The Golf Car of 1975 NOW!

Why is it a 4-Wheeler?
A leading insurance authority predicts an end to the 3-wheel golf car by 1975. The 4-wheel CAROCHE outperforms a 3-wheeler, with greater safety and stability. Lighter than most 3-wheelers, it costs about the same. And its sturdy aluminum frame and fiberglass body will never rust, corrode or need painting.

Why is it electric?
Congress has set 1975 as the deadline for eliminating harmful exhaust from cars. The electric CAROCHE will go 36-54 holes on hilly courses, without the pollution, smoke, noise, odor or fire hazard of gas cars. In addition, independent studies have proven electric vehicles cost considerably less to operate and maintain than those powered by gasoline engines.

Why is CAROCHE ahead of its time?
When CAROCHE was introduced in 1970, it caught the golf car industry by surprise. For instance, it was the first golf car to employ both automotive type hydraulic wheel brakes and a mechanical braking system on both rear wheels. It was the only golf car available with supplementary bag racks—easily attached or detached at rental points—enabling it to carry either three or four bags. Its combination of light weight, compact size and easy serviceability made it an instant winner with fleet owners. And how do you make the best even better?

That's the story for CAROCHE in 1971.

Why don't you at least ask for a demonstration?
Some golf cars will have obsoleted themselves by 1975. CAROCHE may be as much as a decade ahead of its time. Write or call today for a free demonstration of the golf car of the future — CAROCHE.

The Best DRIVE You'll Ever Make
The Best MAKE You'll Ever Drive

We'd like a CAROCHE demonstration.
NAME
CLUB
ADDRESS
CITY COUNTY
STATE ZIP
Limited Number of Dealerships Available. Write for Details

For more information circle number 184 on card
event when the collegiate competition was taken over from the USGA, which had sponsored it since 1897.

Payseur was secretary of the NCAA golf section. He had great admiration for golf coaches at colleges and universities, many of whom he knew personally and knew what little cash, if anything, they were getting for developing golf teams. Payseur and Leslie Rollins, then dean of men at Northwestern and the man who set the pattern for the Western GA and other association caddie scholarships, primarily accounted for putting golf scholarships in a good position among the athletic grant schedules of many schools.

A $10,000 pro-am was played at Tulsa honoring Labron Harris sr., Oklahoma State golf coach. He’s developed steady, if not brilliant, circuit stars, including his son, and has successfully guided the golf education of hundreds of that state’s good amateur players.

Everett J. Woxberg, now manager North Shore CC, Glenview, Ill., Among previous appointments in the Chicago district, he was manager of Evanston GC… N. Gwynn Fletcher now manager Shaker Heights (Ohio) CC. He had managed Dayton (Ohio) CC and Faculty Club of Ohio State University… Joseph H. Cartwright, manager of the new Palmbrook CC, Sun City, Ariz., a Del Webb $2.5 million private club.

D. Stephen Pal now manager Columbus (Ohio) CC, moving there from Brown’s Run CC, Middletown, Ohio… Frank J. Rotunno now general manager Willow Ridge CC, Harrison, N.Y.

Golf’s Tribute to Ike got $54,185, as half of the receipts from ticket sales at the 19th annual World Cup tournament played last November at the PGA National course. The other half went to local charities.

Blair Hillard Hahn, recently teed up in the cradle as the first-born of Mr. and Mrs. Paul Hahn jr. The new star has Paul sr., the famed trick shop artist and his friend, Bob Hope, tied as the youngest looking grandpappies in golf show business. Hahn jr. is playing a heavy schedule of trick shot dates.
You've probably never seen red grass—but there are times when the color of your turf doesn't quite come up to your own high standards. IBDU™ can color that turf green.

IBDU is a different slow release nitrogen that can be applied at higher rates and feeds more evenly than conventional slow release fertilizers. Because it's released by water at low soil temperatures, IBDU feeds sooner in the spring and feeds longer in the fall.

