Raise your trimming production to new heights with the triplex package that outperforms them all.

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IACOBSE

Now you can raise your trimming production to a new all-time high with the superior efficiencies and cutting performance of the all new Tri-King 1471.

Faster, more precise control. Our exclusive foot-operated

hydraulic lift with automatic reel shut off combined with aircraftyoke-type steering delivers the fastest lift, turn and mow capability of any triplex in the industry. For greater overall production.

Plus, it tackles your most demanding trimming jobs, thanks to the hill-hugging ability of this 71" hydrostatic traction drive mower.

Unequalled cutting performance. Match cutting frequency precisely to mowing conditions with variable speed control and a choice of 5- or 10blade reels. And fixed or freefloating heads glide closely over land contours for that one-ofa-kind Jacobsen cut.

Designed to trim operating costs, too. The 1471's lowmaintenance design includes a reliable 14-hp cast-iron Kohler Magnum engine with electronic ignition, and a ducted clean air system for extended operating life. Unlike competitive systems, its direct-drive traction pump eliminates annoying belt slippage and time-consuming adjustments and replacements. And interchangeable reel drive belts make replacement easy, without troublesome jackshaft removal.

So, arrange a free demonstration with your Jacobsen distributor, today. And see for yourself how superior efficiencies and performance enable the 1471 to take the high ground in trimming production.

Attractive lease and finance plans available. Jacobsen Division of Textron Inc., Racine, WI 53403.

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Jacobsen Division of Textron Inc. © Jacobsen Division of Textron Inc. 1987

CROQUET ASSOCIATION DEDICATES FIVE COURTS AT PGA NATIONAL

The United States Croquet Association (USCA) has five new croquet courts to go along with its new headquarters at PGA National in Palm Beach Gardens, FL. The association of 250 croquet clubs across the country with more than 3,000 members recently moved its headquarters from New York to Palm Beach Gardens. The new Croquet Club at PGA National was put into service quickly with the US/International Croquet Challenge Cup and the USCA National Club team championships in April.

"Operating from the new headquarters facility with its great croquet courts, its fantastic sporting environment and the amenities of the PGA Sheraton Resort, I am confident that USCA will meet its projected goal of 1,000 clubs and over 10,000 members by 1990," said USCA president Jack Osborn. In addition to the Croquet Club, PGA National also features four championship golf courses, 19 tennis courts and the Health and Racquet Club.

The croquet courts were constructed by Luke Majorki, superintendent of PGA National Golf Club, to the same specifications as the 72 putting greens on the golf complex. Majorki's assistant, Tom Smith will oversee maintenance of the croquet courts.

Managers of sports facilities interested in adding croquet courts or clubs are invited to contact USCA, 500 Avenue of the Champions, Palm Beach Gardens, FL 33418, (305) 627-3999.

SOCIETY CREATES TURF AWARD IN HONOR OF NSTC'S GRAU

An award to recognize significant career contributions in turfgrass science will be presented for the first time this year by the Crop Science Society of America in honor of Fred V. Grau, chairman of the National Sports Turf Council (NSTC).

The Grau Turfgrass Science Award will be presented during 1987 to an individual whose contributions may include outstanding research, teaching, extension, commercial, administrative activities, or a combination of these activities.

Criteria for the award consist of significance and originality of basic and/or applied research, teaching ability and effectiveness, planning and implementation of extension programs. Other standards for the award are the development and implementation of significant industrial programs, administrative ability and effectiveness, and/or impact of activities in turfgrass science and management.

Grau was the first extension turf specialist for Pennsylvania and later became director of the United States Golf Association Green Section. Most recently he has been active in establishing the National Sports Turf Council, a non-profit foundation to disseminate information on athletic field safety within the U.S. The organization is currently building an endowment to support research relating construction and maintenance of sports fields to player safety.

OMC APPOINTS STAPLES TURF MARKET MANAGER



Clarke Staples, a 24-year veteran of the turf industry, has been appointed market manager-turf by OMC Lincoln, manufacturer of Cushman and Ryan turf care products.

