

# Solve your water coverage automatically



by John Hutton

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Hollywood-By-The-Sea, Fla.

**W**e superintendents in southern Florida have been slow to realize the importance of irrigation in our area because we have what appears to be abundant rainfall. Although southern Florida receives approximately 60 inches of rainfall a year, they are unevenly spaced. We have, in reality, two arid periods: one during July and August, and the other running from November to May, when our courses receive most play.

Also, the sandy conditions of the majority of Florida soil change the water requirement of the turf on the same course many times. This requires a complex watering program which can only be achieved through an automatic irrigation system—which was recently installed here at the Diplomat.

One major problem that I, and others have had here, has been determining water requirements. The golf architects and the irrigation engineers employed on most installations were from northern states and were unfamiliar with the requirements of turf in south Florida. Thus, it has become up to the superintendent to evaluate just what is needed.

Water needs are based on a combination of factors:

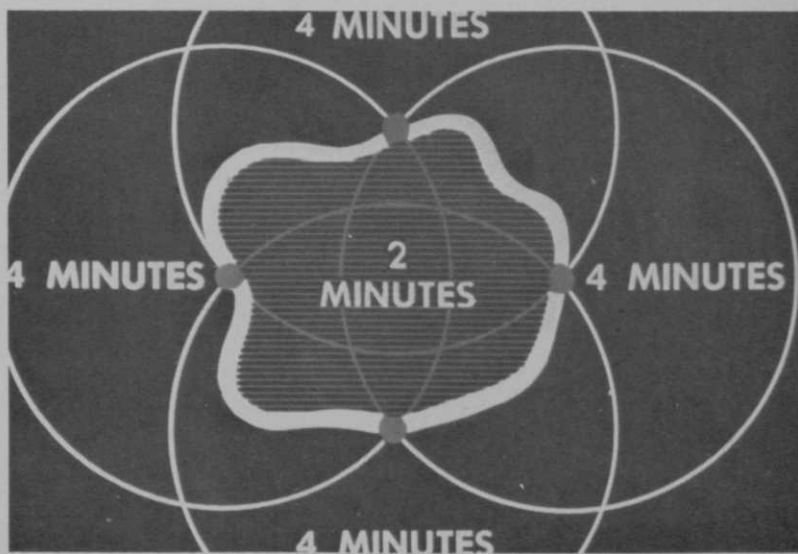
1. Size of the area to be irrigated.
2. The weekly requirements of each area of the course.
3. The amount of time to be allocated to program precipitation.
4. Water supply needs for other than golf-course irrigation.

These are the bases on which the engineer must figure pumping capacity, line sizes, sprinkler nozzle sizes, and the other technical aspects of an installation. A rule of thumb for electric pumping requirements is one hp per acre using the most efficient (86 per cent) pumps with shallow well or lake inverts. (Remember, lake, pond or fresh stream water is far superior to well water because it acts as a clearing pool.)

Superintendents must consider the location of the timing devices used to control the valves of their systems. The trend has been to put all or as many

as possible of the controls in one location (with the theory in mind of making as few stops as possible to shut off systems during rainy days, and for re-programming).

This method has some basic disadvantages: It requires a good deal more wire and tubing in installation since each time clock that monitors the area has to be connected up individually. Furthermore,



Two-speed heads now precipitate twice as much on slopes, banks and green approaches. So if a green has four heads equidistant around the perimeter of green, water distribution will be evenly proportioned.

when parts of the course must be irrigated during playing hours, the superintendent operating this centrally-located control system has no way of knowing if anyone is in those areas. He must send out another man to clear the area.

To overcome these problems, we installed the Vari-Time system, made by Moist O'Matic, at the Diplomat. Timers or controllers are out in the zone area, placed so that the operator can see all the area being serviced by this particular controller. (Photo p. 53.) A central control clock is used as a master timer to energize the zoned control timers. Thus, we can have the advantages of both zone and central control, and the savings on clocks alone for



each controller pays for the extra wire involved.

When planning a system, some means should be incorporated—either by large storage tanks or small jockey pumps—to keep the lines loaded and to afford small amounts of water when needed. The theory of running 50, 60, 75 or larger horsepower motors to supply a one-inch hose outlet through a dampered control is ridiculous.

Before installing new systems, management should also investigate new developments in automatic sprinkler systems. One such advance, I discovered, has solved another problem which has always beset superintendents.

