

AWARD WINNER STRESSES NEED FOR PLAYABLE COURSES

Charles Price, winner of the American Society of Golf Course Architects' Donald Ross Award, stated in his recent acceptance speech that "Americans must stop building courses for one percent of the golfing population. The public wants—and needs—more "playable" golf courses."

Price, a golf historian and journalist who has written more than 1,500 articles and eight books about golf, was honored for raising the awareness level of golf course architecture by his description of famous golf courses and their architects. He has written for every type of news media—magazines, newspaper, television, movies and radio.

"Showcases are fine—even monuments to yourself—but the architect should ask whether he or she is designing a course for all types of golfers or simply making an architectural statement," Price continued. "But, I'm convinced that less is more." Price used Scottish courses as examples of "less is more" and added that he personally liked all-grass holes.

He admitted that modern technology is developing clubs and balls that make many standard-length golf courses obsolete for today's long-driving pros, the one per-

cent he spoke about at the beginning of his speech.

Price, who knew Donald Ross during his time at Pinehurst and wrote his obituary when the great architect died, believes in subtle design that presents an ongoing challenge to the golfer. He acknowledged that all indicators point to another golf boom in America, and that it is the responsibility of the golf course architect to provide the right kind of courses for the new golfers to develop a life-long attachment to the game.

Previous winners of the award include Robert Trent Jones, Herb and Joe Graffis, Joe Dey, Geoffrey Cornish, Al Radko, Dinah Shore and Deane Beman.

THIRD COURSE PLANNED FOR FIRESTONE

The architectural firm of Cornish & Silva, Inc. has been chosen to design a third course for Firestone Country Club in Akron, OH. The announcement was made by James Maser, president of CCA Investment Corp., owner of the famous course.

The 18-hole Firestone West will be constructed next to the South Course, the course used for the NEC World Series of Golf. Brian Silva said the thick woods and many streams on the site will be preserved in the design.

HERRMANN PURCHASES LOCKE MANUFACTURING

Locke Manufacturing Inc., Bridgeport, CT, has been purchased by Thomas Herrmann, a marketing and financial specialist with an avocation of automotive and motorcycle repair. Locke is one of the oldest manufacturers of commercial and estate reel mowers in the U.S.

Herrmann, who has tinkered with mowers since the age of nine, left a successful career in marketing and finance with companies such as AMF, Price Waterhouse and Pepsico, to restore the legendary mower company to local ownership. "Since Sylvanus Locke relinquished control in 1955, the company has had six different absentee owners," Herrmann stated. "That's not good for any company."

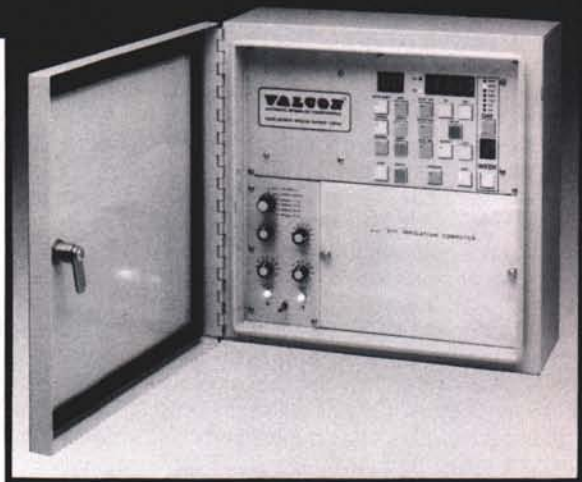
Orag, a Swiss distributor for Locke, bought the company seven years ago to keep the mowers in production since they are popular for estates and sports fields in Europe. Orag sold it later to American investor Michael Goodman. Herrmann bought the company from Goodman.

Herrmann does not intend to change the reel mowers except for minor adjustments to modernize the engine and controls. "We are restoring the original qualities established by Sylvanus Locke—a fine reel cut for large turf areas with simplicity and durability," says Herrmann.

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CHALKBOARD

TIPS FROM THE PROS

EXPLORING CAUSES AND CURES FOR BLACK LAYER IN SANDY SOILS

When golf course superintendents first noticed yellowing and dying turf on greens and tees topdressed with sand, they suspected the culprit was some type of disease. After all, it was their concern over turf diseases that caused many of them to topdress with sand in the first place.

