



BRIEFS

ST. LOUIS SUPERS AVERAGING \$81,200

ST. LOUIS — A survey of St. Louis-area country clubs reports that superintendent salaries there average \$81,200. The research, by the accounting firm Rubin, Brown, Gornstein & Co., also shows that average maintenance costs per golf hole were about \$41,000, or \$4,000 an acre. On average, maintenance staff ranged from 26 in the peak season to 12 in the off-season.

EAGLE FUNGICIDE OKAYED FOR NECROTIC RING SPOT

PHILADELPHIA — Eagle fungicide has been approved for use on the widespread cool-season turfgrass disease Necrotic Ring Spot (NRS). Produced by Rohm and Haas, headquartered here, the expanded use of Eagle can now be applied in early to mid-spring as a preventive or curative measure or in the fall to limit NRS development.

The root disease attacks Kentucky bluegrass, annual bluegrass and creeping red fescue, and is most commonly found in the Northeast, upper Midwest, Rocky Mountain states and in the Northwest. "NRS is a disease that can take over a golf course, sometimes requiring complete renovation," said Jim Walter, market manager of turf and ornamental products at Rohm and Haas. Eagle is also labeled to combat brown patch, dollar spot, fusarium blight, and spring dead spot, just to name a few.

LEACH HEADING UP CGSA

VANCOUVER, BC — Jay Leach, superintendent at the Cottonwood Golf and Country Club in Dewinton, Alberta, is the new president of the Canadian Golf Superintendents Association. Other newly elected officers include: vice-president Bill Fach, of the York Downs Golf and Country Club in Unionville, Ontario; secretary/treasurer and board chairman director Jim McGarvey, of the Seymore Golf and Country Club in North Vancouver, BC; Alberta director Neil Blayney, of the Highwood Golf and Country Club in High River, AB; and Saskatchewan director Terry McNeilly, of the Saskatoon Golf and Country Club in Saskatoon, SK. Merlin Affleck of the Stanhope Golf and Country Club in Stanhope, Prince Edward Island, will be the immediate past president. The elections took place during the 52nd Canadian International Turfgrass Conference and Trade Show here in Vancouver.

GOLF COURSE NEWS

Robotics, GPS technologies promise to transform mowers

By JOEL JOYNER

BLOOMINGTON, Minn. — Lawn mowers have undergone only minor changes in the past several decades, but a burst of technologies promise to usher in a new world of machines. We're talking about "autonomous" mowers — riderless and controlled by computers. And then there are battery-powered, laser and hybrid mowers. Are they destined to be all the rage?

Let's begin with the robots, where the experts are optimistic.

"It wouldn't surprise me at all to see some type of robotic mowers on a golf course within the next five years," said Dana Lonn, director of R&D here at the Toro Co. "Will it be like something out of the Jetsons, where you press a button and a fleet of mowers automatically goes out and mows your golf course? I'm not sure I'd bet on that."

According to Lonn, newly engineered technologies will unfold over the next three years to solve the major problems. "There's the collision-avoidance factor, for one," he said. "You have to be 100 percent sure you're not going to hurt somebody. We're also looking at digital imagery, putting enough smarts on the mowers that you process the picture for the mower to read."

"One approach we're looking at is a 'proper scene,' where there's a relatively

flat, green scene in front of the mower," Lonn said. "If the mower encounters an obstacle it's not programmed to accept, it will have to know to avoid it."

The advantages of digital imaging don't end there. Robotics mowers also could look for potential disease outbreaks while mowing.

"The University of Arkansas is running studies using digital imagery to quantify turf disease," Lonn said. "They scan an image looking for changes in color and for patterns of color. They may be able to detect conditions in the turf that are not yet visible to the naked eye. I can envision a digital video camera being installed on a maintenance machine."

ELECTRICAL MOWERS

Wouldn't it be nice to have a mower that never leaked oil, never made noise, and never created exhaust fumes?

It's already here. Electrical mowers are available today for mowing greens, but they have yet to become commonplace.

"New trends have more to do with environmental issues more than anything else," said Peter Whurr, vice president of production at Textron. "The idea of being friendly to the environment is really being pushed hard in our industry. We're the only one that currently has a tri-plex greensmower that's battery-powered. It

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Textron's electric mower

'Super-bent' thatch control made easy

By KEVIN ROSS

In 1995, when Penn State University released the A and G series bentgrasses, questions were immediately raised regarding the thatching potential of these varieties. Their high shoot density and growth rate characteristics were thought to translate into intense thatch development. Now, after five years of use on golf courses around the world, we are learning how to manage thatch on these bentgrasses.