Until recently, most greens that were automatically or manually watered received more than twice the amount of water on some areas of the putting sur-

face than they did on the banks. With the trend to increased use of golf cars, these banks and slopes became a more serious problem, and required special attention by the irrigating engineer. Many superintendents requested that sprinklers be installed in back and on the sides of the greens to alleviate this problem. Now, however, two-speed heads have been developed which precipitate twice as much water on the slopes, banks and approaches of a green than they do on the putting surface. So, if a green has four heads equidistant around the immediate perimeter of the putting surface, the distribution will be evenly proportioned.

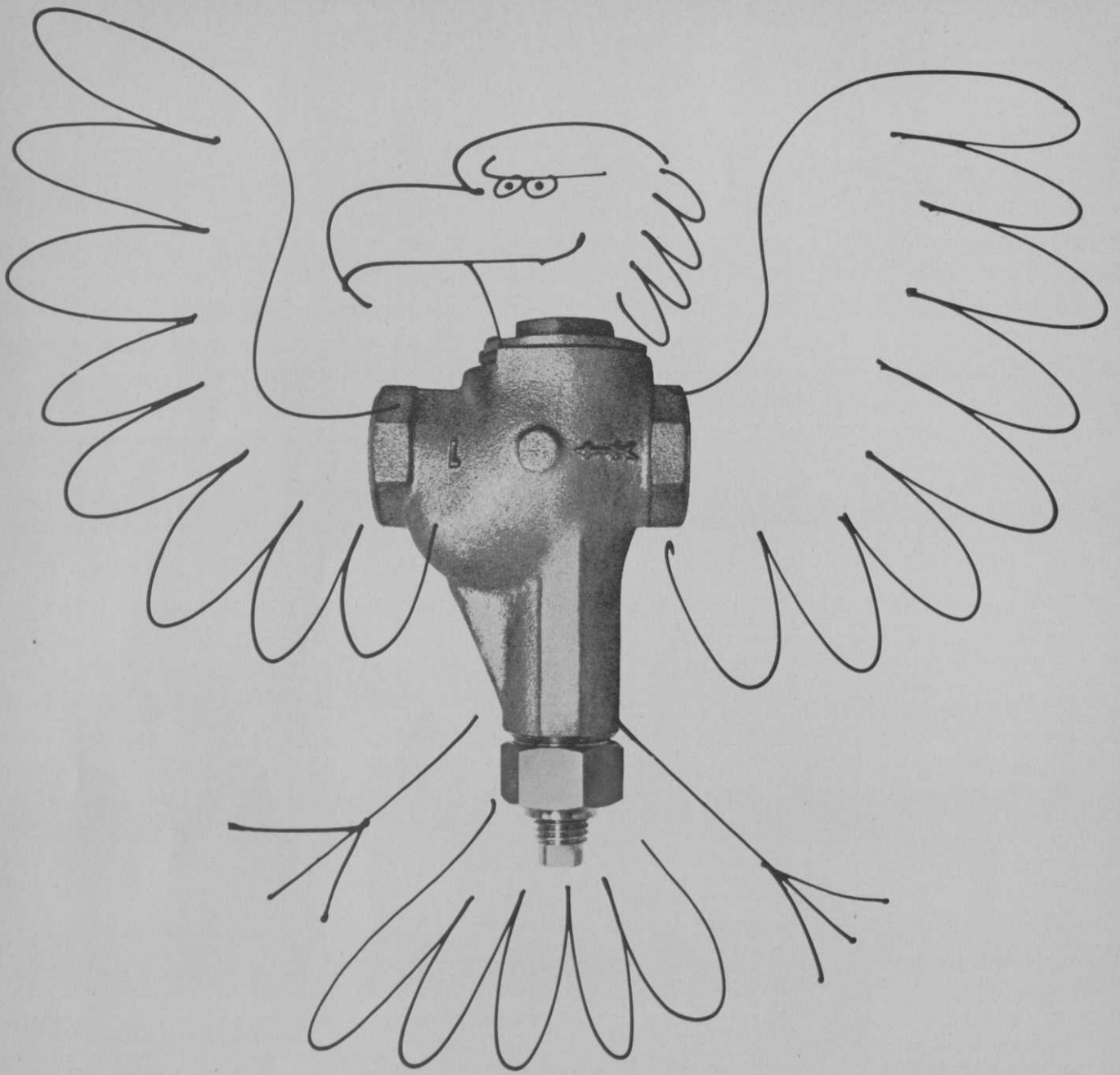
I was surprised to discover just how little water is actually needed to grow superb grass when the water distribution is programmed to suit the im-



