

impact of players falling on it and a major factor in reducing sports injuries.

The effectiveness and efficiency of fertilizer and liming materials is increased when these materials are applied following aeration but prior to dragging to break up soil cores on the surface. Experimentally, it has been shown that the amount of phosphorus at the two and three-inch level is increased approximately 29 percent if aeration precedes phosphate application. This is especially important in phosphorus-deficient soils since surface-applied phosphate moves downward in the soil very slowly. The downward movement of lime is also slow and aeration offers a way to amend acid soils more quickly. Control of soil-inhabiting insects and other pests with pesticides is markedly improved through aeration.

Aeration increases water infiltration if soils have shallow layers of compacted or incompatible soil within the depth penetration range of the equipment. These layers may consist of sand, organic matter or soils of totally different composition. This problem most frequently occurs on golf greens or high-maintenance fields where topdressing with sand; sand and soil; or sand, soil and organic matter is a standard practice. The problem arises when the type of topdressing material is changed.

Coring is more effective than slicing when layering is a problem. Coring reopens a channel between soil layers, removes part of the problem soil and permits topdressing material is changed.

Thatch layers that develop in sports turf also impede water movement through the soil profile, especially if the thatch has dried out. Dry thatch, like dry peat, is highly hydrophobic (resists wetting). Thatch build-up also prevents lime, fertilizer and pesticides from moving downward in the soil. Many insecticides are readily bound by thatch, greatly reducing their efficacy in controlling insects such as white grubs.

Thatch that becomes saturated tends to remain wet for long periods. This is as much a problem as dry, hydrophobic thatch. When thatch remains soaked the oxygen supply available to the plant is greatly reduced and limits the activity of aerobic soil microorganisms necessary for nutrient conversion and decomposition of organic material. Aeration can increase microbial activity in the soil and assist in the breakdown of thatch. By improving oxygen relations in the thatch layer, aerobic decomposition is increased. Most thatch layers are highly acidic. The movement of

lime into the thatch through aeration raises the Ph of the thatch and stimulates bacterial activity.

Examination of turf managed with a regular aeration program will show proliferation of new, white and healthy roots in the core holes or slits. This is the response of the plants to improved environmental growth conditions, especially oxygen relationships in the soil adjacent to the core hole.

Aeration also provides a means of overseeding into established turf without destroying the existing vegetation. Overseeding with a turf-type disk seeder is the most effective method of overseeding. But thorough aeration (six to 10 passes) can be quite effective as a means of introducing seed to the soil when a disk-type seeder is not available. Apply the seed after aeration but before dragging. Some sports

turf managers prefer to apply one third to one half the seed prior to aeration and the remainder after aeration but prior to dragging.

It is impossible to properly maintain any sports turf facility, especially those with heavy use, without a regular aeration program in combination with other sound agronomic practices.

There is a noticeable difference in appearance between turf that has been aerated and turf that hasn't. In some cases resodding can be replaced with aeration and overseeding. But, most importantly, both halves of the turfgrass community will be properly maintained.

Dr. Harper retired last year as extension agronomist at Pennsylvania State University. This article was updated from the original version which appeared in the March 1987 issue.

UNIQUE PRODUCTS FOR THE GOLF COURSE AND TURF INDUSTRY

SAVE
TIME & MONEY

- Level-EEZ - Raise Sunken Sprinkler Heads -
No Digging
- Aqua Quick Couplers
- Moisture Sensors
- Digital Thermometers
- Infiltrimeters
- Soil Profile Samplers
- Penetrometers
- pH Meters



Original Greenstate
DonuT Trimmer
Edging Blades

GREENSTATE
INTERNATIONAL, INC.

P.O. Box 21663
Fort Lauderdale, FL 33335
1-800-654-8492
FAX 305-524-6431

*Distributor & Sales
Representatives wanted.*

Circle 122 on Postage Free Card



THE PROFESSIONAL'S CHOICE
SINCE 1922

THE BASEBALL DIAMOND MIXES
USED BY OVER 50 PROFESSIONAL
TEAMS PLUS TOWNS AND
SCHOOLS ACROSS THE U.S.A. AND
CANADA. SPECIAL MIXES FOR
INFIELDS, PITCHER'S MOUNDS,
HOMEPLATE AREAS &
RED WARNING TRACKS.