Recently turf specialists at universities have determined the problem is not a disease, but a foul-smelling layer of black material near or below the surface. This "black layer" apparently gives off toxic gases, ties up important nutrients and prevents water from draining through the soil as it should. What they have not yet determined fully is what causes this layer to form and how it can be prevented. They do know it can be corrected rather quickly once discovered.

The popularity of sand topdressing has grown greatly in the past ten years. The idea is to apply thin layers of sand over the turf to slowly raise the plant above the damp soil and into well-drained, oxygen-rich sand. Better drainage means less chance for an outbreak of disease. It also protects the turf from compaction and provides an exceptionally fast surface. The concept originated and has worked very well in portions of the country with high seasonal rainfall.

Superintendents know there are tradeoffs. Buying and applying the sand are just two. Sand is available in an infinite range of sizes and shapes. It is very important to obtain the right sand initially and to match it each time the course is topdressed. Improperly matched sands will create layers which actually trap water instead of draining it away. Large rotary spreaders or PTO-powered topdressers are needed to apply uniform layers of sand over large areas.

Sand does not retain the same amount of nutrients or water as clay and loam soils do under well-drained conditions. Once repeated topdressings create a layer of sand thick enough for turfgrass roots to grow in, extra applications of fertilizer and irrigation become necessary. Shorter cutting heights for greens have also caused superintendents to irrigate more frequently.

Determining how much extra water is needed is often a guessing game. As a result, superintendents tend to keep topdressed greens and tees on the wet side rather than the dry side, even during unusually wet weather. This is one major part of the problem says Lee Berndt, a graduate student at Michigan State University conducting research on the black layer. "The

layer gets established because excess water in the soil blocks out oxygen," states Berndt. Without oxygen, organic material in the soil is broken down abnormally to form toxic gases and black "precipitates." In Berndt's opinion, these black deposits make up the black layer.

Berndt has created a black layer in a tube of sand in the MSU greenhouse. "Certain bacteria in the soil can break down organic material without oxygen," he explains. "My work indicates that elemental sulfur from some turf fertilizers and micronutrient products contributes to the formation of the black layer. The sand tube in the greenhouse that did not have elemental sulfur did not produce a black layer. Of course, sulfur only becomes a problem under anaerobic (oxygen deprived) conditions caused by poor drainage and compaction."

By correcting drainage and irrigation, necessary oxygen will enter the soil and break down the black layer. As a result, black layer symptoms can be reduced in as quickly as a day. However, if heavy and regular rainfall causes sand greens to remain damp for long periods, Berndt suggests withholding applications of elemental sulfur until the greens can drain properly.

Dr. Roy Goss, turf specialist for Washington State University, defends sulfur fertilizers by saying, "most of the soil's sulfur is held in reserve in organic matter. Whether we apply elemental sulfur (in fertilizers) or the plant gets it from breakdown of organic matter is irrelevant." In waterlogged soils, sulfur will combine with a number of heavy metals (including iron) to form black substances. "There isn't much question," says Goss, "that under total neglect of soil drainage and aeration that additional sulfur will cause problems."

A second theory or type of black layer has been advanced by Dr. Clinton Hodges at Iowa State University. Hodges points out that the "artificial conditions" of sand greens are ideal for the growth of algae. Irrigation water from algae-infested lakes can contaminate overirrigated sand greens. Algae prospers in sandy soil lacking oxygen and produces a gelatin-like mucous that plugs up the pore spaces between the sand particles. A black layer forms near the surface disrupting drainage, blocking out oxygen and releasing methane and other gases that may be toxic to turf.

Hodges has created a black layer in laboratory tests with tubes of wet sand containing algae. He is now using these

laboratory-produced layers to study the influence of various fertilizers and maintenance practices on them. "Black layers do not necessarily result in the death of turfgrass," he states. "Sometimes, the only visible impact on a green is poor drainage. Early detection of poor drainage quickly followed with aeration can prevent damage to the turf."

