiar.

Merrill has served as superintendent of the Western Maine golf club for the past dozen years and it is his new holes that have received considerable acclaim from golfers, the press and his fellow superintendents this summer.

With legendary architects like Ross and Alister Mackenzie placed on such lofty pedestals that golf societies have been formed to protect their works, did Merrill feel any added pressure in designing a new nine next to a Ross original?

"A few of the older members that really hold Ross in esteem would joke about it," Merrill acknowledged. "But there really wasn't much said."

Besides, with many courses that survived the Depression and the labor shortage created during World War II, the original nine at Lake Kezar has lost several of its Ross-designed features. An abandoned tee next to the No. 2 ladies tee is still visible, but it is impossible to tell which hole it served. Another abandoned tee adjacent to the 3rd green once served either the 4th or 5th hole, "but no one knows for sure," Merrill said.

The green on the par-4 6th has obviously been moved back and to the right of its original location. And the putting surface on the current 18th hole, formerly the 9th, was relocated to make the one-time par-4 into its current par-5.

"The original nine holes are certainly a Ross design, but they have changed over the years," Merrill said.

While Merrill may be a neophyte in the world of golf course design, this isn't the first time he's entered a domain with which he was unfamiliar. He had no formal agronomic training when he made his initial foray into golf course maintenance in 1982.

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There are ‘standards,’ and then there are standards

By RON DODSON

Setting standards for protecting the environment is a challenging process, and no less so for golf courses. Generally, no matter what environmental standards we discuss, some people demand the highest standards; others claim that if standards are set too high, they will not be economically feasible; and then of course, others believe environmental standards are not necessary at all.

Personally, I'm uncomfortable with the word "standard" and particularly "minimum standard." Why shouldn't we try to do the absolute best we can rather than establish the least we can do? But, even more important, how do we measure our environmental "best," and how do we balance economic concerns with environmental concerns?

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Perhaps the problem with "standards" is the implication that they are absolute; they never change; and they have universal application. It would be wonderful to have standards like the "Golden Rule" for golf courses — something applicable to all people, for all time and all situations. But that would mean the standards would have to be exceedingly broad and not terribly useful as "guidelines." The Audubon Signature Cooperative Sanctuary Program is premised on a mutual partnership between the environment and the economy. It is designed for anyone who is developing property and wants to adopt a sustainable development process. And as with any program, it needs to provide some guidelines, even "standards," that are applicable in a variety of situations to diverse properties. Through the Signature Program, we've tried to establish some Environmental Guidelines that are meant to be "dynamic" standards — standards that require thought and dialog, and periodic review.

We've found that no matter how broad or narrow our guidelines, some governmental agencies would like us to require certain "standards." Some environmental groups would like us to set our "standards" higher. Some golf course architects think our "standards" are fine, and others think we expect too much.

The bottom line for our organization is our mission "to enhance the quality of life and the environment through research, education and conservation assistance." Through this and Audubon International's guidelines, our "standards" are meant to help us and those we work to achieve that mission.

So to further this discussion about standards, I'd like to focus attention on four topics that concern people not only involved in the Audubon Signature Program but in the golf industry, and those involved in the "golf and the environment" debate.

Please note, this is an open invitation for you to express your opinion concerning the following topics. We would like to hear from those who defend our "standards" as well as those who question their value.

USGA greens: At present, it is a requirement that members of the Signature Program build USGA-spec greens. This requirement is based on the belief that the USGA has conducted more research and has provided more data on USGA greens than any other type of green. Given the research, we also believe USGA greens provide optimum conditions to grow turfgrass for putting greens, and therefore, will provide the least impact on the environment. On the other hand, we require USGA greens even though normally, including the USGA, will certify that a green is actually a USGA green.

Drainage: In response to concerns about water quality, present Signature Program guidelines say that drain lines should not be put directly into water bodies. If drain lines are put into water bodies, then a buffer of at least 25 feet must be established around the receiving end of the drain where no fertilizer or other chemical products are used. We feel creating such opportunity as possible for a trapping approach for filtering water is preferable to dumping drainage directly into water. In addition, for the good of golf's image, as well as for the environment, it is unfortunate to have drain lines, or "point sources," of pollution, running directly into water bodies.

Pesticide storage: At present, the Signature Program requires that chemical storage areas be located in buildings separate from the main maintenance building, and that there should be a minimum number of feet between the buildings. Others say that if fireproof walls are used, along with appropriate drainage systems, exhaust fans, etc., storage does not have to be in separate buildings.