Photo at left shows how underground pipe for automatic irrigation system was laid at the Diplomat. Picture above illustrates the use of one of the many controllers that have been spotted at various zone areas. Each zone controller enables the operator to see all of the area being serviced. A central control clock is used as a master timer so that the course can have the advantages of both central and zone control.

mediate needs of each area of the course. You will also discover, as I did, that weeds and diseases become minimized, resulting in the saving of dollars previously spent for herbicides and fungicides. I think in the future we can expect even additional advances in automatic irrigation, such as truly effective tensiometer-activated systems for night watering. I also think it has possibilities for applying fertilizers, insecticides and fungicides.

I want to warn other superintendents, however, not to rush into or be led into an inadequate, out-dated irrigation plant. Take enough time to assess your requirements and be prepared to spend lots of time evaluating all phases of the plans and different types of equipment. It will cost less in the long run if you install a system that anticipates *all* your watering needs. □



## THE WATER HAMMER DAMMER

At heart it's our brand new Thermo-Hydraulic remote control valve for sprinkler systems. The TH valve has a heat-motor that opens and closes gradually, thus reducing sprinkler wear and pipe breakage caused by the water hammer common with solenoid valves.

Here are some other colorful features of this species. It flushes itself and there are no orifices to clog: so it can use lake or sewage

effluent water without trouble.

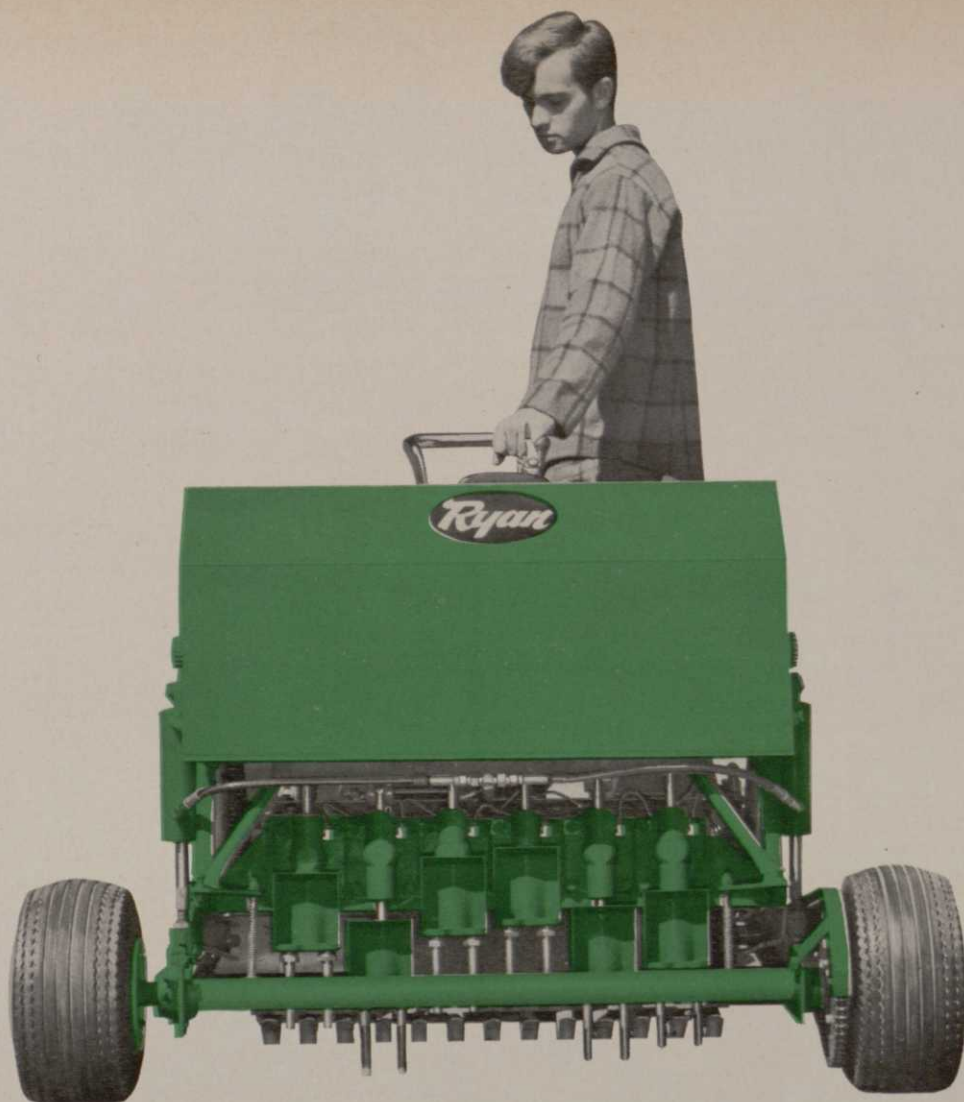
It's electrically actuated from a Rain Bird electronic controller, from which it can be drained automatically—or manually, at the valve, without pressure.