Terra-Green

SOIL CONDITIONER & DRYING AGENT
"SUPER-RED" FOR INFIELDS
"SUPER-GREEN" FOR TURF
MORE COLORFUL, LESS DUSTY
IMPROVES AERATION & DRAINAGE
YET RETAINS NUTRIENTS & MOISTURE!

PARTAC
GREEN SAND
FOR DIVOT REPAIRS

*The Ultimate Solution to Unsightly
Divots at Televised Golf Tournaments
and other Sports Events!*

AVAILABLE NATIONWIDE
1-800-247-2326
IN N.J. 908-637-4191

PARTAC
GOLF COURSE
TOP-DRESSING



AMERICA'S PREMIUM
HEAT TREATED
TOP-DRESSINGS

PLUS CONSTRUCTION,
CART PATH, AND
DIVOT REPAIR MIXES

RIGID BASEBALL DRAG MATS

NATURAL SURFACES AND SUPPLIES FOR BASEBALL, GOLF, TENNIS, BOCCIE, HORSESHOES, VOLLEYBALL, TRACKS, PLAYGROUNDS, EQUESTRIAN, FOOTBALL, SOCCER & OTHER SPORTS!

DIAMOND DRY® • SUPER SOPPER® WATER REMOVAL MACHINES • HOLLYWOOD® BASES
STABILIZER® • TYPAR® FABRICS & TURF COVERS • COVERMASTER® FIELD COVERS
YANKEE® RAKES & SQUEEGEES • TAMPERS • FIELD MARKING MACHINES & MATERIAL
HAR-TRU®, LEE®, & HADEKA® TENNIS SURFACES • MAUTZ® PAINTS & STENCILS

PARTAC PEAT CORPORATION, KELSEY PARK, GREAT MEADOWS, N.J. 07838 ORLANDO, FLA. RIPLEY, MISS.

FLEXIBLE TURF DRAG MATS

FOUND!

The solution to your grass clipping disposal problem.



Join the growing number of golf courses that own a Millcreek TD spreader, with a grass spreading attachment.

The easy economical way to dispose of your grass clippings.

Also designed and used to spread top dressing and compost products to an adjustable width of 3' to 8'.

An optional 12V cylinder operated adjustable endgate, to meter the flow of material, is also available.

MILLCREEK
Manufacturing Co.

112 S. Railroad Avenue
New Holland, PA 17557

717-355-2446

Circle 125 on Postage Free Card

RainStay

**A WATER RESERVOIR
AT YOUR ROOTS
HOLDS WATER
AND KEEPS IT
AVAILABLE FOR
YOUR TURF.**

RainStay™ a powerful water-absorbing soil amendment capable of absorbing up to 400 times its weight in water and releasing it back to the soil on demand.

- Moistens Soil On Demand
- Encourages Vigorous Turf Plant Growth
- Reduces Watering Frequency
- Helps Develop Excellent Golf and Sports Turf
- Safe, Convenient and Easy To Use

CHEMDAL CORPORATION

(mfg. of Superabsorbent Polymer)
1530 E. Dundee Rd. Suite 350
Palatine, IL 60067
(708) 705-5600

Circle 124 on Postage Free Card

STMA HOLDS CAROLINAS SPORTS TURF INSTITUTE

Sports turf managers from the southeastern United States gathered in early June at Clemson University in South Carolina for the second annual Carolinas Sports Turf Institute. The event was sponsored by the Sports Turf Managers Association and its South Carolina Chapter, in cooperation with Clemson University.

The institute focuses on athletic field weed and insect control, drainage, and maintenance. Speakers included Dr. Euel Coats, Mississippi State University; Dr. John King, University of Arkansas; Dr. Bob Carrow, University of Georgia; Dr. Bert McCarthy, University of Florida; and Dr. Clyde Gorsuch and Dr. Bruce Martin of Clemson University.

