

is little the superintendent can do to keep soil temperatures down except through watering practices and in the construction of greens. Douglas T. Hawes, who wrote his master's thesis at Cornell on the effect of temperatures on *Poa*, says, "*Poa annua* grown at a 55 degree night temperature and cut at one-quarter inch produces good turf even when exposed to day temperatures ranging from 85 to 105 degrees. The less frequently it receives cool (55 degrees F) night temperatures the poorer the turf becomes and the shorter the root system becomes."

In his opinion, the superintendent should keep a record of the low night temperatures and not worry as much about the high temperatures of the day. During the summer when the low night temperatures consistently fail to go below 65 degrees, one can expect trouble—even losses—with annual bluegrass even though it has been syringed frequently.

In the construction of greens, remember, greens pitched away from the sun will be cooler than greens facing the sun. Trees help shade greens and keep soil temperatures down. Irrigation with cool water rather than warm also aids in keeping soil temperature down.

pH is also another factor that influences the maintenance or elimination of *Poa*. Turf made strongly acidic by the use of sulfate of ammonia or other acid-forming fertilizers do not allow entry of annual bluegrass because of its low tolerance for high acidity. But perennial grasses can also be affected by high acidity, so this way of controlling annual bluegrasses is entirely unsatisfactory. So, maintain the pH favorable for the perennial grasses and forget about controlling *Poa* with low acidity or high alkalinity. A pH of about 6.5 is considered most desirable for over-all nutrient availability.

CHEMICAL CONTROLS

Controlling diseases, insects and weeds that could damage perennial grasses, thus allowing a *Poa* takeover, is important, but fungicides, insecticides and herbicides can shock perennial grasses and restrict

their root growth.

Because management practices alone will not control *Poa*, superintendents need some help from chemicals. In this article I would like to stick strictly to my experience with arsenicals for *Poa annua* control.

(Editor's note: As Sherwood Moore points out, when dealing with arsenicals superintendents must be sure that their spraying equipment is calibrated precisely. A fraction too much of an arsenical can destroy more *Poa* than a superintendent wants, leaving him with no turf and irate members. Also, as Moore later points out, a superintendent must have the complete backing of club officials and the green chairman when undertaking a program of *Poa* prevention or control.)

Lead arsenate is a long-range program. Yearly in March I apply five pounds of arsenate of lead per 1,000 square feet to the greens. It is also effective when applied to fairways, but is usually too expensive for this practice.

If conditions warrant such drastic measures as a scorched earth policy then there is sodium arsenate. If the membership is willing to undertake such a program then by all means renovate. However, a renovation program that is limited only to the destruction of weeds, clover and *Poa* is of little value. The basic causes for the turf weakness and weed invasion must first be corrected. Ordinarily, weed control is only one part of a renovation program. Sodium arsenate can also be applied as a post-emergent spray to discourage *Poa annua* plants and destroy the seeds. When Paul Weiss was superintendent at Lehigh CC, Allentown, Pa., he controlled crabgrass and *Poa* by using one pound of sodium arsenate per acre starting in mid-August, when most of the seedhead was exposed from the sheath, and followed by another spray in early September and a final spray 10 days later.

Another arsenical that is being used extensively is calcium arsenate. I am now on a calcium arsenate program at Woodway CC, Darien, Conn. In my first year at Woodway we did no large scale applications of calcium arsenate.

We did apply 5, 8, 10 and 16 pounds per 1,000 square feet to 10 plots. We observed these plots closely the first year and found the five pound rate to be to our liking, or so we thought. It set the *Poa* back, made it look sick, but did nothing for the wholesale removal of it. Anything over five pounds removed annual bluegrass. The higher the rate, the greater the loss of *Poa*.

On April 15, 1969, we applied five pounds of calcium arsenate per 1,000 square feet to all 18 fairways. Then on June 3d we sprayed all fairways with Banvel 1-D, one pint in 100 gallons of water per 2½ acres. This was done to control clover and knotweed, but it also proved to be to our undoing. We eliminated a lot more *Poa* than we wanted to. During September we aerated, aerothatched, seeded and fertilized the fairways.

The following spring we applied five pounds of calcium arsenate per 1,000 square feet to our fairways. Again we lost too much *Poa*, but in this case it was due to an infestation of the hyperodes weevil and not the spraying program. Again we aerated and overseeded. In 1971, still convinced we were on the right track, we applied our third application of calcium arsenate. Twenty-two inches of rain in 60 days caused us again to lose more *Poa* than we wanted at this stage. This spring I again applied five pounds of calcium arsenate per 1,000 square feet.