In his new position, Staples will work with the company's district sales managers as well as distributors of Cushman turf trucksters, Ryan turf maintenance equipment and Front Line mowers. His duties will include sales training and tracking sales performance. Staples has worked for the company for more than 14 years, most recently as field sales manager.

LEBANON CHEMICAL CELEBRATES 40TH ANNIVERSARY

Lebanon Chemical Corp., a national formulator and distributor of fertilizers and pesticides located in Lebanon, PA, celebrated its 40th anniversary in April. The company was founded by Vernon Bishop in 1947 to supply Pennsylvania farmers with fertilizers. Today, the company reaches far beyond the borders of Pennsylvania and into both professional and homeowner lines of fertilizers and pesticides for turf and landscape maintenance.

One of its early breaks was when Sears and Roebuck asked the company to formulate its line of turf fertilizers for the Northeast. One merchandizer after another asked Bishop to formulate and package lawn and garden fertilizers. It wasn't long before Lebanon's turf and landscape business grew larger than its agricultural business.

Today the company operates 48 plants in seven states and employs more than 700 people. In addition to manufacturing Sears products, Lebanon markets its own brands of chemicals and fertilizers to the sports turf market, including Country Club, Greenskeeper, Green Pro and Turfmaster brands.

RINGER APPOINTS SCHULZ TO SPEARHEAD NEW PRODUCT

The age of biotechnology has reached the turf market and some impressive changes are taking place as a result. Ringer Corporation of Minneapolis, MN, is restructuring to push a natural soil conditioner with thatch- and disease-control capabilities called Lawn Restore. Udo Schulz, former president of the \$200-million Wagner Spray Tech Corporation, has been hired as president and chief executive officer of Ringer and backed with a \$1-million promotion budget.

"The scope of the company's operations has been regional in the past," Schulz said. "It lacked marketing and financial resources for a national roll-out of its products. The new management team intends an aggressive and rapid expansion of its marketing efforts." Schulz is a certified public accountant and earned his M.B.A. from the University of Cologne, Germany.

Lawn Restore is a bio-organic lawn nutrient product that controls necrotic ring spot and other patch diseases as well as encouraging the natural breakdown of thatch. It has been tested in six midwestern and northeastern markets for the past two years.

Company founder Charles Judd Ringer remains a director of the corporation while relinquishing the positions of chairman and president.

UNIVERSITY PUBLISHES ATHLETIC FIELD GUIDE

An 18-page guide to athletic field construction and maintenance has been published and is now available from the Minnesota Extension Service. The comprehensive booklet, written by three University of Minnesota turf specialists, covers installation, renovation and maintenance of cool-season athletic fields. Color photographs and numerous drawings help illustrate the text.

Dr. Donald White, D.H. Taylor and G.R. Blake wrote the publication with the support of numerous state turf organizations, The Toro Company, Lesco, National Mower Company, Peterson Seed Company and Turf Supply Company. Copies are available for \$1.00 each from The University of Minnesota, Distribution Center, 3 Coffey Hall, 1420 Eckles Ave., St. Paul, MN 55108.

CHALKBOARD

REDUCE DISEASE PROBLEMS WITH THE RIGHT SEED

Heavily-used athletic fields and golf course fairways need regular touch-up seeding throughout the year to repair divots and traffic damage. It's a good opportunity to increase the disease resistance of the turf and reduce maintenance levels says Dr. Richard Hurley, vice president of Lofts Seed Inc.

The worst way to select turf seed is by its price, says Hurley, especially when you consider seed is one of the lowest cost items in a turf maintenance budget. Improved resistance to diseases and insects can quickly return the extra cost of the seed to the buyer.

For more than 50 years, breeders have been continuously improving the disease resistance of seeded turf varieties. Each year advances are made. To continue to buy and use the older common varieties forces the turf manager to cure disease and insect problems when he could prevent them.

The first question to ask yourself when selecting seed is how much is the field or site used? A field with daily use should be a blend of improved perennial ryegrasses, says Hurley. With regular touch-up seeding the resilient, fast-germinating ryegrass will provide a dense turf cover. By using the most recent generation of perennial ryegrasses, most problems with brown patch and leaf spot will be avoided. Some of these ryegrasses are Palmer, Prelude, Gator, Citation II, Omega II Manhattan II and Tara. Hurley cautions that the names of some perennial ryegrasses may be more familiar to you, but they do not have the qualities of the newer ryegrasses. The newer ryegrasses grow slower, mow cleaner and have more disease resistance.