Irrigated turfgrass acreage: One major requirement for obtaining the Audubon Signature designation is that you must have no more than 90 acres of irrigated turfgrass per 18 holes of golf course. The purpose is to minimize the area to be irrigated, thus conserving water, and to minimize the areas that must be managed with various tech-
Ozment finds 'tacky' solution for stakes

ITHACA, N.Y. — Looking for a way to make paint last longer on hazard stakes, Country Club of Ithaca golf course superintendent D. Cord Ozment found one: sticky paint.

Using an assortment of PVC pipe left over from an irrigation system installation, Ozment and his crew used 1-inch pipes for red lateral water hazard and yellow water hazard stakes, and 2-inch pipes for white out-of-bounds stakes.

"We first built a paint stand using a 12- by 24- by 2-inch board where holes were drilled on 8- to 10-inch centers, and where a 10-inch spike was mounted upwards through the holes," he explained. "PVC pipes were then cut into 32- to 36-inch lengths. Next we applied a generous coat of PVC primer to the entire surface of each stake and placed each stake onto the paint stand.

"We waited approximately 15 minutes to allow the PVC to get 'tacky,' then followed up with two coats of Rust-Oleo paint," Ozment added.

"The real secret is in the PVC primer," Ozment said. "It allows the paint to stick to PVC, which makes for a very solid bond to the plastic pipe. We usually get two seasons before they become weather-beaten, or the victim of a frustrated golfer."

Standards

Continued from previous page...niques. Some members feel this requirement is extreme, that it slows down play, and that it is an arbitrary number. Others say we should reduce the number even more. (We do have some members in our programs with as little as 60 acres of irrigated turfgrass.) Still others say that private and public courses should be treated differently. Finally, some have said that if you construct a course on an area that is mostly slope and you don't want to move a considerable amount of earth, then you need more turfgrass on the course.

So, this is your invitation to comment. Please send me your thoughts. In particular, if you know of existing research regarding any of these topics, I would like to know about it. I'll report on the various comments in future issues. Send comments to: Ron Dodson, Audubon International, 46 Karick Rd., Selkirk, N.Y. 12158.

Building stores course's soil, fertilizers, et al

ROBINSONVILLE, Miss. — Superintendents dream of helping design the floor plan and inner workings of a new maintenance building. At Cottonwoods Golf Club here, superintendent James D. Harris had a hand in state-of-the-art soil-storage and fertilizer buildings that were built for his complex.

Designed by Hale Irwin and Stan Gentry and built by Landscapes Unlimited, Inc., Cottonwoods Golf Club opened for play in May. The soil-storage portion of the building has five bays. Each measures 14 feet wide and 20 feet deep, with a metal roof that slopes back from 16-feet-10 inches high to 13-feet-10 inches. The 10-inch-thick reinforced concrete walls, separating the bins, are 6 feet high, with wood construction and metal sides up to the metal roofline.

An enclosed soil-storage bin is used for greens top dressing, which has a manually operated, retractable metal garage door to keep the materials dry during inclement weather. Overall dimensions are 75 feet wide and 20 feet deep. Eight-inch-thick concrete-reinforced floors, along with 20-foot-deep concrete slab apron, all slope away from the building.

Since rainfall predominately comes from the south/southeast, the bins face north. This keeps landscape mulch, fairway topdressing sand and bunker sand dry.

The building's fertilizer storage area measures 41 feet wide and 20 feet deep. Two 12- by 12-foot metal garage doors are separated by a 3-foot-wide walk-through door. An additional 3-foot-wide walk-through door enters from the north side of the building.

Forklifts can stack fertilizer and soil amendments two pallets high on the reinforced 8-inch-thick concrete floors, while the walls are 8-inch-thick concrete cinder block materials. A 24-inch diameter exhaust fan runs 24 hours a day, keeping the building well ventilated. Additional air movement is provided from a vent that can be opened and closed in the cupola.

"We are very pleased with the way the combination soil-storage and fertilizer building turned out," said building architect Doug Balsley of Robert Lamb Hart. "It is very functional while utilizing the existing space provided in an efficient manner."

"Our maintenance staff is quite pleased and very proud of our combination building," said Harris, a certified golf course superintendent. "It is a state-of-the-art design which is helping set the standards in our area."

"It is really great that we can keep our materials separated and mostly dry, with the way the roofline and positioning of the soil-storage building bay," said Harris.

"The fertilizer storage stores plenty of materials so we can keep enough fertilizer and soil amendments in stock, which is kept dry and available on a moment's notice."

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