I hope I have not painted too bleak a picture of our program. It is a big undertaking and should not even be contemplated without serious thought. One must be convinced that the program really will eliminate *Poa*. The superintendent's job could be a stake, even with the initial cooperation of the green committee and the membership. If something goes wrong, they can easily forget. □

SHERWOOD A. MOORE is property manager at Woodway CC, Darien, Conn. He was president of the Golf Course Superintendents Assn. of America in 1962 and is a past president of the Metropolitan and New Jersey Golf Course Superintendents Assns. Prior to joining Woodway in 1968 he served at Winged Foot, Mamaroneck, N.Y.

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R&R TO MANUFACTURE REPLACEMENT PARTS

TUCSON—*R & R Products, Inc.*, has set up shop to manufacture turf aeration equipment as replacement parts for Ryan and Hahn/West Point earth cutting machinery.

According to Roy H. Rogers, R & R's president, the firm produces tines, sod cutters, open and closed spoons, slicing knives, blades and springs. All parts are fully guaranteed to be equal to or better than original equipment parts, according to the company.

R&R will accept orders directly or accept through local dealers now being set up in the United States. Any dealer interested in the distribution of aeration equipment parts may write R&R Products, Inc., 3334 E. Milber St. Tucson, Ariz. 85714.

PALMER GOLF SOLD TO PROFESSIONAL GOLF

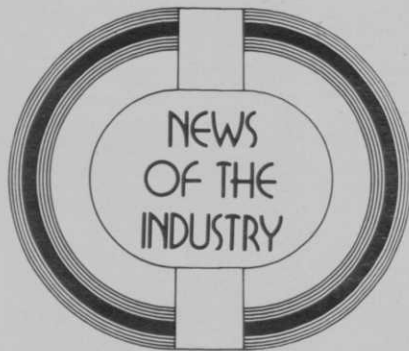
CHATTANOOGA—The *Professional Golf Company* has completed acquisition of the *Arnold Palmer Golf Company* for 665,000 shares of common stock. The value of the transaction was estimated at over \$3 million. Professional Golf Company announced it had a net income of \$332,792 or \$.18 a share for the six months ending April 1. For the same period in 1971 it had a net loss of \$380,198. Professional Golf is also the parent company of First Flight Golf Company.

TREVINO RENEWS FAULTLESS CONTRACT

NORTH CHICAGO, ILL.—*Lee Trevino*, center, signs a new five-year contract to promote Faultless Golf Company golf clubs and balls. Trevino's first contract with Fault-



less was in 1968. According to Earl Collings, right, general manager of Faultless' golf operation, Trevino will be even more closely in-



involved in club design and ball construction. Also pictured is Trevino's manager Don Whittington.

EPA BANS DDT

WASHINGTON, D. C.—The *Environmental Protection Agency* has banned almost all uses of the insecticide DDT within the United States effective December 31, 1972.

William D. Ruckelshaus, administrator of the EPA, cited the toxicity and longevity of the pesticide in the food chain of men, animals, birds and fish as the reasons for his decision.

Growers of cotton, peanuts and soybeans, the three crops that account for most of the domestic use of DDT, will get instruction in the handling of the substitute pesticide, methyl parathion.

The EPA ban affects the 27 formulators (manufacturers of commercial pesticides containing portions of DDT). The formulators have asked the United States Court of Appeals for the Fifth Circuit in New Orleans to set aside the order. At presstime, no action had been taken on this appeal.

Not included in this decision by the EPA was a ruling on the label of the Montrose Chemical Corp., the sole United States manufacturer of DDT. Samuel Rotrosen, president of Montrose, said he does not know when the EPA will make a decision on the Montrose label.

The EPA ban on the formulators does not affect the exporting of DDT or pesticides containing DDT.

CCM EXAM MANDATORY

WASHINGTON D.C.—The *Club Managers Assn. of America* has announced that examinations will be

necessary to be designated a Certified Club Manager beginning January 1, 1973.

The move changes the current practice of recognizing professional competence within the club management industry. Currently for a club manager to be designated a CCM, he must earn 200 points in the required areas of education, experience and association activity. Club managers must still obtain 200 points, but must also take the examination after the January 1st cutoff.