Thatch is a layer of dead and dying

SHOP TALK

tissue that accumulates when the growth rate exceeds the rate of decomposition. This tells us that controlling the growth of these new bentgrasses with astute fertilizer management might be the first step in the thatch-control equation.

Many superintendents growing these bents have commented that the fertilizer requirements are much lower than originally anticipated. I know one superintendent who, with a 12-month growing season, is using only two pounds of N/M per year on Penn A-4.

Another superintendent feels that A-4 has the ability to metabolize fertilizer at a much higher efficiency rate than older

bentgrasses, although there has been no research to support this statement. However, this supposition is starting to hold true in the opinion of superintendents who are managing these bents. This knowledge of fertilizer needs has led some to believe that thatch is much less of a problem than originally thought, although its accumulation is still a point of debate.

EQUIPMENT SOLUTIONS

Regardless of the debate, equipment companies have addressed this issue with new machinery targeted toward thatch management.

The piece that is receiving the most attention is the Graden verticutter/dethatcher from Australia. This is the first machine on the market that has proven to be a true dethatching unit for greens management.

Some superintendents feel so strongly about this machine's ability to remove thatch that they are saying it may even take the place of one of their scheduled aerifications. The percentage of thatch removal from the green surface area is much greater than with conventional core

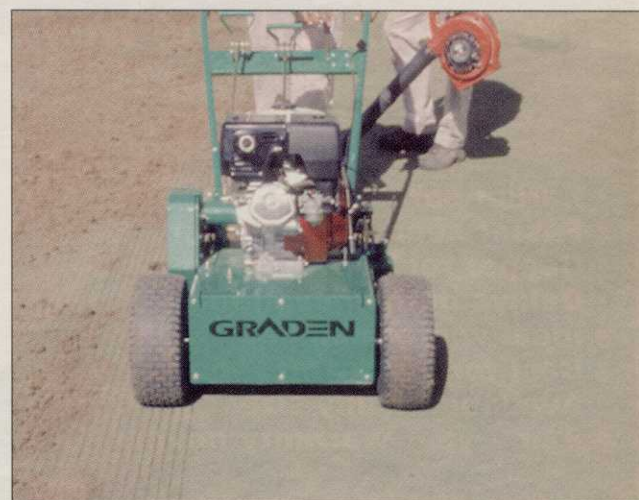
John Deere Classic to host supers, employers

SILVIS, Ill. — The John Deere Classic pro-am tournament will recognize superintendents and their employers at the TPC at Deere Run on July 23. The course will host 10 teams who will participate in the Employer/Superintendent Recognition program sponsored by the Golf Course Superintendents Association of America (GCSAA) and John Deere.

The two-man teams are selected from Class A and B superintendents who are paired with their respective employers to take part in the three-day program, which includes paid travel expenses, room and board, and two rounds of golf.

Three winners were chosen at the recent GCSAA Conference and Show. The winners so far include: Les Kennedy, Jr. at the Blind Brook Club in Purchase, N.Y., with Dean McKay, golf and green chairman; Jim Pitman at the Rolling Hills Country Club in Rolling Hills Estates, Calif., with his general manager, Greg Sullivan; and Kevin Mallow, superintendent at Grand Cherokee Golf Course in Langley, Okla., with Tommy Grisham, director of golf.

Essay submissions are no longer required to be selected for the event. A weekly drawing from entries made on the GCSAA Web site will decide the remaining teams, with April 25 as the deadline.



Graden verticutter/dethatcher

This percentage of removal cannot be achieved by aerification unless very large tines are used, which would cause major surface disruption and require extensive healing time.

Superintendents who are using this dethatcher, or vertigroover, also are finding other benefits compared to aerification. They are claiming that, by

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Willow Run GC earns Audubon International certification

By JOEL JOYNER

PEWAUKEE, Wis. — The daily-fee Willow Run Golf Club here has become the sixth course in Wisconsin and 246th in the world to achieve designation as a certified member of the Audubon Cooperative Sanctuary Program (ACSP).

The low-budget facility required a team approach in accomplishing the certification.