It has a flow control, and is made of brass, bronze and stainless steel.

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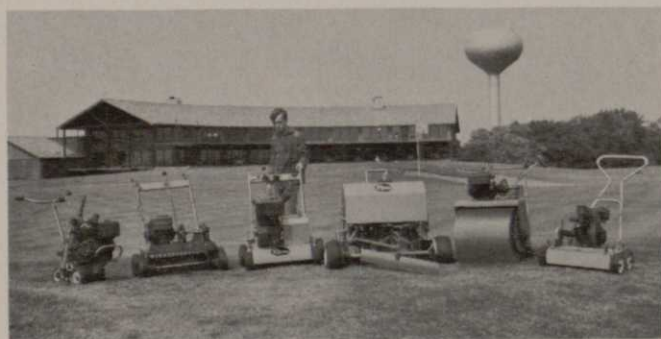
Or write us: Rain Bird, Glendora, California 91740





## "Keeping a 7,400-yard course up calls for rugged Ryan equipment."

(Says Milt Wiley, General Manager of Hazeltine National Golf Club, Chaska, Minn.)



**Ryan helps 18-man grounds crew whip course into peak shape in seven years.**

Hazeltine is a big, beautiful golf course nestled in a lush Minnesota valley. Only seven years old, it already is rated among pros as one of the world's most challenging courses. Its 7,400 yards is also a challenge to its 18-man grounds crew.

"We knew a course this size would require rugged turf-care equipment," said General Manager Milt Wiley. "So, we started out with a fleet of Ryan machines: a Rollaire, Ren-O-Thin, Mataway, Renovaire, Greensaire, Spikeaire and a JR Sod Cutter. We've since added another Mataway and a Greensaire."

The turf-care program consists of aerating in the fall. Instead of top dressing, they grind up the rich aerating cores with a Ren-O-Thin. About three times a year they use the Greensaires. Mid-summer they "spike" the course. To complete the program, they have a 60,000-sq.-ft. fairway sod nursery where the JR Sod Cutter is used.