The CMAA has arranged with the University of Houston to develop an examination for club managers. The CMAA announced that all petitions for CCM postmarked on or before December 31, 1972, will be processed under the current system; no examination will be required. The first examination will be held in June, 1973, at five academic sites throughout the United States. The next examination will be held in January, 1974.

For information on the CCM examination contact: Club Managers Assn. of America, 5530 Wisconsin Ave., Washington, D.C. 20015.

GOLD CREST, CASPER FORM EDUCATIONAL GOLF

STUDIO CITY, CALIF.—Henry Goldman, right, president of Gold Crest, Ltd., has joined up with professional golfer Billy Casper to form *Educational Golf, Inc.* The company will market Playback, a golf teaching aid.

Playback is a simplified device that shows a golfer what he is do-



ing wrong and then tells him how to correct his error, Casper says. The instructional device will retail for \$5. Gold Crest will have exclusive distribution rights to Play-

continued on page 59



O.M. SCOTT & SONS introduces a longer-lasting fertilizer and a dry-applied granular fungicide for phythium and snowmold to its line of turf products called ProTurf. ProTurf Super Fairway Fertilizer (34-3-7-3) contains sulfur as SO_3 . A blend of quick-release nitrogen urea with special slow-release nutrient nuggets produces quick greening for use on burmudagrass fairways and grasses and grasses of the Pacific Northwest. One 44-pound bag treats one-quarter acre. ProTurf Fungicide II is a ready-to-use granular that can be applied with a drop spreader. It is non-mercurial. A 27-pound bag treats one-quarter acre.

Circle No. 101 on reader service card



EXCEL INDUSTRIES, INC., introduces the Excel Hustler Mower, which converts in two minutes into a snow thrower. An 18hp engine gives high capacity and clears a 54-inch swath at speeds up to nine miles an hour. The two-stage attachment includes an 18-inch auger and a 14-inch four-blade blower fan operating at 960 RPMs. Other at-

tachments include a dozer blade, rotary broom, flail cutter, operator's cab and tilt-deck trailer for transportation. Circle No. 102 on reader service card



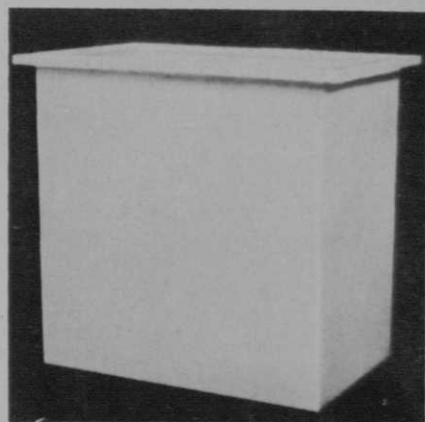
THE POWER EQUIPMENT DIV., Anderson Power Products Inc., introduces a state-of-charge measuring instrument for golf car battery systems. The Charge-State Tester electronically reads the specific gravity of a lead-acid battery system and measures the resistance of the total battery system, which can steal away battery power. The Charge-State Tester is self-contained, portable, made of rugged construction and comes in models for golf cars, industrial and automotive uses. Circle No. 103 on reader service card

GOLD CREST LTD. introduces the Billy Casper Playback, an educational golf teaching device. The kit consists of a wallet, an instructional chart and 24 specially treated, pressure sensitive Playback papers. The papers are attached to the clubface and a slide-chart analyzer tells the golfer, after each swing, what he is doing wrong. Suggested retail price of Playback is \$5 and is available in a merchandising display unit for golf club professionals. Circle No. 104 on reader service card

TRUE DISTANCE, INC., has brought the accuracy of aerial photography to the production of golf scorecards. First, an aerial shot of the course is taken at a pre-determined altitude. On one side of the card each hole is individually reproduced in detail with precise measurements from a number of

key points along the fairway to the center of the green indicated by curvature lines. Each card is individually designed to the client's specifications. The Pro-Model is printed in full color on heavy stock. It measures 6 inches by 12 inches and is scored to fold easily into a stand 4-inch by 6-inch size. According to the company, the cards provide the golfer with a more thorough knowledge of the course, as well as assistance in proper club selection. Prices on the Pro-Model are \$.05 per scorecard on the original order and \$.03 on reorders. Minimum quantity is 50,000, and delivery time is 45 days. Circle No. 105 on reader service card