"I have to share credit with my assistant Pat Wegmann and the course horticulturist Jason Dibb as well as the rest of my staff for their hard work and dedication to the program and the environment," said superintendent Jerry Kienast. "This definitely has been a team effort."

At Willow Run, which opened in 1975, the program worked to provide a more challenging layout for the players. "It's a very old design," Kienast said. "It has the push-up greens, not well-defined and very wide open. Adding prairie grasses and



The 10th hole at Willow Run

leaving watered areas alone rather than stripping them down made a significant difference.

"Instead of having a fairway dogleg where you could miss it by 50 yards, 60 yards or 70 yards and still have a play from the short rough, now you end up in a

two-foot high prairie grass," he said. "On the 10th hole, you could spank it anywhere and not have a difficult play at the green. Now, if you miss the fairway by even 10 yards, you're lucky to even find the ball."

The changes have been successful for both the environment and attracting a better grade of players.

"We use to be listed with *Golf Digest* as a two-star golf course, and shortly after completing the certification program we were listed as a three-star course. We've become a more challenging course primarily from defining our holes," said Kienast.

The 6,400-yard course signed on with the program back in 1997.

"To reach certification, a course must demonstrate that they are maintaining a high degree of environmental quality in a number of areas," said Joellen Zeh, staff ecologist for the Cooperative Sanctuary System.

Thatch control

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cutting these vertical grooves, then filling them with sand, they create channels that are much more efficient in keeping the surface open for oxygen exchange and water movement.

The healing time of verti-grooving also seems to be faster than core aeration. This does make sense when you consider a 0.125-inch groove that is healing from two directions, along with new plant material initiated from stolon stimulation.

LIKE A SKILL SAW CUTTING WOOD

One question I am frequently asked is, doesn't this verti-grooving severely disturb the green surface? My response, along with that of other superintendents I've talked with, is that it's not as disruptive as one might think. The main reason is that the densities of these new bents are allowing the surfaces to be held together so tight that the blades cut a cleaner groove without the edges being ripped or torn. It is very similar to a skill saw cutting a small groove along a section of wood.

I have personally used this machine in two directions on a section of our Penn A-4 practice green with great success and no surface damage. The thought of verticutting in two directions equating to a 25-percent thatch removal is certainly interesting, but may not be necessary when you address your thatch from the beginning.

Now that we have five years of solid experience growing these new "super-bents," we are starting to answer these thatch concerns. The combination of astute fertilizer management with the old practice of true dethatching just might solve this problem. ■

Kevin J. Ross, CGCS, is director of golf course management at the Country Club of the Rockies, in Edwards, Colo.

High-tech mowers

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allows superintendents to get out on the course and mow early in the morning without creating noise pollution."

Whurr looks toward other industries for advances that can be adapted for golf course equipment. "In the automotive industry, they're researching fuel cell technology," he said. "The amount of money being spent on it is absolutely incredible. If they feel there is a need to develop systems like that, then there's opportunity for us to look."

BREAKTHROUGHS IN GPS

Chuck Grief, manager of the golf and turf division at John Deere, says global positioning systems, guided by satellites, will drive some dramatic ad-

vances in mowers.

"In five to 10 years, we'll see autonomous mowing with GPS," he said. "We'll see, most likely, self-adjusting cutting units with GPS. Within five years, we'll see onboard GPS diagnostics."

What's the advantage for superintendents? "The superintendent, the mechanic or even the distributor who sells the unit will be able to tap in and receive a signal that says, 'Okay, what's the average oil pressure that this engine has been running in the last 24 hours?'" said Grief. "We'll be able to use GPS to take readings that will extend the life of the product."

GPS and its spinoff benefits will take course maintenance to a new level of efficiency, Grief said. "I can envision, at some point in time, there being a little white shed next to a putting green. At

nine o'clock at night a door will open up and a walk-behind mower, as we know them today, will go out and mow the greens so that a superintendent doesn't have to mow them first thing in the morning.

"Prior to that, however," Grief said, "as a manufacturer, we'll use GPS to help an operator mow a straight line. Essentially, an operator will be running the machine but not steering it." As costs come down, the technology will become widespread, he predicted.

"One of the obstacles is to get the golf course maintenance side to accept or invest in GPS," Grief said. "There needs to be a fair and reasonable price that's acceptable to the marketplace." ■

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