For fields with three to five events per week, Hurley recommends a mixture of turftype tall fescue (90%) and Kentucky bluegrass (10%) or turf-type tall fescue (80%), Kentucky bluegrass (10%) and perennial ryegrass (10%). Improved varieties of each type of turfgrass should be used to obtain the greatest disease resistance.

Improved turf-type tall fescues are vastly superior to the common K-31 tall fescue used for pastures and roadsides. Turf breeders have developed varieties with improved resistance to leaf spot (net blotch). Examples are Arid, Apache, Bonanza, Rebel II and Tribute. Overseeding two to five times per year is recommended to help the turf recover from damage.

TIPS FROM THE PROS

For the stadium field, used once a week for home games, the recommendation is Kentucky bluegrass. In the cooler regions of the country, Kentucky bluegrass will spread to fill in damaged patches of turf without frequent overseeding. The latest varieties of Kentucky bluegrass have improved resistance to stripe smut, dollar spot, leaf spot and powdery mildew. Some of these varieties are Adelphi, Baron, Classic, Eclipse, Enmundi, Georgetown, Glade, Merit, Nassau, Princeton 104, Ram I and Victa.

Lists of recommended turf seed varieties are available from your local extension agent and they change every year. Make a practice of obtaining a new list each year before ordering seed.

Try as they might, turfgrass breeders have had only limited success developing Kentucky bluegrasses that resist the fusarium complex and perennial ryegrasses and turftype tall fescues that resist brown patch, red thread and *Pythium*. The problem is these diseases are difficult to reproduce consistently on turfgrassses during selective breeding trials. A variety that seems to possess resistance in one trial gets wiped out in another trial.

The search for turfgrasses resistant to all major diseases continues at research stations across the country. Nevertheless, great progress has been made and sports turf managers should apply these advances to improve the efficiency of their maintenance programs.

SLOW-RELEASE NITROGEN REDUCES THATCH IN FLORIDA

Year-round play is the rule rather than the exception for most Florida golf courses. Except for a few weeks in the fall for overseeding with ryegrass and a few weeks in the spring for the bermudagrass to come back to life, superintendents keep their courses impressively groomed to meet the ever-rising standards of the tourist golfer.

A major concern of superintendents during the summer season is thatch and its impact on irrigation, disease, insects and playability. High temperatures and humidity encourage bermudagrass to build up thatch. Some superintendents verticut every week or two to control thatch levels on their courses.

Dr. Jerry Sartain, a University of Florida researcher, has discovered that the type of nitrogen applied to bermudagrass can affect the rate of thatch build-up. Since Florida superintendents often apply 15 to 20 pounds of nitrogen per 1,000 square feet each season, Sartain decided to test three fertilizers for their effect on thatch—ammonium sulfate, sewage sludge and isobutylidene diurea (IBDU). He found the IBDU produced the lowest level of thatch accumulation among the three. Responding to Sartain's results, a number of Florida superintendents have increased their use of the synthetic organic IBDU.

Stanley Carr at Gulf Stream Country Club, Gulf Stream, FL, likes to restrict thatch to one-fourth inch on greens and no more than one-half inch on fairways. Carr first tried IB-DU to eliminate the fluffiness of his bermudagrass fairways. He replaced a complete 16-4-8 fertilizer with a 15-0-15 fertilizer containing ten units of IBDU. "When a member takes a divot now," says Carr, "the roots are right there and the recovery rate is very rapid."

He also finds the long residual and low burn potential of his new fertilizer program to be helpful. "I have more flexibility in scheduling applications," Carr states. Fertilizer can be applied in the morning and not followed by irrigation until the evening without burning the turf or losing much of the nitrogen to volatilization. He also uses the same formulation for shurbbery and trees—including lots of palms.

