

# CUSHMAN TURF-TRUCKSTER

**the one all-purpose grounds maintenance vehicle**



**USE IT AS A TRACTOR** to pull gang mowers or other non self-propelled equipment. Big 9.50 x 8 traction-tread tires give plenty of traction without

damaging turf. Six speeds forward through dual-range transmission and variable speed governor give proper speed and power for uneven terrain.



**USE IT AS A SMALL TRUCK** for carrying personnel and equipment everywhere. Has governed top speed of 19 mph and 1,000 pound payload, for quick,

inexpensive transportation within the park, golf course or cemetery, on the roads or cross country.



**USE IT AS A SPRAY RIG** with boom for spraying greens, without boom for large areas, or with hand sprayer for trees and shrubs. Sprayer attachment operates through optional power take-off. Power take-off can also be used for operating compressors, generators, etc. The most versatile vehicle in your toolshed!

Write direct for free brochure.

**CUSHMAN MOTORS**

*"the big name in little wheels"*

909 N. 21st St. Lincoln, Nebraska

A Division of Outboard Marine Corporation

For more information circle number 220 on card

# PROFIT is the name of the game



## CLUB CAR is the Profit Machine

### The game is played for pay

Let's say you're a club pro, fleet owner, or just interested. You know that the rental of electric golf cars is the highest single source of revenue for most golf courses. So, aren't you interested in cutting the operating expenses on your fleet of golf cars in half and at the same time doubling gross rental income?

### We decided to build the best golf car in the world

We cut fat from the weight (200 to 500 pounds) through our pioneering in fiberglass bodies and development of the only aluminum frame used in golf car manufacture. This accomplished two things: saves your fairways for golfers and saves your golf car batteries for extra holes. We developed our own drive unit and obtained a patent for it. So? This eliminated power-wasting solenoids, belts, other dissipators of current, and delivers 96% of the battery power to the rear wheels. This stream-lined car with its patented drive unit results in CLUB CAR drawing as little as 28 Amps of electric current from the batteries versus the 60 to 90 Amps heavier cars draw.

### 108 Holes Without Recharging?

Some people still don't understand this statement: "Club Car will operate for 108 golfing holes (6 rounds) between battery

charges." In fact, some people find it so incredible they will not bother to ask for a demonstration. That amazes us, for it directly affects their profits. For instance, a golf car battery should (never) be drained below 50% reserve. CLUB CAR can go 54 holes (3 rounds) and still retain the 50% reserve required if you are to obtain 800 or more charges on the batteries. Most golf cars—if driven 36 holes—have their batteries deep-cycled to such a point that they will have to be replaced after as little as 200 charges.

### Guaranteed for Two Years

The CLUB CAR patented drive unit, motor and light aluminum frame are guaranteed for two years. The beauty of this guarantee may be that nobody needs it. CLUB CARS are going approximately three times further than any other golf car between charges, and batteries are lasting approximately 3 times longer.

### If You're Interested in Profits, You'll be Interested in a Demonstration

Please make us prove this statement: "We guarantee CLUB CAR to out-perform any golf car on any golf course anywhere at any time."

After all, the name of the game is profit. If you want to play, call or write us for a demonstration.

# Club Car

NAME \_\_\_\_\_  
 CLUB \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ COUNTY \_\_\_\_\_  
 STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Limited Number of Distributorships Available. Write for Details

**CLUB CAR DIVISION**—Stevens Appliance Truck Co. Box 897, Augusta, Georgia  
☐ Send technical bulletins: "Care and Feeding of Golf Car Batteries," etc.  
☐ We'd like a CLUB CAR demonstration

World Senior Amateur team championship which brought teams of three or four players from 11 countries to Pinehurst for the first play of the new title event, is the result of a conversation between the late Shun Normura, Japan Golf Association head, and Juan Trippe, a director of the International Golf Association during the Canada Cup tournament near Tokyo in 1957 . . . Mr. Nomura proposed a match between high handicap golfers of Japan and the United States, as an amateur expression of the international "friendship through golf" idea John Jay Hopkins had when he founded the IGA with its pro team and individual competitions . . . Nomura, an oil man, asked Trippe, head of Pan American airlines, to see what the USGA thought of the proposal . . . The result was the world-wide senior amateur tourney started last year . . . That 1957 Canada Cup (now World Cup) competition also was the beginning of the Japanese golf boom . . . The IGA tournament return to Mexico last November where the 1958 Canada Cup event had been played was in an Olympic Games atmosphere with teams of 40 nations playing in the event.