Don't take our word for it. Send in the coupon above—and we'll send you enough IBDU to prove it. IBDU—it's a shade better.
HOW QUICKLY CAN SOD TAKE ROOT?

The effects of sod harvesting depth, underlying soil type, soil moisture, fertilizer placement and post-harvest irrigation rate on the transplant rooting capability of Merion Kentucky bluegrass sod were investigated in this study. The experiments were conducted under outdoor summer conditions utilizing root observation boxes, which had inside dimensions of 10 by 10 inches square and were 18 inches high. Each box had a glass face front that sloped inward from the top front edge to the base of the box. The box was filled with the appropriate textured soil and a 10-inch-square sod piece transplanted onto the top after the soil was permitted to settle. Subsequently, the sods were irrigated daily and the turf cut at weekly intervals at a height of 1.5 inches.

The specific treatments compared in this study included (a) sod harvesting depths of 0.75 and 0.4 inches, (b) transplanting the sod onto a clay loam subsoil versus a sandy loam topsoil, (c) sod transplanting onto a soil having a moisture content near field capacity versus the upper three inches of a clay loam subsoil versus a sandy loam topsoil, (d) transplanting onto a soil having a moisture content near field capacity versus the upper three inches of a clay loam subsoil versus a sandy loam topsoil, and (e) irrigation rates of 0.8, 1.6, 2.4 and 3.2 inches of water per week.

Data collected during these experiments included a determination of the number of roots visible on the glass face at two and five-inch soil depths 7, 10, 14, and 21 days after transplanting. The experiments were terminated after three weeks, and the total root production determined by washing the soil from the root system, collecting the roots and determining the root organic matter content by an ashing technique. Six experiments were conducted over a period of two summer growing seasons.

Results of the sod harvesting experiments revealed that root organic matter production was superior when the sod was cut at a 0.8 inch depth in comparison to a thinner (0.4 inch) depth. Sod harvested at the thinner depth was very prone to desiccation effects, which probably contributed to the reduced rooting.

No difference in root organic matter production was observed between soil fertilization and surface fertilization of the sod. Thus, the authors concluded that fertilizer placement at the rates utilized in the study and with sods having adequate nutritional levels was not a significant factor in sod rooting during the first three weeks after transplanting.

The beneficial effects from incorporating topsoil into construction site subsoils prior to sod transplanting was supported by these investigations. The incorporation of sandy loam topsoil into the upper three inches of a clay loam subsoil resulted in a 45 per cent increase in root organic matter production and visible root growth immediately after transplanting (surface fertilization), and (e) irrigation rates of 0.8, 1.6, 2.4 and 3.2 inches of water per week.
In 24 minutes we can show you how to avoid the five major pitfalls of turf irrigation

Ask to see our new slide-sound film, "The True Pattern of Turf Irrigation."

In less than half an hour, you'll get new insights—and some surprising facts—on sprinkler patterns, water penetration, pressure regulation and irrigation uniformity. Ways to avoid the pitfalls.

You'll also see how your job can be done without wasting water or manpower. And without overspending.

To do it right, Buckner has the broadest line of sprinkler equipment in the business.

So you don't have to "make do" with one or two sprinkler head designs. You can specify exactly the right one from fifteen different valve-in-head, cam, impact or gear driven Buckner heads. Plus almost infinite variations of pop-up or shrub heads. And your system is completed properly with the most advanced pressure-regulated electric or hydraulic valves, controllers and programmers—including our great money-saving simplifier, the CP-2 Dual Central Program System.

Send the coupon or call your Buckner professional to see this film. It's a worthwhile 24 minutes.

Please arrange to show me "The True Pattern of Turf Irrigation."

Name
Title
Organization
Address
City State Zip

Buckner SPRINKLER CO.
P.O. Box 232, Fresno, California 93708
Joe Patuga got a new Bag Boy and took 10 strokes off his game.

