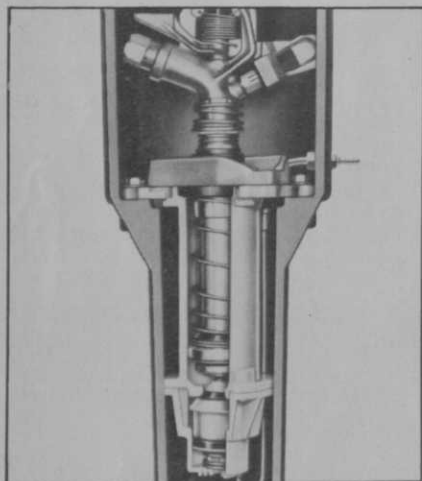


RAIN BIRD SPRINKLER MFG. CORP. presents the new Stopamatic valve in head rotor sprinkler, which eliminates drainage through low sprinkler heads in systems when the water is turned off. This rotor is ideal for golf course applications. The valve is located at the base of the rotor, yet is easily removed from the top of the case for maintenance. The valve prevents line surges by keeping the line filled with water and increases the life of sprinkler components. In addition to the added feature of the valve, the rotor is equipped with a patented wiper seal that cleans the rotor stem each time the head operates to prevent the head from sticking in the raised position. Improved range nozzle gives maximum distance of throw, and double slotted spreader nozzle increases uniformity. Rotor also provides positive rotation, minimum pressure loss and easy field maintenance.

Circle No. 101 on reader service card



RYAN TURF EQUIPMENT presents the new Greensaire II aerator, which is said to aerate an average size green in less than one hour. According to the company the Greensaire II can remove about two cubic yards of soil and thatch per 5,000 square feet. Its lubrication system recirculates the grease, eliminating lubricating the aerator after each green. The aerator has four sizes of coring tines.

Circle No. 102 on reader service card

EXEL INDUSTRIES, INC., presents the Hustler mower with dual hydrostatic transmission that lets the operator to mow around trees, under bushes and along walls without time-consuming gear shifting or



clutching. It cuts a 72-inch swath at infinitely variable speeds and can mow up to four acres an hour. Attachments include dozer, sweeper, snowblower and flail mower. The Model 272 as well as the hillside model 360, which stays level on slopes as steep as 30 degrees, are both now available.

Circle No. 103 on reader service card

UNIROYAL, INC., SPORTING GOODS DIVISION features golf balls in a can—a packaging first for this product. The program, created by New York design consultants Gerstman and Meyers, Inc, involves new graphics for the four packages of the Uniroyal dealer line, new physical packaging and new displays for shelf and counter selling. The four products in the line—representing balls of different qualities—emphasize the Uniroyal name as a unifying factor, with each package color-coded to distinguish it from the other three.

Circle No. 104 on reader service card



PERRYGRAF, a division of the Nashua Corp. has unveiled a new format in designing and marketing its Slide-Charts with Playback, a successful golf teaching device made for Billy Casper and Educa-

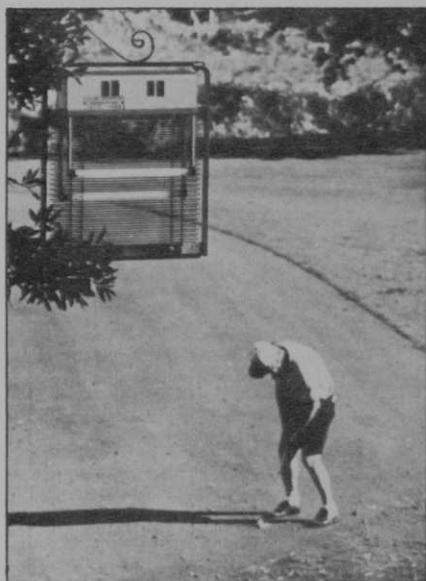
tional Golf, Inc. The Playback, produced by Educational Golf, Inc., uses a Slide-Chart Playback Analyzer, which, in conjunction with adhesive impact markers fixed to the face of a golf club, tells how to correct 22 common errors in the golf swing. The kit, including slide-chart, markers and Billy Casper's "Helpful Hints on Driving," comes in a handsome wallet case. The company states that these Slide-Chart Packages can involve almost any combination of slide-chart and supplementary materials. Their service includes the design of the total package as well as its manufacture. In addition to wallet-type container, the Slide-Chart Packages can also be put together in box, can, book, file folder, desk or counter holder.