A special problem-solving seminar, which offered practical solutions for low-budget athletic field maintenance, was a particular hit with participants. The seminar focused on several topics including drainage, fire ant control, disease and weed control, and baseball field maintenance.

A tour of Clemson's turfgrass research plots followed the seminar. Participants were shown a variety of tall fescue test plots, bermudagrass trails, and test plots with specialty grasses.

Les Jones, Clemson's facilities and grounds director, led a tour of the varsity practice and playing fields. Jones showed participants the university's championship soccer field and described how he recently improved drainage by installing drainage material. A tour of Clemson's "Death Valley" football stadium revealed the intensive care the stadium receives before and during the football season.

The institute also included equipment displays, which gave attendees the chance for hands-on demonstrations of a variety of turf equipment.

LIBURDI TO HIGHLIGHT FIELD DAY

The Metropolitan Golf Course Superintendents Association will hold its Professional Turfgrass Field Day on September 17 at the Westchester Country Club in Rye, NY. It will run from 10 a.m. to 4 p.m.

The event will feature a turf and athletic field maintenance clinic held by John Liburdi, head grounds manager for the Eastern League Double A Affiliate New York Yankees-Heritage Park. A reel mower grinding clinic will also be held.

Displays of equipment, irrigation products, and supplies will be included. For more information contact Bob Lippman, Westchester Turf Supply, (914) 248-7476 or Byron Johnson, Terre Company, (203) 748-5069.

MAXICOM SALES SPECIALIST



Sally Prusia has been appointed Maxicom sales specialist for the western United States by the Commercial Division of Rain Bird Sales, Inc. She will supply irrigation consultants and specifiers with detailed information about Maxicom, the company's computerized control system for multiple-site irrigation projects. She will help current and prospective customers with setup, applications, maximizing the advantages of central control, and using Maxicom with sensor devices and other irrigation system components.

Prusia served as a Rain Bird area specifications manager for the past four years. Prior to joining the company, she owned a design business and taught agricultural irrigation at California State Polytechnic University in Pomona, where she earned her bachelor's degree in ornamental horticulture with a minor in agricultural engineering.

COVERMASTER TO BLANKET U.S. STADIUM MARKET FOR AKZO

Akzo Industrial Systems Company has appointed Covermaster, Inc., as its North American distributor for Enkamat Flatback and Enkaflex sports turf protection products for stadiums. Covermaster markets a variety of protective covers in the U.S. and Europe.

The ultimate challenge to many superintendents is not to be in charge of the most elaborately designed golf course. Instead, it is to preserve the character of one of the West's oldest courses.

That's the case for Jim Husting, superintendent of Woodbridge Golf and Club in California's San Joaquin Valley, and his assistant, Dan Giammona. Woodbridge is one of the oldest courses in California, established in 1926.

In fact, it is really three courses. "The club's 27 holes are divided into the Lake Course, the Middle Course, and the River Course," Husting explains. "Each is a unique blend of features derived over the century. "Ryegrass and bentgrass are used on the Lake Course fairways, while bermudagrass is used on the Middle and River Course fairways. Woodbridge's greens are made up of *Poa annua* mixed with bentgrass," he adds.

Husting admits that the choice of grasses was largely Mother Nature's. "The River Course was first. It was predominantly a horse pasture at one time, and had native bermuda there to begin with. So they just groomed with it. When the Middle Course was built in the 1950s, a lot of bermuda was there, too. So they just cultivated it. The Lake Course is the newest, built in 1979. It was planted all in cool season grasses, but don't ask me why!" he says with a grin. The seasons are seldom cool in the hot San Joaquin Valley.

The combination of grasses at Woodbridge, such as *Poa* and bent greens, may seem unusual, but it fits right in with the club's strange history, which started almost 70 years ago over a bottle of good wine.

"It's probably one of the oldest courses in the area," says Husting. "It all began one



Green and tee surrounds at Woodbridge were a maintenance problem before Husting changed fertilizers.