"I think the black layer is more than just a series of chemical reactions taking place in the soil," claims Hodges. "The sand root-zone for turf is a whole new system. We have not been able to anticipate all the special challenges it presents for turf managers. We're running into extremes that we've never seen before. At the same time, our chemicals have changed. Today's pesticides are biodegradable. That means there are organisms out there that can break them down. We're using wetting agents, new fertilizers and micronutrients for the first time. A great amount of time and money is needed to explore the impact of these changes on turfgrass management."

Jonathon Scott, superintendent of Grand Traverse Resort Golf Course in Traverse City, MI, has been working with a number of methods to prevent formation of a black layer on his topdressed greens and tees. "This has been an unusually dry spring for us," says Scott, "without any evidence of black layer. We have also eliminated applications of fertilizers containing sulfur which may have helped. Still, I think there's much more we need to find out."

The black layer isn't totally limited to the wet, humid regions of the nation. Tom Lubin, professor of chemistry at Cypress College in Cypress, CA, has been studying the black layer in sand greens and on football fields. "I've found a layer of heavy metals two or three inches below the surface," said Lubin. "Turfgrass roots were unable to penetrate this layer. On a hunch, I did both soil and tissue analysis and discovered the turf lacked phosphorus."

By applying soluble phosphorus to the area, the diameter of the roots quadrupled and they proceeded to penetrate the layer of heavy metals. The phosphorus also flushed some of the metals out of the layer. Within two weeks, the turf recovered completely. Lubin recommends a monthly application of 1/4 pound per 1,000 square feet of soluble phosphorus for sand fields or greens known to have high concentrations of metals.

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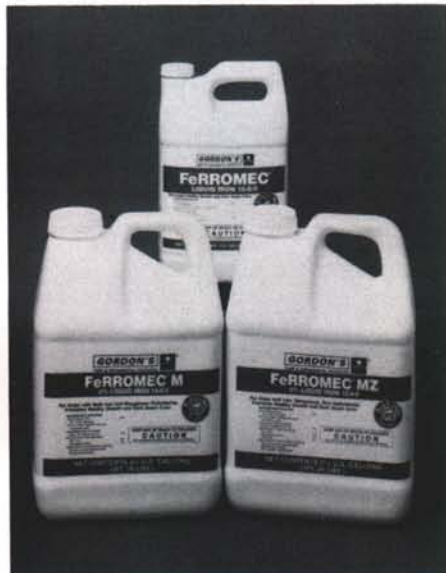
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E-Z TRENCH

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PRODUCT UPDATE

IRON PLUS MICRONUTRIENTS



Micronutrients have been added to two new formulations of Ferromec Liquid Iron to correct deficiencies in the soil and increase the uptake of iron by plants. In addition to Ferromec's patented combination of ferrous iron, nitrogen and sulfur, the new formulations contain manganese and zinc.

Iron is important to the production of chlorophyll in plants and imparts a dark green color to turf. Some soils lack adequate iron or prevent iron uptake by plants. These include soils that are sandy, have low organic matter content, are alkaline, have high levels of calcium carbonate (lime) or lack certain metals such as manganese or zinc.

The new formulations of Ferromec correct shortages of iron, manganese and zinc to restore chlorophyll production to a healthy level.

PBI GORDON CORPORATION

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TRAVELING SPRINKLER



It's nearly impossible to keep an important sports turf area in condition without ir-

rigation or a heavy rain at least once a week. Turf managers in areas with seasonal rain shortages who do not have the budget for permanent underground irrigation can protect important turf against drought damage with Water-Reels. Connected to any municipal water supply, the cart is pulled toward the Water Reel as it irrigates. The machine shuts off automatically when the cart arrives at the reel.

The model B130 can irrigate a standard football field in two passes in a few hours. It can apply one inch of water to 13 acres in a standard five-day work week. The portable unit can be moved easily from field to field as needed.

KIFCO, INC.

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VACUUM SWEEPER



With the growing popularity of sand topdressing and sand-based rootzones for golf course greens, tees and athletic fields, the engineers at Turf Vac Corp. decided their vacuum sweepers should be able to pick up loose sandy materials from turf in addition to regular debris.