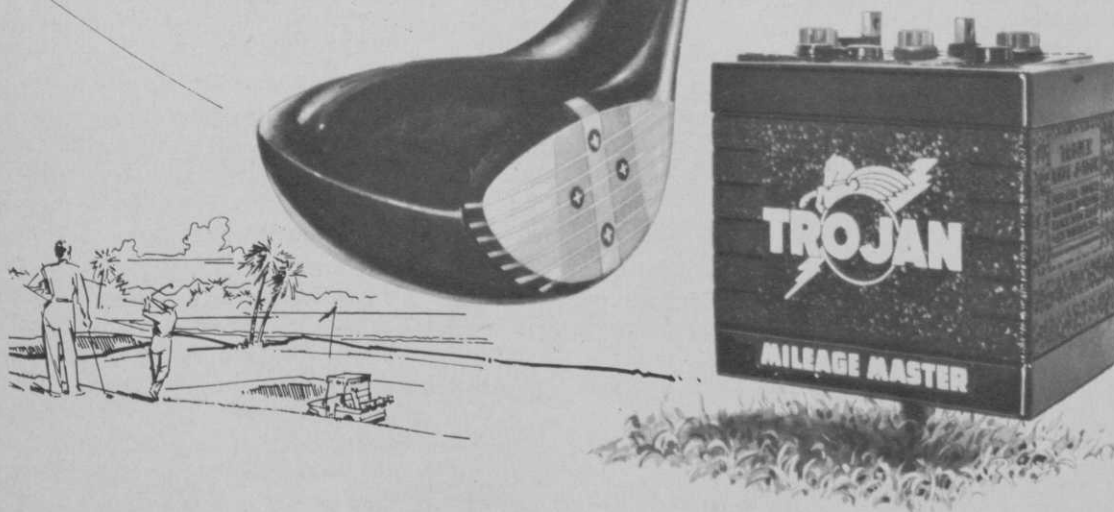
Benefit tournament staged by Illinois section for scholarship fund of Christine Whalen, daughter of the late Danny Whalen and his widow, Gerda, was a substantial success . . . Better financially than most such affairs are . . . Whalen was killed in an auto accident while on the Latin-American tour . . . Gerda, fraulein who met and married Danny when he was a GI in Germany, now is assistant to Earl Puckett, pro at Northmoor GC, Highland Park, Ill. . . Paul Hahn contributed his services to the benefit . . . Hahn shows in far more benefits than any other fellow we've ever known in golf . . . Must cost him plenty in passed-up cash fees and inconvenience and expenses . . . Hahn scored another international success with his show at the Alcan tourney at St. Andrews.

Ralph Hutchison, pro at Saucon Valley GC, Bethlehem, Pa. and at Cotton Bay Club, Eleuthera, Bahamas, in winter had a set of Spalding Elite irons uniquely marked; driving iron, mid-iron, mid-mashie,

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# THE SWING IS TOO TROJAN

**TROJAN<sup>®</sup>**  
**"MILEAGE MASTER"**  
**GOLF CAR BATTERIES**



More driving power . . .

Lower maintenance cost . . .

Proven dependability over years of rugged service . . .

is why more and more of the country's leading golf courses prefer  
Trojan Mileage Master Electric golf cart batteries.

**TROJAN BATTERY COMPANY**

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# Answers to turf questions



by Fred V. Grau

Since the 1967 season has drawn to a close in northern climes, and the winter crowd has moved toward the southern courses, it now behooves every management team to take stock of events behind us. What were the "plusses" and what were the "minuses"? Where can improvements be made? This writer exercises the prerogative of "clairvoyance" to assess the development of progress and to propose a "check list" for the guidance of inter-club conferences.

## Clubhouse Grounds

**Trees**—Well-trimmed? New improved varieties planted? Trunks protected from mower-canker?

**Shrubs**—Properly pruned? Effective placement? New fragrant flowering types introduced? Replace old types with young new ones?