Fred Klauk, Jr., who is responsible for maintenance of all four Florida TPC courses—Sawgrass, Monte Carlo, Eagle Trace and Prestancia, needs the application flexiblity of a slow-release fertilizer. "A tournament requires 28 days of special work, two weeks before play and two weeks afterward for cleanup," says Klauk. "The Pro-Am days are the toughest. On Wednesdays, Thursdays and Fridays, we barely have time to mow the greens before the golfers tee off. Then we can't get back on the courses for maintenance until late in the day. Our crews begin at 4:30 a.m. and don't finish until 10:00 p.m."

Each year the PGA courses use 15 to 20 pounds of nitrogen per 1,000 square feet of nitrogen, largely slow-release, on the greens. The fairways receive a 15-1-15 fertilizer with five units of IBDU seven times yearly and during months of heavy winter play.

One of Klauk's former staffmembers, Scott Bell, who is now superintendent at Bent Pine Golf Club in Vero Beach, likes the slowrelease fertilizer for playability. "I can mow at low heights and maintain smooth greens," states Bell. "We never get a flush of growth which affects the roll of the ball."

HEAVY-DUTY TURF VEHICLE



E-Z-Go has built the GXT-1500 turf vehicle to withstand years of daily use at universities, parks and golf courses. Rugged, diamond-plated steel panels secured to a tubular-steel frame enable the vehicle to carry up to 1,500 pounds of cargo. An 18-hp, two-cylinder engine drives the automotivetype, fully-synchronized five-speed transmission. A single shift lever makes the vehicle easy to drive.

The unit is adaptable to a wide range of attachments such as topdressers, sprayers, and aerators, including the 19-cubicfoot bed with removable sides and tailgate. Full instrumentation and a wide range of options and accessories are available.

E-Z-GO, TEXTRON

Circle 144 on Postage Free Card

SUBSURFACE IRRIGATION

Where conditions are poor for surface irrigation or water pressure is too low, subsurface irrigation may be the answer. Leaky Pipe is a porous, flexible rubber pipe which acts like a wick when placed in the soil. The capillary action of the soil slowly draws water from the pipe. Surface evaporation is eliminated and less water is required for turf and plants.

The rubber pipe is easily installed with a narrow trencher or vibratory plow. Although soil texture determines the depth and spacing of the pipe, it is normally installed less than four inches deep. Freezing will not cause the rubber pipe to burst.

A water meter allows the flow of water to be recorded. A steady, low volume of water provides plants with a constant supply of moisture without causing moist conditions at the soil surface. Saline water is less of a problem with a subsurface system.

AQUA FLOW, INC.

Circle 145 on Postage Free Card 34 sportsTURF

PRODUCT UPDATE

GREENS FERTILIZER

A new fertilizer, which has been test marketed in Florida with excellent results, is now available from Growth Products, Ltd. The new product, 18-2-8 with CRN, is specifically formulated for greens.

The product contains 50-percent slowrelease nitrogen form Nitro-26 CRN, a soluble methylene diurea and new P-K compound. The greens fertilizer is a solution with low viscosity. "The specifications on Growth Products 18-2-8 allow us to meet or surpass the requirements for greens," says Lee Padgett, sales representative of Howard Fertilizer, a Growth Products distributor.

GROWTH PRODUCTS

Circle 146 on Postage Free Card

LIQUID NEMATICIDE



A new liquid formulation of Nemacur for control of nematodes on golf courses and other large turf areas has just been released by Mobay Chemical Co. Nemacur 3 can be tank mixed with fertilizers and other pesticides for convenient one-step treatments to golf course fairways. The nematicide can be applied with any standard liquid sprayer.

Only three to four gallons of the product are needed per acre, followed immediately with at least one-half inch of water to move the chemical into the rootzone. Only 9 to 12 fluid ounces are needed for 1,000 sq. ft. of turf area. Nemacur 3 comes in five gallon containers.

MOBAY CHEMICAL CORP.

Circle 147 on Postage Free Card

ROTARY BLADE GRINDER



Sharp blades allow rotary mowers to cut turf cleanly without ripping the foliage. The Rotary Blade Grinder accurately sharpens both right or left hand blades to the correct bevel with a fine hollow grind for maximum cutting effectiveness.