Woodbridge Golf and Country Club: **Superintendent Preserves Character Of Historic Western Course**

Saturday night in March 1924, when Claude Holmes, a foreman for the McHenry-Clark Construction Company, was with Doc Hare at the home of Emerson Herrick. While sipping some 1922 Zinfandel, the discussion of the evening turned to golf.

"Holmes thought that traveling to the Stockton club to play took too much time away from his business. Perhaps some pastureland that Holmes was renting nearby from Thompson Folger, on which he kept his two horses, would be suitable for a small golf course.

"That evening Holmes invited Herrick and Doc Hare to a game of golf, which was played at the rented pasture located on the

south bank of the Mokelumne river in Woodbridge. The three would-be golfers arrived next morning equipped with shovels, rakes, lawn mowers, brooms, and wheelbarrows to clear the way for the game," says Husting.

"The fairways were relatively easy to shape, because of the abundant growth of bermudagrass, which had been kept well clipped by Holmes' unemployed work horses, Dick and Ben. The greens, however, presented a more formidable undertaking. The grass had to be cut short and raked several times before fine sand was flooded in to create a smooth putting surface. Basi-

continued on page 24

cally it was just sand greens at that time," Husting explains.

"After three full Sundays of dedicated labor, the golf course was ready. Tomato cans inserted into two greens served as cups, and mounds of wet sand formed on top of ordinary doormats became tees. By June, over \$150 had been spent clearing brush to form more greens and tees," he reveals.

"The pasture had now been transformed into five golf holes. Holmes had announced the plans for a golf club. By June 21 over 115 men had expressed an interest in becoming members. One month later, on July 24, 1924, the Woodbridge Golf and Country Club was incorporated. Entrance fees were set at \$15, with dues at two dollars a month. Today it costs \$20,000 to join," says Husting.

*Husting inherited a
golf and country
club that was begun
by inspired
amateurs and
completed over 50
years later by
a top architect.*

"Claude Holmes was elected to serve as the first president. The original two-room shack of 1926 served as the clubhouse. A new clubhouse was constructed in 1938 and still remains today as the Elks Lodge," he continues.

"In 1952 another 12 holes were developed north of the Mokelumne River and combined with the six original holes to make Woodbridge a complete 18-hole golf course. The first footbridge was built to connect the links, as home development started on the north bank of the river. September 1979 marked the opening of another nine holes, and a new clubhouse was constructed. The tennis courts were also constructed in 1979," says Husting. "Right now we have 600 members. I still think the acreage with the original six holes is the best one out here."

Golf course architect Bert Stamps takes up the story at this point. "We designed the



Husting inspects fertilizer response on green surrounds.

third nine at Woodbridge, the Lake Course, in 1979," recalls Stamps, who has built over 100 courses around the world, from Venezuela to Africa to Taiwan. "Ted Kazakian, the developer, put four or five homesites around it. Some of the homes are half a million dollars apiece.

"The club had 18 holes and a flat piece of ground, so we had to beautify it to the point where it looked like a golf course. It worked out very well for them. They took in a couple hundred more members and remodeled the clubhouse," he recalls.

"We put some alternate tees in there for the higher handicap and the lower handicap. We stretched it out a little bit, so everyone could play and enjoy it. It's not an easy golf course. They have to shoot out over those lakes and thread the needle in a few places," says Stamps. "We put a lot of traps in out there. It really made the club, because they can play twice the people that they did before.

"Many years before that, I remodeled three holes on the River Course," he recalls. "I just remodeled the greens and we put seaside bent on them. But we started from scratch on the Lake Course. We used bermuda on the fairways in a mixture with bluegrass and Manhattan rye. And on the greens we used Penncross bent. I think we put a little chewings red fescue in the fairway to give it a little body."

Thus Husting inherited a golf and country club that was begun by inspired amateurs and completed over 50 years later by a top architect. He had the experience to make the most of it.