UNITED MOLDED PRODUCTS DIV., United Utensils Company, Inc., announces a new 20-page buyer's guide illustrating and describing the company's selection of molded, linear high density polyethylene tanks, drums, shipping barrels and hand trucks. The products shown have Food and Drug Administration approval and many have the U.S. Department of Agriculture approval, and are applicable to the food processing, chemical, commercial and industrial fields. Cylindrical, conical, sloped bottom and horizontal drums and tanks are available. Over 800 various sizes are listed for rectangular tanks alone. A compatibility chart and a page on fittings are included. Circle No. 106 on reader service card



KOOLING, INC., introduces a complete line of custom refrigeration systems in a wide range of capacities. The systems come on steel bases, are completely wired; lines are pre-charged. Circle No. 107 on reader service card



C.J. SULEWSKI, vice president for growth planning and development for Johns-Manville, was appointed chairman of the board of General Sprinkler Corp. In addition, W.D. GACHES, formerly general manager of Johns-Manville Irrigation Corp., was appointed executive vice president of General Sprinkler. J.L. COSON, president of General Sprinkler, remains as president and general manager. General Sprinkler Corp., of which Buckner Sprinkler Company is a division, was acquired, along with two affiliates, Fresno Brass Works and Catalina Machinery and Equipment Company, by J-M in March.

BILL TAVENER has been appointed a ProTurf rep of O.M. Scotts & Sons for north central California. Covering the Dallas area is GARY MCELVANEY; JERRY GOULD covers the Mid-Atlantic area.



McElvaney



Tavener



Gould

ALBERT S. ALEXANDER has been appointed territory manager of Dunlop Sporting Goods, Sports Div.,

for northern California. GARY R. GIGLER becomes territory manager for central California and LEW SHEARY for eastern Nebraska and Iowa.

BILL J. WARREN has been named southwest regional sales manager for the Weather-matic division of Telsco Industries, Dallas. His territory includes Texas, Oklahoma, Arkansas, Louisiana and western Tennessee.

ROBERT LEE joins Alsport, Inc., Norwalk, Ohio, where he will be responsible for design and engineering on existing products and design concepts on new products.

RONALD B. POPE has been appointed vice president of administration of Golf Tech, Inc., Lomita, Calif. Previously, he was product manager.

KENNETH I. BOYCE has been appointed marketing services manager of Victor Golf, a division of Victor Comptometer Corp., Morton Grove, Ill. He will be responsible for sales promotion, public relations and advertising activities at Victor Golf.



Boyce

WILLIAM AUSTIN moves up to the post of eastern zone sales manager of General Battery Corp., Reading, Pa. CLARENCE ROLLINGER has been appointed manager of the company's new plant at Selma, Ala.

JOHN T. SINGLETON and JOSEPH SARKISIAN have been promoted: Singleton to manager of golf course sales and Sarkisian to Northeast district manager for the Moist O'Matic Div. of The Toro Company in Riverside, Calif. THEODORE D. MATULA has joined Toro as district manager of a newly-formed East Coast territory, which extends from Pennsylvania through Georgia.

INSURANCE from page 37

The same attitude exists with respect to watchman services at a clubhouse where the watchman does not clock his rounds hourly on an approved watchman's clocking device and the clocking stations are located in every remote area of the clubhouse.

If your country club is having problems in placing sufficient fire insurance on a high-valued clubhouse or the rate appears to be excessive of that which management would like to annually pay, perhaps it would be worthwhile to study the various approved fire protection systems. These will not only afford reduced rates for the insurance, but protect the club's property.

Every club should take the time and effort to consult with the local rating bureau about the various ways in which it may reduce its fire insurance premiums. Rating bureaus are usually helpful in pointing out the approved systems and in advising the percentages by which various systems will reduce premiums. No country club should ever undertake to install a protection system without prior approval of the rate-making authority. To install a system, then learn that it does not qualify, would be a costly undertaking if no credit were realized after it was completed. □