The sharpener adjusts for blades of various thicknesses. A 1/2 hp reversing motor and guard enables mechanics to sharpen blades quickly and safely. The eightinch grinding wheel is directly driven by the motor without belts.

NEARY MFG., INC. Circle 148 on Postage Free Card

SEASON-LONG CRABGRASS CONTROL

The key to controlling crabgrass, goosegrass and other annual grasses in cool-season turf is keeping their seeds from germinating. To do this a barrier of preemergence herbicide must be present in the soil throughout the germination period. For many herbicides, more than one application per season is needed to accomplish this.

When multiple applications of preemergence herbicides are impractical, you can still get season-long control with Team from Elanco. A new, three-pound rate for granular Team provides 16 to 18 weeks of control in one application.

The 2G formulation can be used on a wide variety of cool-season turfgrasses including Kentucky bluegrass, fescue, ryegrass and bentgrass. It will not harm nearby established ornamental trees and shrubs when applied at a rate of 100 to 150 pounds per acre.

ELANCO PRODUCTS COMPANY Circle 149 on Postage Free Card

Introducing the 7-Year Limited Warranty

For years we've had an open and shut case for quality in irrigation system valves. Now we're putting a promise behind our words.

The 8000BCR Series of contamination-resistant, 1" to 3" bronze valves is so tough and dependable that Weather-matic is backing them up with a new 7-year limited warranty!

But there's even more. Our direct burial, remote control valves are available in other models, too. The new 7000E Series offers competitively priced bronze valves in ³/₄" to 2" sizes. The 11000 Series features

1" to 2" sizes of high-strength, glass-filled plastic construction. Both carry 1-year limited warranties.

All Weather-matic valves are the normally-



What an opener!

closed type. Design features include a unique dual ported flexing diaphragm that minimizes clogging and malfunctions without traditional bleed tubes or channels. An easy-to-use manual bleed lever bleeds valves to downstream. And every valve is water pressure-tested before leaving the factory.

Weather-matic valves have been providing top performance around the country for years. Teamed up with our controllers, sprinkler heads and Rain-Stat[®], they work and work and work.

That's why more and more irrigation professionals say you can't beat the system when the one you choose is Weather-matic. For complete information, write or call today.

Sprinkler Division, Telsco Industries P.O. Box 18205 • Dallas, Texas 75218 214/278-6131



ROOKIES PRODUCT UPDATE

SPRINKLERS WITH CHECK VALVES



Buckner's 10600 Series Rotary Pop-up Sprinkler with Check Valve saves water and minimizes soil erosion in a wide variety of irrigation applications. The innovative, integral check valve feature reduces low head drainage caused by elevation differences.

Constructed from cast bronze, the Series 10600 impact drive rotary pop-up sprinklers provide corrosion-free, durable, yet economical performance. Select either single nozzle designs for reduced flow and precipitation rates or dual nozzles for balanced distribution and coverage.

Seven models are available in full or part circle for institutional turfgrass applications such as parks and golf courses.

BUCKNER

Circle 138 on Postage Free Card

PUSH BUTTON START TRIMMER



Flooding and awkward pull-starting make some gasoline-powered trimmers unreliable. Tanaka has attacked these problems with the Auto-Start 7000. Push-button starting and a fuel-injected choke system promote smooth starts.

A built-in battery for the starter is recharged with a remote battery charger when the trimmer is not in use.

The 13-pound trimmer also features automatic line feeding, a 1.1 hp high-torque engine, a 1.3:1 reduction gear drive and a solid-steel drive shaft. A nine-inch, four-tooth cutting blade is included with the trimmer.

TANAKA USA

Circle 139 on Postage Free Card

SLOPE MOWER



The Slopemaster has been designed by Kut-Kwik engineers for safe and efficient mowing of large, sloped areas in addition to standard flat terrain. A low center of gravity and tandem rear wheels provide the stability and traction necessary to mow slopes that would render conventional mowers unstable.

The Slopesmaster is available with either a 34 hp gasoline or 35 hp diesel water-cooled engine. A roll bar protects the operator from injury in the event of poor judgement or loose soil.