"I've been associated with golf just about all my life," says Husting. "I was a caddie at the age of 12. I became a greenskeeper at Lake Forest Country Club in Hudson, OH when I was a junior in high school. That was my summer job all the way through college. I got my first degree, a bachelor of arts, at Kent State. I didn't pursue the golf course industry until I came to California. Then I went to the two-year tech program at Cal Poly, San Luis Obispo. I have a two-year tech degree in ornamental horticulture with a major in turfgrass management.

"I was assistant superintendent at San Luis Bay Golf Course in Avila, CA from 1983 to 1984," Husting continues. "I went on to be assistant superintendent at Green Hills Country Club at Milbrae, CA from 1984 to 1987. Then I came here as golf course superintendent."

Husting pays close attention to the color and condition of the turf at Woodbridge. He employs routine aeration, periodic overseeding, and a balanced fertilization program. The threat of Summer Patch and Southern Blight on the cool season grasses, coupled with the desire to curb the use of fungicides, has spurred the superintendent to place a greater emphasis on soil testing and fertilization than ever before. "Summer Patch affects the *Poa annua*," Husting notes. "It doesn't affect the bentgrass that much, but it wipes out the *Poa*."

"I keep my grasses as healthy as possible going into the stressful time of the year, which is right now. And I have all three courses on a preventive fungicide program. So far, so good," says Husting. "I try to verticut three times a month on the greens, and I give a balanced fertilizer program to my fairways."

Husting explains, "My crew size is up to 16 fulltime employees now. We gear down to about 12 in the off season. We have four Toro triplex greensmowers. We use two for the greens and two for the tees and aprons. I have a Jacobsen HF-15 fairway unit to cut my fairways, and Toro gang mowers that we pull behind tractors to cut my roughs. I have a Toro Reelmaster 216 to cut my tee and green surrounds, and a few rotary mowers for tight hand areas in the roughs."

Using a rotary spreader, Husting applies water-soluble fertilizer once a month on Woodbridge's 27 greens throughout the growing season. With a Lely fertilizer spreader, he also applies ammonium sulfate twice a month on the bermudagrass fairways. Additionally, a custom blend nitrogen-based mix is spread every eight to 12

weeks, March through October, on the fairways and rough.

"The greens and fairways," he says, "are in good to excellent health through most of the year, despite the unavoidable peaks and valleys associated with using water-soluble fertilizer."

In the past, Husting applied the same custom formula on the courses' tee and green bank surrounds four times a year. Despite his best efforts, these areas were often a sore spot to Woodbridge's members and a blight upon the club's otherwise lush courses.

"The green and tee bank surrounds require a great deal of hand fertilization, often needing more care than my assistant and I were able to give them," he recalls. "When we applied the fertilizer, we saw a rapid flush of growth. The grass grew too high between mowings, and it was ragged. Clippings were uneven, and members had a hard time finding their balls along the tee and green surrounds."

The situation deteriorated further six to eight weeks later, when the fertilizer wore off. "The grass lost much of its vitality and took on a faded yellow hue," says Husting. "Our traditional response was to apply

more fertilizer, but our heavy workload often forced us to wait until well after the fade had begun."

With seemingly nothing to alter this cycle of uneven growth and inconsistent color, Husting grudgingly accepted the status quo. "The longest lasting slow release fertilizer I had ever used was effective for no more than eight weeks," he explains.

In November 1989, distributor Mike Blume of Turf Tech in Sacramento, CA, told him about Once, a controlled release fertilizer from Grace-Sierra. One application releases nitrogen, phosphorus, and potassium each day for up to a full season.

Blume told him the fertilizer's activity is controlled by a coating system. The release rate is temperature-based, increasing as the soil warms and decreasing as it cools, much like the growth of the turf. The product's longevity is based on the amount of coating applied to the fertilizer. The more coating, the longer it lasts.

In April 1990, as he prepared to face the San Joaquin Valley's 100-plus-degree summer heat, Husting put Once to the test. "I applied it on the green and tee surround areas with a rotary spreader, as I do with any other fertilizer," Husting recalls. How-

ever, the results were quite different.

"Instead of the flushes of growth and subsequent fading of color that I had encountered with conventional fertilizers, I got eight months of steady growth. It carried me through the summer and into the fall, and the fertilizer seemed to kick back in this spring," he explains.