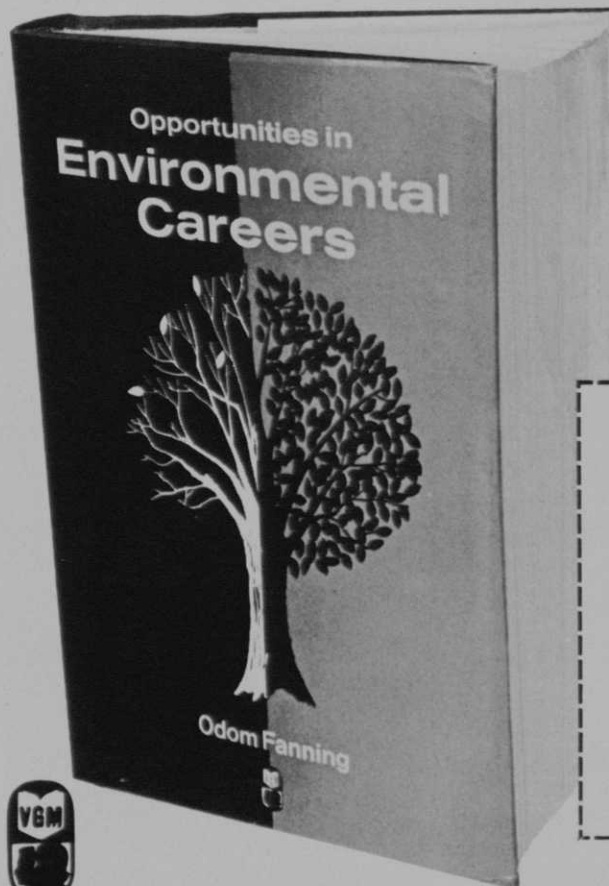


Joe DiFini (left) poses proudly with DiFini Originals staff member Suzie Maxwell Berning and her husband, Dave, following Suzie's capture of the Women's Open title.

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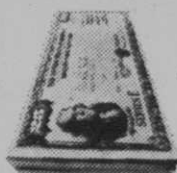
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LOFTS SEED TO MARKET EXETER, JAMESTOWN

BOUND BROOK, N.J.—*Lofts Pedigreed Seed Company, Inc.*, has reached an agreement with the Exeter Bentgrass Growers Assn. of Oregon and the University of Rhode Island to be the world-wide marketing agent for the university's two new varieties of golf course seed—Exeter Colonial bentgrass and Jamestown red fescue.

Turf Seeds, Inc., Hubbard, Ore., will participate in the marketing of the two varieties in the western part of the country. Lofts' Stover Seed Company will handle Southern California. Pick Seed, Richmond Hill, Canada, will handle the marketing in Canada.

Exeter Colonial bentgrass is used primarily on tees, fairways and aprons. Jamestown red fescue is an improved chewing type fescue. It is extremely dark green, is vigorous and can be mowed closely.

WITTEK SUPPLY CATALOGUE AVAILABLE

CHICAGO—*Wittek Golf Range Supply Company, Inc.*, has available its 1972 supply catalogue, which shows the company's complete line of golf range, golf course and miniature golf course supplies and equipment. The free 56-page catalogue is available by contacting the Wittek Golf Range Supply Company, Inc., 3650 Avondale, Chicago 60618. □

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the facility is \$750,000.

For the executive 18, you can probably do the job with 75 acres. Land cost would be half as much in a comparable urban area. If the same 150 acres were purchased, the remaining 75 acres could be sold or developed at a profit.

In construction, quality should be equal, but quantity is different. Because the area is smaller for the executive course, you should save at least 25 per cent in earthwork and 40 per cent in clearing, irrigation and seeding. You can also save approximately 10 per cent for equipment and maintenance. Total investment in an executive course, plus clubhouse, would be about \$520,000 versus the \$750,000 for the regulation course. Plus you still have the profit from development of the extra land. Either might be built for less, of course, with lower quality construction, partial irrigation systems and smaller clubhouses.

Operationally, a good executive 18 in a metropolitan or resort market should net more than a full-size course. Green fee charges for a good layout can be as high. More players can move around faster. Result: More rounds per day during peak periods, more green fee income, more time for golfers to hit practice balls and patronize the pro shop and clubhouse.

Maintaining the shorter course is cheaper, easier and faster. Greens and tees need the same care as on a regulation course, but there may be only 50 to 60 per cent as much fairway to water, fertilize and mow. That requires less labor, water and supplies. The executive course maintenance budget ought to be at least 20 per cent lower. They may still hire Golf Course Superintendent Assn. of America members to keep the course in top shape.

Most other operating budget items won't change much. But one notable exception is property taxes. Less land used means lower taxes, a major expense for most regulation courses.

Many golf business authorities have recently offered endorsements of the executive course and its advantages. Don Rossi, executive director of NGF, says, "This is

a developing trend that will have an impact on the industry. Shorter courses require less land; construction and maintenance costs are lower, and then there's the big factor of less playing time. More players shoot in the 70s and 80s on these courses, a big boost to their morale. Their feelings of satisfaction and accomplishment couldn't be achieved on a regulation course."