By increasing the suction delivered by a four-foot-wide vacuum scoop, their CM-4 Coremaster can now remove sand aerification cores and the fine layer of excess sand sticking to foliage after topdressing is applied. By using the sweeper, golf course superintendents can put topdressed or aerified greens and tees back into play quickly without inconveniencing golfers.

High floatation tires spread out the weight of the sweeper and its load of debris on sensitive turf areas. The self-powered unit does not require a tractor PTO and can be pulled by most turf vehicles and light-weight tractors.

TURF VAC CORPORATION

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ATV OFFERS TRACTION TO FIT CONDITIONS



The 1987 Trail Boss all-terrain vehicle is the first ATV to offer automatic, on-demand four-wheel drive. When the rear wheels begin to lose traction, a newly-designed hub clutch engages the front wheels automatically. Once the rear wheels regain traction, the front wheels are automatically disengaged.

There are no levers to pull or hubs to lock in or out. All switching occurs automatically with the vehicle in motion. The manufacturer says the on-demand feature provides extra traction when needed without stopping and eliminates the negative aspects of four-wheel drive when extra traction is not required.

POLARIS INDUSTRIES, INC.

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GRASSY WEED CONTROL

Selective control of grassy weeds in cool-season turfgrasses is now practical with Acclaim herbicide from Hoechst-Roussel. When sprayed on turf infested with crabgrass, goosegrass, foxtail, barnyardgrass, panicum or johnsongrass, Acclaim slowly eliminates these weeds in two to three weeks without harming the desirable turf. The herbicide is safe to apply on turf areas containing perennial ryegrass, fine fescue, tall fescue, Kentucky bluegrass and annual bluegrass.

For best results, apply Acclaim with 30-60 gallons of water per acre with a flat fan nozzle. It can be mixed with some preemergence herbicides but mixing with common broadleaf herbicides like dicamba and 2,4-D reduces its effectiveness. Control is most effective when weeds are in the two- to three-leaf stage.

Fescues or ryegrasses may be overseeded into turf treated with Acclaim without harm. Avoid applications to exposed seed. Mowing of newly-treated areas should be delayed two days to give the systemic herbicide time to enter the target weed's foliage.

HOECHST-ROUSSEL AGRI-VET CO.

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ROOKIES

PRODUCT UPDATE

ROTARY SPRINKLER



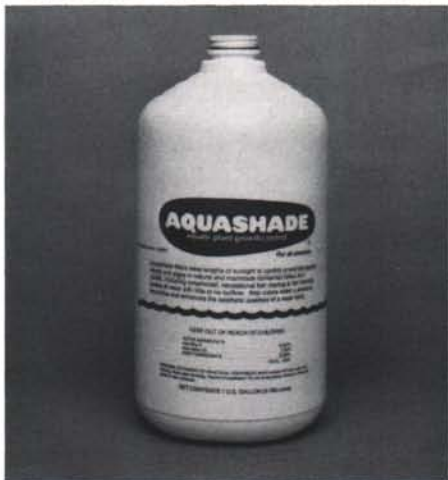
A stainless steel sleeve is now available on Toro 610 rotary sprinklers for added durability in sandy or corrosive soils. The gear-driven, pop-up sprinklers can be installed as low as 1/2 inch below grade in parks, on fairways and athletic fields. A stainless steel spring assures complete retraction of the sprinkler and resists prying up by vandals. The sleeve seal keeps out debris and helps eliminate stick-up problems in nearly any soil condition.

The brass and plastic gears, provide smooth, quiet operation along with the strength to withstand high pressure water surges. The top of the sprinkler in the retracted position is only 2 3/8 inches in diameter to help hide the sprinkler in the turf.

TORO IRRIGATION DIVISION

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Instead of using herbicides to kill algae and noxious aquatic weeds, Aquashade blocks out sunlight these weeds need to grow. The non-toxic material does not harm fish or desirable plants such as lilies on the surface of the water.

Aquashade's teal blue color replaces the

green color of algae-infested water. The colorant prevents sunlight from reaching subsurface weeds thus inhibiting photosynthesis. Without photosynthesis, the plants can't grow.