"Our clippings are also much more even. Members are no longer searching through green surrounds for lost balls or upset about the courses' appearance," says Husting.

He adds that environmental benefits are another important criterion by which a product must be judged. "We don't have to apply as much fertilizer as with conventional formulations. Less fertilizer means less potential of leaching. The turf takes up the majority of nutrients released, with very little lost to the environment."

"There are things a superintendent can do to make an older course better without major renovation," adds Husting. "Sometimes I think that is a bigger challenge than making changes which alter the character of a club. And, I think it's one reason Woodbridge has been successful for more than 60 years."

Expand Your Horizon

JOIN
PGMS

BY LEARNING ABOUT THE PROFESSIONAL GROUNDS MANAGEMENT SOCIETY, YOU'LL BE MADE AWARE OF THE MANY BENEFITS IT HAS TO OFFER. WATCH YOUR CAREER EXPAND... JOIN PGMS TODAY!

- **ANNUAL CONFERENCE & TRADE SHOW** — This yearly forum brings together grounds managers, top speakers and suppliers for the sharing of knowledge and ideas.
- **DISCOUNTS** — Members receive discounts on Hertz, Avis and Alamo Rental Cars as well as discounts on a complete line of horticultural publications.
- **WORKSHOPS** — Workshop training is available all over the country and offers management skills covering all aspects of grounds management.
- **CERTIFICATION** — You can become a Certified Grounds Manager by receiving a voluntary peer review of acceptable competence.
- **AWARDS** — Members are recognized for outstanding achievements in grounds management in the Annual Grounds Maintenance Awards Contest.
- **NEWSLETTER** — A newsletter is mailed monthly to keep members current on the affairs of the Society and the latest developments critical to successful grounds management. Personnel and position vacancy notices are also listed to create employment opportunities.
- **SURVEY INFORMATION** — The Society conducts research on operational practices. These surveys are made available to members only.
- **GUIDELINE PUBLICATIONS** — AVAILABLE FREE TO ALL MEMBERS:
 - **Grounds Maintenance Estimating Guide** — To assist you in total cost job estimating.
 - **Grounds Maintenance Management Guidelines** — Now available to assist you in management.
 - **Grounds Management Forms & Descriptions Guide** — To help you with your routine daily tasks!

Clip and Mail to: **PROFESSIONAL GROUNDS MANAGEMENT SOCIETY**
10402 Ridgland Road, Suite 4, Cockeysville, MD 21030

I WANT TO EXPAND MY HORIZON! Please send more information about PGMS.

Name _____

City and State _____

Company _____

Zip Code _____

Street _____

Area Code/Phone # _____

ROOKIES

PRODUCT UPDATE

DIESEL COMMERCIAL MOWER

The Pro Master 30H front-mount commercial mower has a redesigned drive system and a heavier steering system. It features a larger, heavy-duty battery, more grease fittings, and a brake lock for easy wheel locking for transport.



A 72-inch rear discharge deck is available, in addition to 72- and 60-inch side discharge decks. The mower is powered by a 30-hp Yanmar diesel engine with Sunstrand hydrostatic transmission.

Performance features include tight-turning with zero uncut circle, high quality cutting, ground speeds up to 9.5 mph, and a direct-drive PTO with no belts. Power steering, cruise control, a wheel braking system, and deluxe suspension seat are standard.

GRAVELY INTERNATIONAL, INC.
Circle 155 on Postage Free Card

MOTORIZED WHEELBARROW



Powered by a five-hp Briggs & Stratton engine, the Wheelburro is a self-propelled wheelbarrow that can move up to 500 lbs. at one to three miles per hour in forward or reverse. It can climb or descend 35-degree slopes carrying a 300-lb. load.

26 Golf & sportsTURF

A parking break on the drive prevents movement without operator control. Optional rear caster wheels allow the unit to operate on level surface, with no lifting required to move the load.

HP WHEELBURRO CO.
Circle 156 on Postage Free Card

BLENDER/TOPDRESSER

This combination blender/topdressing machine carries sand and peat moss, and spreads the mix.