Was it the Bag Boy Golf Cart? Or was it the series of 5 lessons from his club professional? Joe claims it was the Bag Boy. But the pro doesn’t mind. He’s sold 3 more Bag Boys to Joe’s friends.

Keep up those great lessons. Bag Boy loves the credit.

Bag Boy® GOLF CARTS
Manufactured by the Jarman Company, a subsidiary of Browning.

Write Browning, Dept. GS, P.O. Box 500, Morgan, Utah 84059. In Canada—Browning Arms Co. of Canada, Ltd.

A NEW DIMENSION IN PROFIT
FOR COUNTRY CLUBS

Be the only country club in your area with... golf... 365 days a year!
If golf is a major activity at your club... keep them coming all seasons with Golfomat. Golfomat is real golf played indoors with regulation free-flying golf balls using all clubs with the same force and finesse required outdoors. Thanks to computerized electronics and optics, your members can practice on the internationally famous greens of Pebble Beach, Doral and Congressional Country Clubs... 365 days a year. Golfomat takes up the financial slack during inclement weather and when properly managed produces an enormous net income when the outdoor course is closed. Golfomat added to your club not only counteracts deficit-ridden months, but can instill in your employees the security of year-round jobs. Golfomat can stimulate food and beverage sales... attract the junior members... day after day... throughout the year. Let Golfomat bring it in...the profit, the membership, and the activity!

For Complete Information, Call or Write
BILLY CASPER
GOLFMAT®
Division of EMC/Electronics & Manufacturing Corp.
816 N. St. Asaph St., Alexandria, Va. 22313
Phone (703)-549-3400

BEARD from page 14

counts compared to transplanting onto a clay loam subsoil. In addition, root production was twice as great when the sod was transplanted onto a sandy loam topsoil as on-to a clay loam subsoil.

The soil moisture content at the time of sod transplanting was found to be very important. Transplant rooting was delayed substantially when the sod was transplanted onto an air dry soil, even though the sod and underlying soil were irrigated intensely immediately after transplanting. A delay in rooting of as much as 11 days was observed in certain experiments when transplanted onto an air dry soil. This delayed rooting increases the time that the sod is prone to desiccation and thinning.

Comparisons among the four irrigation rates showed that root organic matter production usually increased with the irrigation rate. This was particularly true when the sod was transplanted onto a dry soil. A weekly irrigation rate of two inches or 0.3 inch per day appeared adequate for rooting of transplanted Kentucky bluegrass sod under the climatic conditions in southern Michigan.

Finally, seasonal observations of transplant sod rooting revealed that rooting was impaired during the May to June period of extensive seed head development.

Comments: Although sodding can be done at any time during the growing season, provided an adequate moisture level can be maintained through irrigation, late August and early September are particularly favorable periods for sodding due to the optimum temperature and moisture conditions normally occurring during the fall period. The primary objective in sod transplanting is to ensure its rapid rooting into the underlying soil.

Soil preparation prior to sodding should be the same as for seeding. The steps in soil preparation for sodding include (a) eradication of persistent, difficult to control weeds, (b) ensuring adequate surface and subsurface drainage, (c) partial or complete soil modification, if needed on intensively trafficked areas, (d) removal of rocks and debris, (e) deep cultivation,
incorporation of fertilizer and lime at rates indicated by soil tests and (g) final soil preparation to a moisture, granular, firm state with the desired surface contours.

The experiments previously described reveal the importance of the proper sod harvesting depth in transplant rooting. An excessively shallow sod harvesting depth increases the proneness to desiccation and reduces the rooting capability. Earlier studies have indicated that the transplant rooting rate decreases as the harvesting depth is increased above 0.8 inch. Although the thicker harvesting depths are less prone to moisture stress injury, the rate of rooting is also decreased because of the reduced number of rhizomes that are severed during harvesting. Thus, the optimum harvesting depth of Kentucky bluegrass sod, in terms of subsequent transplant rooting, is in the range of 0.8 inch.