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ROOKIES

PRODUCT UPDATE

MANIFOLD TEE



Installation of more than one valve on a single irrigation line can be like putting a puzzle together. Each valve has to be properly spaced and aligned to assure proper operation without leaky joints. AMS Plastics has simplified multiple-valve installation with its Pree-Set Manifold Tee.

The one-piece tees have two or three outlets to provide proper spacing and in-line angle positioning without unnecessary joints that can leak. They can also be connect-

ed in a series to accommodate any number of valves. A key and groove system ensures proper port alignment.

Suitable for anti-syphon and angle valve installations, the tees are constructed of Schedule 40 PVC with Schedule 80 thickness around ports for maximum strength.

AMS PLASTICS

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WALK-BEHIND OVERSEEDER

An overseeder unit for Ryan's Mataway provides lightweight, single-pass drill seeding for golf course greens, tees and other small turf areas. A special overseeder reel with disc blades cuts ten grooves two inches apart. See-through tubes deliver a precise amount of seed from the hopper into each groove.

The overseeder unit can be removed by taking out four pins so the Mataway unit can be used for power raking and vertical mow-



ing. Retrofit kits for existing Mataway units will be available in 1988.

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ROOKIES

PRODUCT UPDATE

ANCHOR GUN



Like a large staple gun, Anchor It by Standard Golf secures sod, greens covers or landscape sheeting to the soil without tedious hand work. Six-inch-long steel staples are thrust through the material and into the soil when the spring-loaded handle is pressed down. The staples can be removed at a later date or allowed to rust away.

The gun holds up to 50 staples and is easily and quickly refilled. Constructed of cast aluminum, the gun weighs less than ten pounds.

Anchor It speeds up staking of sod or covers, especially on slopes and large areas. Sod can be secured as soon as it's rolled into place to eliminate shifting and to prevent damage to new roots entering the soil.

STANDARD GOLF CO.

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RYEGRASS BLEND

Improved generations of three strong perennial ryegrasses are the components of CBS II ryegrass blend from Turf-Seed Inc. The new generations of Citation, Birdie and Omega have added stem rust resistance, darker green color, wear tolerance and improved mowability to the fast-germinating blend of ryegrasses. Drought and shade tolerance have also been improved.

New seedings of four to five pounds per 1,000 square feet or overseedings at 30 to 40 pounds per 1,000 square feet result in dense, wear-tolerant and attractive turf for winter greens, athletic fields or parks.

TURF-SEED INC.

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No batteries, engine or hoses are needed to operate the Greens Wheelie by Wheel Spray. A ground-driven pumping system

sprays liquid fertilizers, herbicides, pesticides or growth regulators in a six-foot-wide swath. The ten-gallon, corrosion-resistant tank holds enough solution to treat 12,000 square feet of turf without refilling. A wide lid on the tank allows for easy filling and cleaning.

Shut-off controls on the handle let the operator open one or both nozzles at a time. The amount of chemical applied is relatively unchanged by the speed at which the sprayer is pushed. Application rates are adjustable from 800 to 1,200 square feet per gallon. The shut-off valves feature stainless steel sleeves and plungers.

WHEEL SPRAY CORPORATION

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GRANULAR FUNGICIDES

The Environmental Protection Agency has approved two granular formulations of Bayleton Turf Fungicide. Bayleton, a systemic fungicide that is absorbed rapidly by turf, controls diseases, including dollar spot and summer patch, from within. The granular formulations provide disease control for turf managers who do not have liquid application equipment. Drop or rotary spreaders can be used to treat turf areas with the fungicide granules.

Rates vary from 1.5 to 6 pounds per thousand square feet depending upon the disease to be controlled and the percentage of Bayleton in the formulation (0.5 or 1 percent). The manufacturer suggests irrigation following application to assure rapid absorption of the fungicide by the turfgrass.

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An assortment of liquid fertilizers containing micronutrients is available from National Liquid Fertilizer Corporation. The Envy line includes complete fertilizers containing important metals and micronutrients such as iron, boron, copper, manganese, sulfur and zinc. The liquid concentrates and soluble powders mix easily with water for application by standard spray equipment.

By providing premixed concentrates and soluble powders, the manufacturer saves the sports turf manager concern over compatibility when mixing his own components. The Envy line also includes fertilizers with wetting agent, herbicides and soil amendments.

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