Circle No. 105 on reader service card



GARDNER MFG. COMPANY provides a series of Model AG-360 units which, when located in strategic areas of a 24-hour golf course, attract flying insects through the use of fluorescent "black light" lamps, and the insects are electrocuted on the killing grids. The use of Gardner units completely eliminates the necessity of spraying for flying insects, which is not only ineffectual but can be hazardous to desirable wildlife and humans. A bonus is the fact that the harmless dead insects attract a large number of birds that feed on the dead insects, while also eating live insects during the daylight hours. Operating costs of the Gardner units are figured at pennies a day. The units

are ruggedly built of heavy-gauge aluminum for outdoor use and will provide years of low-cost, trouble-free service. Circle No. 106 on reader service card

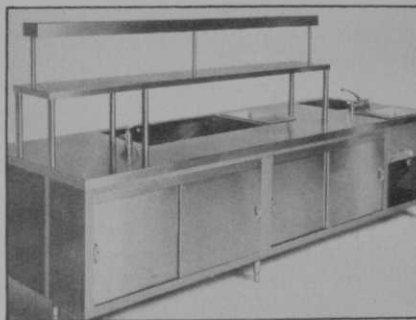


GOLF TECH, INC., distributes Golf Alarm, an electronic theft alarm that attaches to the golf bag and is set off by any slight movement of the bag. A built-in electronic motion sensor can detect the removal of a single club from the bag. When it does, the alarm emits a strong, very loud alarm, which will continue its piercing signal until the owner turns it off with the key provided. Two AA Penlite batteries power the unit which retails for \$19.95. Circle No. 107 on reader service card



DUKE MFG. COMPANY now offers the industry's first mass-produced and economically priced Chef's Unit. The same benefits of flexibility and engineering excellence, available in costlier, custom-made units, are available in the new Chef's Unit. Regardless of an individual chef's needs the Unit can be modified and adapted to fit special requirements. The unit is

available in either stainless steel or paint grip steel with baked on hammer-finish gray silicone enamel. Its one-piece body can incorporate plate storage cabinets, sliding doors, overhead shelves, sink with faucet, refrigerated sandwich unit, hot food well, soup station, sliding trays and other customized features. Circle No. 108 on reader service card



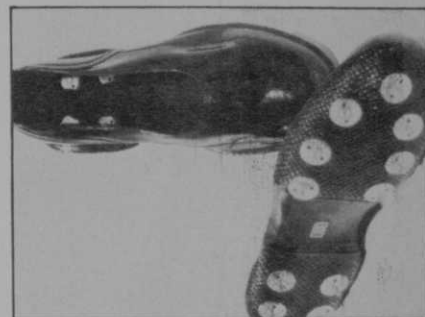
INFOTAPE, Div. of Continental Dynamics, Inc., offers Exercise and Your Heart in tape cassette or eight-track, which is an exercise program by a well-known heart specialist that uses golf and other sports. Information on how to take care of the heart, relating to exercise, also is included on the one-hour tape. It retails for \$9.95 and is being distributed only through pro shops. Circle No. 109 on reader service card



FORD MOTOR COMPANY presents its new Model 6500 tractor-loader-backhoe. The highly maneuverable 6500 can be ordered without the backhoe and used as a loader only with factory-installed weights replacing the backhoe

unit. Powered by a 70 net-flywheel diesel engine, the 6500's heavy-duty backhoe has a dig depth of 15 feet, 7 3/4 inches, a loader lift capacity of 5,000 pounds and 10,000 pound breakout force, and more than 15,500 pounds of working weight. Optional on the 6500 is an all-weather cab with heater and safety frame. Circle No. 110 on reader service card

WAUKEGAN OUTDOOR PRODUCTS now has available Dri-Foot Golf Rubbers for use when heavy dew or rain blankets the course. These attractive rubbers fit easily over street shoes and have seven sturdy steel golf spikes in the sole and four in the heel. All are replaceable. The new rubbers are available in sizes 7 through 13, with no half sizes, and retail for \$9.95. Circle No. 111 on reader service card



REYNOLDS FOUNDRY AND MFG. CORP., Sprinkler Division, is featuring its full- and part-circle solid brass impulse sprinklers and its aluminum stake combination. They are made in various models with adjustable diffuser screws, deflector shields, capable of watering up course areas to 80 feet in diameter. Circle No. 112 on reader service card



WITTEK GOLF RANGE SUPPLY COMPANY, INC., has a new golf club

continued

PRODUCTS continued

washer in its 1973 line that is designed to speed up the job of cleaning member's clubs, thus reducing labor costs. The unit has rotating, interlocking nylon brushes for cleaning irons without damage. Contoured wood cleaning brushes clean sole plates, faces, toes and heels in simple operation. Wittek's super club washer requires only 1½ square feet of floor space and operates on a regular 110-volt outlet. All working parts are rust resistant, and the tank holds 2½ gallons of water and has a drain outlet. The cabinet has a baked enamel finish. The unit sells for \$290 for the standard model, and with a coin-operated device is \$365.