Soil conditions at the time of sod transplanting can significantly influence subsequent sod rooting, as has been demonstrated in this study. Loam soils are definitely preferred in terms of transplant rooting compared to finer textured subsoils having a high clay content. In addition, the moisture content of the underlying soil is particularly important. The significance of this factor in transplant sod rooting has not been recognized previously. Thus, it would be preferable to cultivate and prepare the final seedbed immediately prior to sodding in order to ensure a favorable soil moisture level for rapid transplant rooting.

Following transplanting, the sod should be rolled to eliminate air pockets under the sod and to ensure good moisture exchange with the underlying soil. In addition, the sod should be irrigated sufficiently to ensure adequate moisture levels throughout the upper six inches of the soil root zone. Subsequently, the sodded area should be irrigated lightly every day at noon to maintain an adequate moisture level in the sod until rooting into the underlying soil occurs. The actual quantity of water applied should be adjusted in relation to the evapo-transpiration rates occurring at the specific time and location.

Our Motto: speak softly and carry a big staff

To serve you better, SISCO carries both a big staff and a big stock of everything you will need in sprinkler irrigation equipment and supplies. We now maintain two complete inventory locations; a new one in the Chicago area as well as the Royal Oak, Michigan warehouse. When we sell you a sprinkler irrigation system, you can be sure of a back-up parts inventory to meet any service need later on. Our fine staff allows us to place a vast amount of technical knowledge at your disposal. Whatever you need in sprinkler irrigation materials, a call to SISCO will get you fast action.

and that’s a promise

Sprinkler Irrigation Supply Company,
Division of A.J. Miller, Inc., 1316 N. Campbell Rd.,
Royal Oak, Mich. 48067, (313) 548-7272
1738 Armitage Court, Addison Ill. 60101
(312) 629-7730, Kalamazoo (616) 381-0506
For more information circle number 169 on card

INCREASE EARNINGS, SERVICE & SPACE
Remodel your present storage space, update with NEW Stafford VERTICAL BAG RACKS
• Wear and tear of golf bags is completely eliminated
• Damp bags dry faster — no mildew
• Faster, easier storage — Provides a neat appearance
• Easy to install and add more as needed

Your members will like the extra convenience and care. Your pro shop profits from 40% more space these racks make available. Double unit shown holds 16 bags, size 2‘ x 4‘ x 6‘-6” high, gives 12‘ x 12‘ space for bags. Single unit holds 8, size 1‘ x 4‘ x 6‘-6” high. Sturdy steel. Bags set solid on tapered shelves. Send us your floor measurements, we will plan a layout and quote you — no obligation. U.S. and Canadian patents. Send for folder.

The A.G. STAFFORD Co.
For more information circle number 170 on card
Thanks to you
It's working

Specialists in
OUTDOOR
WATER COOLING

IcyBall
Low-Draw Electric Water Coolers

Safari Gas-Fired Water Coolers

If you're looking for the Comfort Station that doesn't take looking after—this is it! Rugged, vandal-proof and maintenance free—ideal even in isolated camp sites. Send for a brochure.

RUTGERS TURFGRASS RESEARCH DAY, College of Agriculture, Rutgers University, New Brunswick, N.J., August 10.

TURFGRASS FIELD DAY, College of Agriculture, University of Illinois, Urbana, Ill., August 15.

RHODE ISLAND FIELD DAYS, University of Rhode Island, Kingston, R.I., August 23 (Golf Superintendents); August 24 (Lawn and Utility Turf Field Days).

13TH TURFGRASS SHORT COURSE, Department of Agronomy and Soils, Auburn University, Auburn, Ala., September 7-8.

TURF AND LANDSCAPE DAY, Ohio Agriculture Research and Development Center, Wooster, Ohio, September 12.