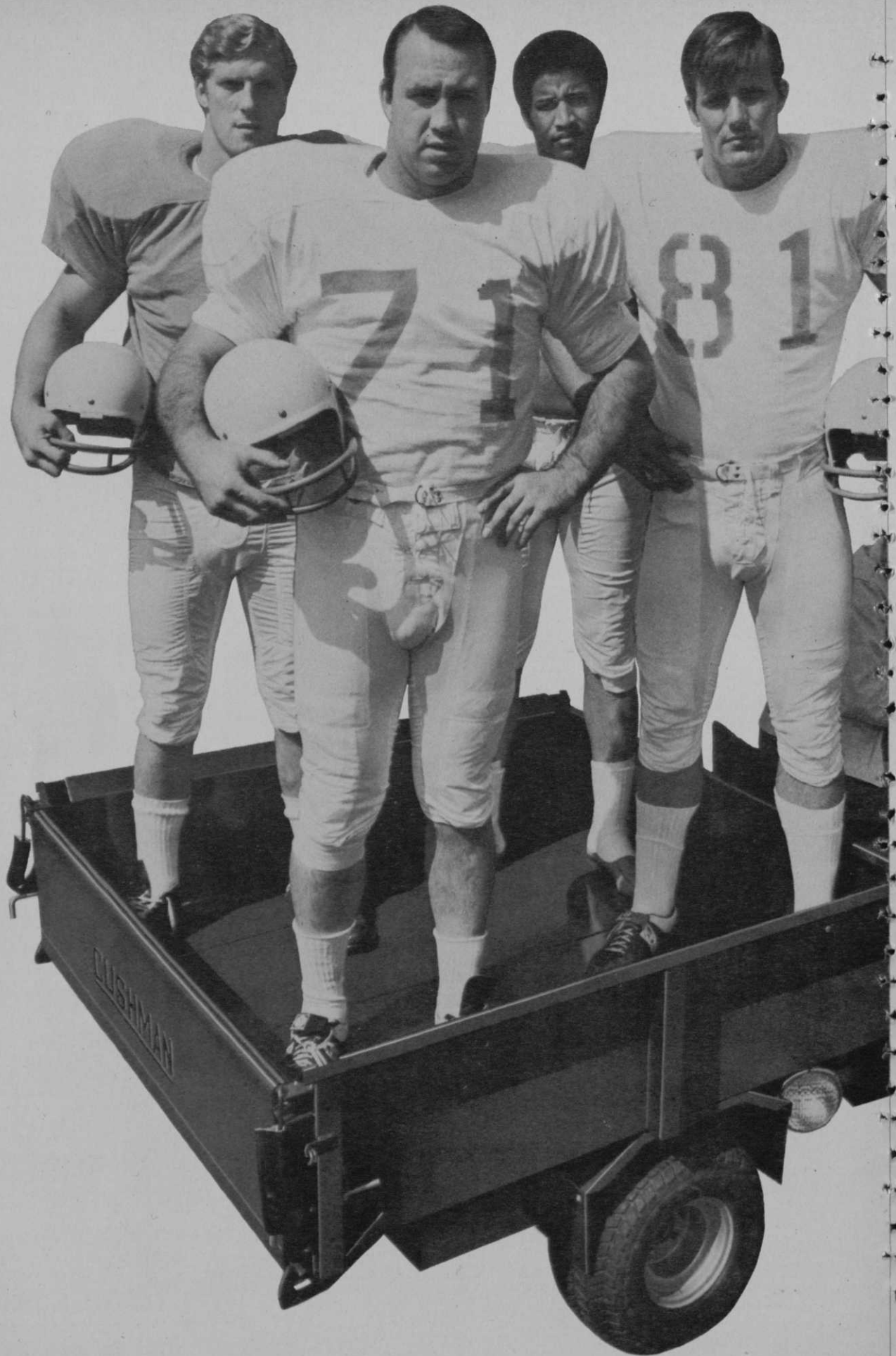
Thanks to a great crew, and Ryan Equipment, Hazeltine's turf reached peak condition in just seven years.

*Interested in turf-care? Write for a Ryan 68/69 Catalog.*



**TURF EQUIPMENT**

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# The New Cushman "Big Bed" has a wider, longer bed that tackles 1000 pounds! Get the picture?

The new Cushman Big Bed Turf-Truckster has more carrying capacity than ever before! The longer, wider 53" x 57" bed has plenty of room for two mowers, plus other equipment, yet the Big Bed has the same tiny 15' turning circle as the famous regular Turf-Truckster. And the Big Bed is rugged enough to tackle 1000 pounds of whatever you throw at it—men, mowers, sand, gravel, anything. It carries two greens mowers easily; special ramp accessory makes loading a snap.



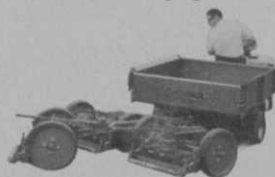
If you're working with sand or fertilizer or such, the versatile Big Bed is designed to hump it or dump it. A special new horizontal ratchet mechanism allows one man to dump the full 1000 pound payload quickly and easily. A specially-engineered tailgate opens from top or bottom. When it opens from the top, the gate swings out to meter sand or gravel being dumped. And it latches shut when slammed. Makes dumping a fast one-man job. It's ideal for top-dressing with calcide clay.



The Turf-Truckster is our famous 18-horsepower all-purpose grounds maintenance vehicle, with six speeds forward through a dual-range transmission. Equipped with optional power takeoff, the Turf-Truckster can become a complete self-contained spray rig for greens spraying or hand spraying of trees and shrubs. The specially-engineered spray rig includes a 16-foot boom for fast, efficient one-man greens spraying. The Turf-Truckster's pulling power and maneuverability make it an ideal towing vehicle for gang mowers. It'll mow where big tractors can't go.