Richard Phelps, golf course architect, Phelps-Brauer & Associates, says, "The executive course fills a real need in many new recreational developments. Land costs mean some owners can't or won't give enough space for a regulation course. With more par-three holes, we can possibly use rougher sites to build on. Most golfers like more par-three holes—they can see the green and know they have a better chance to reach it and make par."

William Roach, past president of the National Club Assn. and developer of The Mill River Club, Oyster Bay, N.Y., says, "Aside from the attractive economics of construction and maintenance costs, the per-capita cost of operating a private club can be considerably reduced. Faster rounds mean heavier play and thus larger memberships and better support of bar and dining facilities. They also tend to be 'walking courses' and could very well restore the game's status as an exercise and health-giver."

"The vast majority of private or semi-private clubs have financial problems that can be corrected by getting away from the outmoded premise that the course must be long and tough," Jim Lamont, editor of the Florida Golfer, says. "Financial support comes from an average golf age that has little or no enjoyment in playing par-four holes that require three shots to hit the green and par-five holes that run over 500 yards."

So the case for the executive course is strong. For the ownership—cheaper to build, more profit potential. For the golfer—faster play, lower scores. Golf needs such progressive ideas because it is now big business and belongs to the masses. Look for the executive course trend to grow in the 1970s and beyond.

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APPAREL AND ACCESSORIES

- Blouses
- Caps and hats
- Golf shoes (men's)
- Golf shoes (women's)
- Rain jackets
- Rubber spiked over shoes
- Shirts
- Shorts (ladies' and men's)
- Skirts
- Slacks
- Socks
- Sport jackets
- Sunglasses
- Sweaters
- Trophies
- Windbreakers

GOLF EQUIPMENT AND ACCESSORIES

- Bags
- Bag carts
- Bag tags
- Balls (regular)
- Bath slippers (paper)
- Clubhead covers
- Clubs
- Golf gloves
- Golf practice devices
- Grips
- Grip slip preventative
- Locks for golf bags

FIXTURES AND EQUIPMENT

- Bag storage racks
- Ball washer detergents
- Club cleaners and polishers

- Club repair supplies
- Floor covering (spike resistant)
- Handicap racks
- Handicap cards

RANGE SUPPLIES AND EQUIPMENT

- Balls (range)
- Ball dispensers (coin)
- Ball strippers
- Ball washers (range)
- Ball washers (counter & dispenser)
- Clubs (range)
- Mechanical range ball retrievers
- Miniature course obstacles
- Miniature putting lane material
- Practice driving nets
- Range mats

GOLF CARS

CARS, ACCESSORIES

- Batteries
- Battery chargers
- Golf cars, new
- Golf cars, reconditioned
- Tires

CLUBHOUSE

FOOD, LIQUOR AND SERVICE EQUIPMENT

- Soft drinks, mixers
- Beer and ale
- Liquor
- Wines
- Prepared meats and poultry
- Prepared fish and seafood
- Fats and cooking oils
- Cooking equipment (mixers, slicers, juicers, sharpeners, scales, carts, table tops, peelers)
- Sanitation and maintenance equipment (dishwashers, disposals, steam cleaners and floor maintenance equipment)
- Holding equipment—hot and cold—(refrigeration, freezers, cold plates, steam tables, beverage coolers, ice machines)
- Supplies (china, glass, plastic, paper, pots and pans, cutlery, tools, flatwear, locker-room)
- Furnishings (furniture, wall coverings, floor coverings, lamps, decorative accessories, interior design consultants)
- Locks for lockers (combination—built-in-key-type padlocks)

Is your golf course:

- | | | |
|--|--|--|
| <input type="checkbox"/> Private | <input type="checkbox"/> Resort | <input type="checkbox"/> Par 3 |
| <input type="checkbox"/> Semi-private | <input type="checkbox"/> Public | <input type="checkbox"/> Military |
| <input type="checkbox"/> Municipal (city, state or county owned) | <input type="checkbox"/> School | <input type="checkbox"/> Pitch & Putt |
| | <input type="checkbox"/> Company owned | <input type="checkbox"/> Driving Range |

Size of course:

- 9 holes 18 holes 27 holes 36+ holes

Turfed acreage of golf course and club grounds regularly maintained: _____ acres.

Send information on products checked to:

Name _____

Title _____

Club _____

Address _____

City _____ State _____ Zip _____