**Perennial borders**—Color harmony? New types? Efficient maintenance?

**Annual beds**—Most effective for seasonal color? Many new varieties available.

**Club entrance**—Attractive and inviting to members and guests? Exit to highway safe?

## Golf Course

**Tees**—Smooth grade? Slight upgrade to front? Divots filled with soilseed mix? Markers moved regularly? Toughest grasses in use? Close-clipped? Clippings removed? Lime and fertilizer program adequate-plus? Which tees need to be enlarged? Thatch under control?

**Fairways**—Turf smooth or corrugated? Weed control adequate? Lime and fertilizer adequate-plus? Minimum irrigation consistent with color and adequate growth? Improved grasses introduced? Close-cut? Any attempt to collect excess clippings? Thatch and compaction regulated? Fairway outlines maintained according to architect's original design?

**Car paths**—Multiple exits at termination of hard surface? Worn or damaged edges resodded?

**Approaches**—Well-turfed? Close-cut? Weed-free? Compaction relieved? Drainage adequate?

**Bunkers**—Weed-free? Edges

trimmed? Sand raked? Sand depth adequate? Erosion controlled?

**Putting greens**—Smooth close cut? Uniform? Puffy? Thatched? Weeds? Disease under control? Insects? *Poa annua* controlled or managed for use? Adequacy of lime, potash? Phosphorus adequate or excessive? Drainage? Root depth? Nitrogen program satisfactory? Surface firm and resilient to hold a well-hit ball even when moisture is low? Outlines maintained according to architect's original design?

**Roughs**—Provide realistic penalty for off-line shots? Weed control adequate? Tough low-maintenance grasses?

**Nursery**—Adequate sod for instant replacements? Trial grounds for new improved varieties and chemicals?

**Irrigation facilities**—Updated? Adequately powered? Clean? Protected against vandalism? Provision for complete drainage before freeze-up? Water supply adequate for next season? Is over-watering or under-watering a big problem?

## Other Facilities

**Superintendent's office**—Well appointed? Clean? Good library? Available and known to members? Plans and blueprints up-to-date and stored properly?

**Maintenance buildings**—Well designed? Fence or shrub screens for privacy? Neat and clean? Trash disposal? Adequate shop facilities for repairs and maintenance? Showers and other facilities for workmen? Design for student trainees? Display cases holding materials for study and learning?

**Equipment**—Program of replacement or obsolescence in effect? Parts needed? Working efficiency? Overhauls required? Storage conditions? New improved designs to improve efficiency?

**Crew**—Adequate well-trained year-round staff? Provision for seasonal help? Benefits and inducements to improve loyalty.

**Student trainees**—Provision for continuity? Facilities to encourage future applications? Approval of club officials for program?

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# No Mixing No Spraying No Snow Mold!

*Spread DRY Calo-Gran... and forget your sprayer.*

Now you can get snow mold protection without hauling out your sprayer or turning on the water lines. Just pour dry, granular Mallinckrodt Calo-Gran® in your spreader, and away you go!

Three solid years of experience prove that Calo-Gran stops snow mold for sure. Heavy mercurial content keeps it working in your turf for months. On the average green, you'll get this sure protection for less than \$20.00.

Come spring, you'll see your turf green up faster and come up healthier, because Calo-Gran stops other kinds of cold-weather fungi, too.

So don't let snow mold spoil your season. Sure, easy protection is close at hand. Call your Mallinckrodt distributor and get Calo-Gran in your turf now.

TURF PRODUCTS

**Mallinckrodt®**

CALO-GRAN

MALLINCKRODT CHEMICAL WORKS / ST. LOUIS • NEW YORK • LOS ANGELES



# Accent on management

by Ken Emerson *Executive Director, National Club Association*

Figuring golf handicaps, long a much shunned task and the subject of endless buck passing on the average golf club's staff is rapidly succumbing to data processing techniques. Such applications to the other day-to-day operations of the club have been much slower, however.

Although computers, computer service bureaus, and data processing systems are fast becoming the workhorses of the business world they have yet to really take hold in the club industry. There has, in fact, been a noticeable resistance to them.

Listen to a few of the comments from the traditionalists:

"Too expensive."

"Members won't accept it."

"OK in business maybe, but it can't be applied to clubs."

"We're too small; in a few years, perhaps."

The truth is that it's not a matter of "whether" or "when", but *how*.