Circle No. 113 on reader service card



F. E. MYERS & BRO. COMPANY, Div. of McNeil Corp., launches a new field sprayer, Model F42, which according to the company, effectively covers up to 300 acres a day with a two-side, 80 foot spray swath (40 feet each side), and features a 42 inch axial flow fan, 500-gallon tank and Myers 2C95 two-stage centrifugal pump, which delivers 200 pounds pressure.

Circle No. 114 on reader service card



POA from page 47

deficiencies exist. Germination and establishment of annual bluegrass from seed most commonly occurs in late summer. The superintendent, therefore, should accomplish most soil cultivation and vertical mowing operations, which disrupt the surface shoot density, in the spring when annual bluegrass seed germination is minimal. Using the more competitive cultivars also should be considered (Figure 2).

The cultural practices utilized by the superintendent to restrict annual bluegrass may not be totally effective, but if used properly they can go a long way toward limiting the annual bluegrass population.

Chemical control. A number of herbicides are phytotoxic to annual bluegrass, including benefin (Balan), bensulide (Betasan), calcium arsenate, endothall and DCPA (Dacthal). (Lead arsenate effectively controls annual bluegrass on bentgrass greens with better selectivity than the above five, but is not economical for extensive fairway turfs.) Unfortunately, all five herbicides lack the selectivity desired on bentgrass fairways for successful use. The margin of safety of the rate of herbicide needed for controlling annual bluegrass and the rate at which toxicity to the desirable species occurs is fairly good for Kentucky bluegrass and bermudagrass, but very narrow for creeping bentgrass.

The specific soil, environmental and cultural conditions that affect the degree of phytotoxicity to the desirable species is not well understood for these herbicides. We know that injury to the desirable species from inorganic arsenicals is more likely to occur (a) at acidic soil reactions, (b) under poor drainage conditions, especially finely textured, compacted soils (c) high soil phosphorus levels and (d) where creeping bentgrass is the dominant species. Unfortunately, similar information is not available for the other herbicides, because they have not been used as extensively or for as long a time as the arsenates.

Because of the uncertainties of potential phytotoxicity to desirable species, the following approach should be followed by those superintendents contemplating the chemical control approach for annual blue-

grass. The superintendent should test one or more of the herbicides on a small plot on one or more selected fairways that represent the conditions existing on the golf course. A 50- to 100-foot width across several different fairways will serve this purpose. This limited trial program should be conducted for three to four years to (1) give the superintendent the chance to learn how to properly use the herbicide, (2) obtain information concerning the effectiveness of the herbicide in selectively controlling annual bluegrass under the specific conditions on the golf course and (3) assess the potential phytotoxicity problems that may occur to the existing perennial species.

His evaluations over three or four years, will allow the superintendent to decide which one of the herbicides is most effective in controlling annual bluegrass without phytotoxic injury to the desirable species.

It is impossible to give a specific recommendation about whether to encourage or to control *Poa annua* that will apply to all golf courses. The previous discussion was presented to provide a basis for the superintendent's decision. If the superintendent chooses to use chemical control, he must bear in mind that the lack of information about selectivity and the extent of phytotoxicity suggests that an extensive chemical control program should not be initiated at this time on golf course fairways in the cooler regions where the dominant species is bentgrass.

On bermudagrass and Kentucky bluegrass fairways, a chemical control program should not be initiated without a small plot trial evaluation period under the specific conditions on the golf course under consideration. Also, renovation or reestablishment should be considered as an alternative by the superintendent on turfs containing predominantly annual bluegrass before the selective preemergence herbicide program for annual bluegrass control is initiated.

Most probably, the approach used by the majority of golf course superintendents is a combination involving cultural practices, which discourage annual bluegrass to a certain extent, but concurrently taking steps to minimize extensive loss of the existing annual bluegrass environmental stress. □