KUT-KWICK CORP.

Circle 140 on Postage Free Card

RESISTANT RYEGRASS

Jazz perennial ryegrass is the result of an extensive ten-year breeding program to improve insect and disease resistance of athletic field, park and golf course turf. The dark-green, fine-leafed ryegrass has demonstrated good to excellent resistance to brown patch, leaf spot, dollar spot, crown rust, stem rust, red thread and *Fusarium* blight. It also contains a high percentage of endophyte that discourages sod webworms, billbugs and chinch bugs from feeding on the leaves and crowns.

Mower blades do not shred the leaves of Jazz as they do some older perennial ryegrasses. It performs well when mowed between 1/4 inch to two inches on fields and fairways or when mowed as low as 1/8 inch on greens.

The turf also tolerates moderate shade and adapts well to a wide range of soil types, from heavy clay to pure sand and from moderately acid to moderately alkaline.

PICKSEED WEST INC.

Circle 141 on Postage Free Card

FLUID FUNGICIDE

Fluid Fungicide II from the ProTurf Division of Scotts combines two systemic fungicides to control four primary diseases on bentgrass, Kentucky bluegrass, annual bluegrass, perennial ryegrass and bermudagrass. The liquid is easily dispersed from standard, pressurized spray equipment and will not clog nozzles, filters or screens.

The liquid product prevents and controls *Pythium* blight, *Pythium* damping off, brown patch and dollar spot. It may be mixed or used in conjunction with some fertilizers and pesticides in a regularly scheduled maintenance program.

OM SCOTT & SONS Circle 142 on Postage Free Card

HARD SOIL AERATOR



Rotating, drill-like tines on the Promax aerator make vertical holes up to four inches deep in the hardest soils. Designed for small, compacted turf areas, the 22-inch-wide aerator produces shavings which decompose rapidly instead of soil cores.

The clean, vertical holes allow air, water and fertilizers to penetrate the heart of the root zone. The compact unit weighs 150 pounds and travels on three wheels.

GREENWOOD CORP. Circle 143 on Postage Free Card

Terra-Freen® **BASEBALL FIELD TOP DRESSING & SOIL CONDITIONER**

Reduce game delays by using quick absorbing Terra-Green®

Terra-Green[®] products are:

- 1. ABSORBANT-Absorbs and slowly releases its weight in water.
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- 3. EASILY HANDLED-in 50 and 2000 pound bags or in bulk.
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KEEP SOME ON HAND FOR THOSE RAINY DAYS. SPRUCE UP YOUR SKINNED AREAS THIS SPRING.

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Circle 119 on Postage Free Card

ROOKIES PRODUCT UPDATE

OVERHEAD VALVE ENGINE OPTION



The Honda GXV340 overhead-valve, fourstroke engine is now available as an engine option on Bunton's 36-inch to 52-inch commercial mowers. The II hp overheadvalve, vertical-shaft engine uses up to 30 percent less gas and oil and weighs as much as 25 percent less than comparable sidevalve engines.

Vibration and noise are minimized with

this engine due to dual synchro-balancers and superior muffler design. The trochoid oil pump provides oil under pressure to the upper crankshaft bearing and rocker arms ensuring long life to these components. Other engine features include cast iron cylinder sleeves, ball bearing supported crankshaft and chrome top piston rings for maximum engine life.

Bunton also offers other II hp, 12.5 hp and 16 hp engines as four-cycle options on its mowers. An eight hp, two-cycle engine is also available.

BUNTON COMPANY

Circle 134 on Postage Free Card

COMMERCIAL ROTARY MOWER

A 61-inch out-front mowing deck has been added to Scag's line of commercial mowers. Powered by an 18 hp Kohler engine with a four-speed gear box, the unit can mow



at a maximum ground speed of six mph. The wide deck and increased speed can increase mowing efficiency by as much as 30 percent.

A twin power belt system prevents belt slippage even in wet cutting conditions. Modular construction simplifies on-site tire changes, spindle bearing replacements and other repairs which cause costly downtime.

SCAG POWER EQUIPMENT, INC. Circle 153 on Postage Free Card