The PTO-driven blender has eight wheels, which offer excellent flotation. It can be used for topdressing tees, greens, and fairways and spreads about 18 feet wide. With the spreader attachment, it can also be used to fertilize.

The Model 220 Mini-Blender will spread wet or dry sand.

DAKOTA BLENDERS
Circle 157 on Postage Free Card

FRONT MOWER

Powered by a 20-hp liquid cooled diesel engine with hydrostatic transmission, Kubota's FZ2100 front mower combines zero diameter turn and auto assist differential four-wheel-drive.

The zero turn diameter system offer exceptional maneuverability. When activated, the ZDT system cuts power to the front wheels, while simultaneously providing power to the rear wheels. The front wheels rotate freely and never remained locked in one place during a turn, which helps minimize turf damage.

Auto assist differential allows the mower to automatically switch between two- and four-wheel-drive as conditions demand. Other features are a full-tilt steering wheel,



a 55-degree tilt deck for easy blade maintenance, and dependable shaft drive for steady mowing under heavy grass and extended belt life. Options include 54- and 60-inch front-mount mowers and a high-capacity grass catcher.

KUBOTA TRACTOR CORP.
Circle 158 on Postage Free Card

GREENS AERATOR



The Ryan 30-06 riding aerator can aerate up to 19,920 square feet per hour, depending on hole spacing. Aerating depth is adjusted by the operator from the seat, in 1/2-inch increments, from four to six inches.

CUSHMAN
Circle 159 on Postage Free Card

SPRAY INDICATOR

Big Foot IPP is a concentrated version of Parkway Research's Big Foot Spray Pattern Indicator packaged in individually portioned packages. This allows the user a premeasured amount of liquid that will color 50 to 100 gallons of spray solution. The pouch is not moisture sensitive.

PARKWAY RESEARCH
Circle 160 on Postage Free Card

ROOKIES

PRODUCT UPDATE

PORTABLE RADIO



The Model EPH 5991A is a portable, 210-channel VHF radio that operates in the 148-174 MHz range. It has a 26 MHz operating frequency spread and can be programmed to operate on any frequency between 148.000 and 174.000 without degradation in specification.

The radio meets Mil Std 810 C and D for shock, vibration, dust, salt, fog, humidity, solar radiation, temperature shock, high and low temperature, and low pressure. It also meets EIA and U.S. Forestry Service vibration and shock specifications.

Many features are user-selectable such as keyboard models, priority scan, scan menu, scan delay, talk-around, busy channel lockout, busy channel indication, battery saver feature, and time out timer. The unit has CTCSS and digital code guard.

BENDIX/KING

Circle 138 on Postage Free Card

HIGH-PRESSURE CLEANER



The Stihl RB 220K is a compact high-pressure cleaner with professional cleaning power. Its four-stroke engine produces an adjustable operating pressure of 145 to 1,595 psi.

The portable unit weighs just 64 lbs. An optional cart is available.

STIHL, INC.

Circle 139 on Postage Free Card

C-LOC® The Fore-Forward Looking Solution for Golf Course Landscape Problems



Control erosion in sand traps, water hazards and other fragile areas

Build up low spots, expand tee areas



Use C-Loc to create golf cart paths over drainage ditches

Now there's a simple, economical, beautiful way to improve any golf course.

Introducing C-Loc®: the all purpose landscape problem solver. Made from weather resistant, heavy-duty extruded PVC plastic, C-Loc's interlocking panels are lightweight, durable and easy to work with. They're also incredibly versatile, designed to solve a host of typical golf course flaws ranging from low spots and drainage-ditch interference to sand and water erosion.

C-Loc: A Superior System, Any Way You Look at It

Simple Installation—Installs quickly and easily with just a jackhammer or sledgehammer

Economical—Costs less to buy; no heavy construction equipment required with conventional installation

Durable—Used successfully for years in seawall applications

Maintenance-Free—No unsightly rust, corrosion or deterioration

Attractive—Sunlight-stabilized plastic remains new looking through years of use

Environmentally Safe—Nothing to contaminate soil

For more information on the C-Loc all-purpose golf course landscaping system call or write:



Ryerson Plastics

a division of
Joseph T. Ryerson & Son, Inc.