NORTHERN MICHIGAN TURFGRASS FIELD DAY, Traverse City CC, Traverse City, Mich., September 13.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY FIELD DAYS, VPI, Blacksburg, Va., September 13-14.


MIDWEST TURF FIELD DAY, Purdue University, Lafayette, Ind., September 25.


SOUTHWEST TURFGRASS CONFERENCE, New Mexico State University, Las Cruces, October 12-13.
Goodyear's new golf car tire treads lightly

Puts less pressure on the turf than your heel.

It's a new golf car tire with a soft touch. The Goodyear Rib Terra-Tire low pressure tire. It has a wide tread to spread the load evenly. This means less turf damage. For even with a fully loaded car, pressure is only 10 pounds per square inch compared to the 24 pounds a man's heel can exert.

The new tread design also gives you positive traction. Carcass flexibility and low inflation pressure make this tire an easy roller on soft surfaces—which equals more miles per battery charge.


For more information circle number 142 on card
A VOICE OF EXPERIENCE
The name Clarence Yarn evokes memories of the rich soils of Iowa, of pioneering with Arlington (C-1) bent and of plain homespun humor and philosophy. Imagine my surprise when recently a call came to me at my home from Des Moines. The caller was none other than Clarence Yarn, now 83 years old, still vigorous of mind and purpose, speaking forcefully to me of many things over 1,000 miles of wire.

Clarence is proud to be an Iowan where 25 per cent of the A-l agricultural land in the United States is to be found. (I learned something.)

On his new golf course he developed the fairways from native sod just by mowing! He keeps his turf so clean that there are no lost balls. Also, he welcomes the fifth player to a foursome; he says that he has made many friends that way.

No one knows how many native sons have gone to college because of Yarn's urging. My life has been made richer because Clarence Yarn has been a part of it. I am proud to write this bit for all to read. The turfgrass world owes him a deep debt of gratitude for his pioneering. Should anyone want to send greetings to Clarence Yarn, call him at (515) 289-1471.

Q—In considering a combination golf course-residential complex in the Eastern Shore region of Maryland, the members of our group cannot agree on the selection of grasses for the various sites. We will have some shaded areas, much open sun, many lawns and the usual tee, fairway and putting green areas. There seem to be so many choices that we are confused and have no basis for selecting those grasses that will best serve our purpose. Can you help us? (Maryland)

A—By coincidence, very recently I had the chance to travel with Tom Harris of the G.L. Cornell Company to the Princeton Turf Farms at Centerville, Md., which are managed by Parker Shirling. During the day we examined every one of the "57 varieties" of turf that are grown in various plots and fields.

On the basis of these observations and my past experiences I can give you some guidance.

For shaded lawns, A-34 bluegrass seems to be tops, but don't discount a mixed turf, which contains Pennlawn creeping red fescue. A-34 turf is the "good feeling" kind that is springy and ideal for home lawns and for children.

Three other bluegrasses share the spotlight for professional use. They are Pennstar, Fylking and A-20. A-20 is vegetatively propagated only; the other two can be seeded. The turf they produce is firm, almost stiff, resistant to wear, capable of good recovery from injuries and highly resistant to most bluegrass diseases.

For roughs, there seems to be no rival to Kentucky 113 fescue with common bluegrass.

Three bermudagrasses do well in open sun where good summer turf is desired. They are Tifgreen 328 and Tufcote. Don't count on these for year-round use.

Common bluegrasses were severely hit with leafspot. Merion develops rust in late summer. Some of the newer varieties have not yet proven themselves.

For putting greens the majority seem to go with Penncross. Its genetic variability gives it the unique ability to adapt to varying conditions and management.

A VOICE OF EXPERIENCE
The name Clarence Yarn evokes memories of the rich soils of Iowa, of pioneering with Arlington (C-1) bent and of plain homespun humor and philosophy. Imagine my surprise when recently a call came to me at my home from Des Moines. The caller was none other than Clarence Yarn, now 83 years old, still vigorous of mind and purpose, speaking forcefully to me of many things over 1,000 miles of wire.