If you'd like to recruit a quadruple-threat vehicle for your groundskeeping team, scout the new Big Bed at your Cushman Dealer's. Or send the coupon for complete information today. If you're interested in the players, they have already been signed.



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## GCSAA show products

Continued from page 26

**Mallinckrodt Turf Products** introduces Vitalon, a turf and ornamentals foliar colorant, which consists of a water-based vinyl-acrylic preparation. According to the manufacturer, Vitalon color will last through a winter season, will not rub off or stain and is safe on all growing or dormant plants. It is non-flammable, harmless to humans and pets and odorless. Mallinckrodt will show again the Spray-Hawk mobile turf sprayer, first introduced in 1967.

**Stauffer Chemical Company** makes Princess Betasan, a pre-mergence herbicide for crabgrass and *Poa annua* control, now approved for fall application, for the control of crabgrass the following spring and summer in either the liquid or the granular formulation.

**Thuron Sprayer Mfg. Company** makes a fiberglass sprayer tank called New Lark-100 Sprayer. The tank holds 100 gallons and has 40 GPM centrifugal pump with 50 psi pressure and 3hp engine. Both sprayer and boom can be adapted to fit any type of Truckster.

## Accessories



**Fore-Par Mfg. Company** offers tee-to-green accessories. New this year are a greens flag, Quick Change, with built-in tubular swivel and a ball ejector practice green marker. The flag has a polyethylene tube sewn into the hoist portion. To change flags, the nut at the top of the pole is unscrewed, the flag slips off and is replaced with the new one. The Practice Green Marker is 28 inches high and is available in white with molded green numbers or in clear amber with white numbers. When the marker is raised, the ball ejects onto the putting green.

## Maintenance vehicles



**E-Z-Go Car Division** offers the GT-7 truck, which has as standard equipment, double seats with back rests, automotive steering, corrosive resistant dump body, trailer hitch, dual headlights, oil pressure indicator and fuel gauge. Optionals include a ramp loader, spray boom, seed spreader and fiberglass cab.



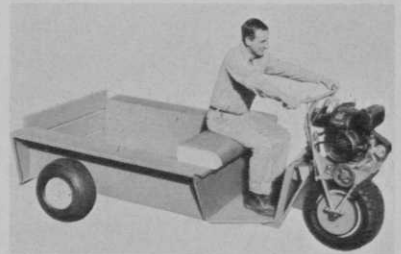
**Gator Trailers Corp.** is showing the Superintendent (model 211) utility trailer for off-highway use only. The trailer is 96 inches long, 54 inches wide, 8 inches high and has a cubic area of 24 cubic feet. Features include: solid steel axle, demountable hubs, tilt bed, chain bed to tongue lock, a winch with poly line and snap hook. Price: \$205 f.o.b. Jacksonville.



**Gravely** is showing two commercial tractors, the Commercial-10A and Gravely-430 Commercial. The Commercial-10A can be ridden or walked and features an all-gear and steel shaft drive and instant controls. New highlights are a self-cleaning feature on the air cooling system, improved balance, larger tires, rear hitch, which makes attaching implements simpler, increased torque, improved clutch. The Gravely-430, a 12 hp riding tractor, has an all-gear drive and steel shaft, extra large gas tank, and three-lamp headlights. Optional are the summer surrey and winter cab.



**Lindig Mfg. Corp.** will exhibit the Model D-15 soil shredder, mixer and screener. Materials are transferred from the hopper on the conveyor belt to the elevated shredding assembly. All materials are shredded, blended and aerated. The unit can be used with an optional screen attachment for high capacity production.



**Smithco, Inc.**, introduces the Ranger-23, an enlarged model of the Red Rider mobile work cart, but with extra features. The three seat vehicle has a rated capacity of 23 cubic feet, a heavy-gauge steel ramp loading tailgate. The carrier floor is 8 inches from the ground. Powered by an 8hp engine, cart runs on a friction clutch.



**Vandermolen Export Company** introduces the Diadem Fertilizer Spreader, model K600, which features a 1,600-pound capacity conical hopper. It also has a centrifugal spinner capable of spreading powder, seeds and granular fertilizer in a 50-foot swath. The width of the spread can be set from 3 to 32 feet. Coverage can be regulated from 4 pounds to 2,600 pounds

Continued on page 106



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