Box 8000, Chicago, IL 60680
(312) 762-2121 Fax: (312) 762-0211

Circle 129 on Postage Free Card

ROOKIES

PRODUCT UPDATE

PHASE LOSS MONITOR



The Model 2634 phase loss monitor checks three-phase power systems for a

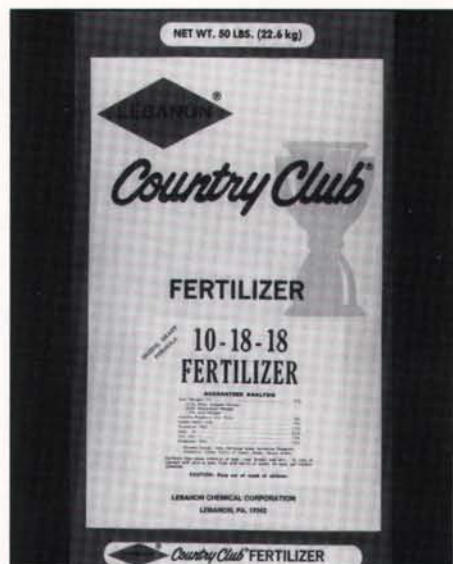
phase loss, reverse phase, or low voltage condition. A solid-state voltage and phase sensing circuit drives an internal electromechanical relay.

The contacts of the double-pole, double-throw (DPDT) relay are rated to carry currents up to three amps at 480/600 VAC, or 10 amps at 240 VAC. This allows the monitor to be used in remote applications where a lower motor control voltage is not available.

The Model 2634 is not load dependent; it can be used to protect any size of three-phase motor. It can also be used on a primary power panel to sound an alarm or trip a shunt breaker on a power fault. Any of the above power problems, or a complete loss of power, will shut down the motor. When the fault is corrected the monitor will automatically reset.

TIME MARK CORPORATION
Circle 133 on Postage Free Card

STARTER FERTILIZER



Country Club 10-18-18 A.O.S. (Aerification, Overseeding, Starter) is a homogeneous starter fertilizer. Its economical, homogeneous greens-grade formulation assures successful seeding and provides even nutrient distribution. The 1-2-2 ratio contains 35 percent organic nitrogen and 2.2 units WIN for a safe, sustained feeding, plus 100 percent sulfate of potash.

Used during aerification and topseeding, the product supplies sufficient amounts of phosphorus and potassium, while keeping available nitrogen at a manageable level. It enables professional turf managers to effectively spoon feed cool-season turf in overseeding situations and is also effective for growing in turf areas after germination.

The product is available in 50-lb. bags that cover up to 14,700 square feet.

LEBANON TURF PRODUCTS
Circle 134 on Postage Free Card

SHATTERMASTER

At last, a deep-slicing, sub-soil aerator that works harder and deeper for you!



- High speed blades move backwards and forwards to shatter your compacted turf and improve drainage
- Unique blade design cuts through the thatch - no more tearing problems.
- Blades depths are fully adjustable from 4 to 12 inches
- Heavy duty frame and sealed-bearing construction minimizes maintenance requirements.
- High productivity - up to 50,000 square feet per hour.
- Low cost aeration at its best!

Shattermaster. Goes beyond the root of the matter.

Another fine product from Greencare Master Turf Aeration Engineers.

GREEN CARE
INTERNATIONAL

17851 GEORGETOWN LANE, HUNTINGTON BEACH CA 92647
(714) 842 6003 (800) 635 8761 FAX: (714) 842 1707

GRANULAR INSECTICIDE

Crusade 5G granular insecticide controls a number of turf pests, including mole crickets, grubs, sod webworms, chinch bugs, billbugs, and cutworms. The product is nonphytotoxic. It can be used on both cool- and warm-season grasses.

ICI AMERICAS, INC.

Circle 135 on Postage Free Card