Clarence is proud to be an Iowan where 25 per cent of the A-l agricultural land in the United States is to be found. (I learned something.)

On his new golf course he developed the fairways from native sod just by mowing! He keeps his turf so clean that there are no lost balls. Also, he welcomes the fifth player to a foursome; he says that he has made many friends that way.

No one knows how many native sons have gone to college because of Yarn's urging. My life has been made richer because Clarence Yarn has been a part of it. I am proud to write this bit for all to read. The turfgrass world owes him a deep debt of gratitude for his pioneering. Should anyone want to send greetings to Clarence Yarn, call him at (515) 289-1471.

Q—In considering a combination golf course-residential complex in the Eastern Shore region of Maryland, the members of our group cannot agree on the selection of grasses for the various sites. We will have some shaded areas, much open sun, many lawns and the usual tee, fairway and putting green areas. There seem to be so many choices that we are confused and have no basis for selecting those grasses that will best serve our purpose. Can you help us? (Maryland)

A—By coincidence, very recently I had the chance to travel with Tom Harris of the G.L. Cornell Company to the Princeton Turf Farms at Centerville, Md., which are managed by Parker Shirling. During the day we examined every one of the "57 varieties" of turf that are grown in various plots and fields.

On the basis of these observations and my past experiences I can give you some guidance.

For shaded lawns, A-34 bluegrass seems to be tops, but don't discount a mixed turf, which contains Pennlawn creeping red fescue. A-34 turf is the "good feeling" kind that is springy and ideal for home lawns and for children.

Three other bluegrasses share the spotlight for professional use. They are Pennstar, Fylking and A-20. A-20 is vegetatively propagated only; the other two can be seeded. The turf they produce is firm, almost stiff, resistant to wear, capable of good recovery from injuries and highly resistant to most bluegrass diseases.

For roughs, there seems to be no rival to Kentucky 113 fescue with common bluegrass.

Three bermudagrasses do well in open sun where good summer turf is desired. They are Tifgreen 328 and Tufcote. Don't count on these for year-round use.

Common bluegrasses were severely hit with leafspot. Merion develops rust in late summer. Some of the newer varieties have not yet proven themselves.

For putting greens the majority seem to go with Penncross. Its genetic variability gives it the unique ability to adapt to varying conditions and management.

The two outstanding elite fine-leaved perennial ryegrasses are Pennfine and Manhattan. They can be used as companion grasses for the slower developing bluegrasses or they can be scarified—seeded into thin unsatisfactory turf. It is difficult to tell these ryegrasses from the good bluegrasses.

Q—We have mixed fairway turf made up of just ordinary grasses that are thin and sparse. Do you think we would have any success overseeding with some quick-growing grass to give us a thicker turf that would hold a ball up better? (Delaware)

A—Yes, I predict success in thickening your sparse mixed turf if you follow certain guidelines. First, the grass. My first choice is Pennfine ryegrass. If that grass is hard to find, plant Palo Mora ryegrass, which is a blend of Pennfine, Manhattan and Palo (designed to extend the supply of the elite fine-bladed turf-type ryegrasses). A good rate of seeding is 30 to 40 pounds an acre. Second, the method of seeding. If you can't locate a scarifier-seeder (seed placed in contact with soil in grooves) save your money. This is the best method we know of to date. Third, fertilization. To thicken the turf apply before seeding a 2-1-1 fertilizer made with slow-release nitrogen (at least 50 per cent; better, 75 per cent), so as to supply two pounds of N to 1,000 square feet (80 pounds an acre). You can do all this nearly anytime and without unduly disturbing play.

Q—About how thick should sod be cut? (Iowa)

A—The thinner the better. Thinly cut sod rolls more easily, a square yard is lighter in weight, it unrolls better and knits faster.