How can you, as the manager of a golf club, use this management tool today? How does it fit into your day-to-day operations?

Part of its problem in gaining acceptance is the need to put data processing in its proper perspective in the larger field of management information systems. Just as a portion cut steak is a part of the convenience foods picture so a unit record system is a part of your office information system.

And just as that portion cut steak will reduce food cost only when properly used in conjunction with other good cost control methods, so data processing is useful only as it can successfully retrieve, interpret and make meaningful information available to the club manager. This is the real intent of management information systems.

Relieving the work load is, of course, a desirable and generally a realizable benefit, but it is not one that necessarily follows the installation of a data processing system.

In fact, if the reduction of labor costs is the primary reason for considering the installation of a data processing system a club would be wise to investigate the services your local bank or computer center can offer. This may well be the best answer.

It is certainly one that has worked well for Oak Ridge Country Club in Minneapolis and Paradise Valley Country Club in Phoenix. One uses a bank and the other a computer center to handle receivables and the payroll.

Payroll is probably the best place to begin cost comparisons of your present system with a computer operation. The time you spend on making up the payroll is easily identified and the cost can readily be checked against that quoted by your bank or computer center.

Handling receipt of payments on member's accounts is, perhaps, the next step. By changing your remittance address to a special Post Office box and authorizing your bank to pick up its contents you can accomplish the following:

Your bank will:

(1) Open the envelopes. (2) Sort and process the checks. (3) Deposit them to the club's account. (4) Deliver to the club all deposit slips and photostats of the checks for posting.

These two services are the basic means by which your bank or computer center can help you. You can go a bit further by adding your sales chits—food, bar, golf shop, locker room charges, etc.—to the service either by the direct delivery or by Dataphone.

This single, additional step will, in effect, take your entire accounts receivable department out of your office and into the bank.

It will mean that your bank will:

(1) Post charges to the member's account. (2) Bill him at the end of the month. (3) Give you a sales record department at the end of the month. Or on any given day if that is what you want.

You will also have eliminated the need for a considerable amount of equipment and the time needed to prepare and mail monthly statements. In addition your records will be secure.

Charges for this type of service are usually made by the unit, either on the basis of the number of chits or sales, or by the number of members and, in the case of payrolls, the number of employees. Some clubs with large memberships and a great many sales transactions have chosen to set up their own computer centers. Such a club is Kenwood Golf and Country Club of Washington D.C.

Kenwood makes use of an IBM 526 card punch, an 082 sorter, and a 402 alphabetical accounting machine. The equipment is versatile enough to perform the following functions:

Daily: Tabulate charge tickets

Summarize charges by department

Tabulate cash receipts

Monthly: Bill members

Summarize statements  
Provide statistical reports on the membership.

Quarterly: Update membership lists.

Make Federal and State tax reports.

The system also enables the club to maintain completely current

*continued on page 78*





## jack-of-all-trades

Grounds maintenance. Light hauling. Or park improvements. You name it. Harley-Davidson Utilicars can handle it. What's more, they cost less to own and operate. Gasoline and electric Utilicars can be custom built to perform a wide variety of jobs. And they're available with turf-protecting or road-hugging tires. A simple ignition device called Dynastart shuts off the engine on our gasoline car as you lift your foot from the accelerator. Eliminates gas-wasting

idling. The automatic transmission also eliminates needless shifting and any possibility of tearing up the turf and the transmission. Service? It's just around the corner, thanks to our nationwide network of servicing dealers. For the complete story about cost-saving gasoline and electric Utilicars, see your Harley-Davidson dealer first chance you get, or write: Manager, Commercial Car Division, Harley-Davidson Motor Co., Milwaukee, Wisconsin 53201.



**HARLEY-DAVIDSON**

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# Turfgrass research review

By Dr. James B. Beard

## Effect of Sawdust on the Germination and Seedling Growth of Several Turfgrasses.

D. V. Waddington, W. C. Lincoln Jr., and J. Troll\* *Agronomy Journal* 59(2):137-139. 1967 (from the Department of Plant and Soil Science, University of Massachusetts, Amherst, Massachusetts 01003).

The effects of sawdust from 12 species of trees; pitch pine, white pine, white ash, red oak, Norway spruce, white oak, American elm, white birch, eastern hemlock, American basswood, sugar maple and red maple, on the germination and seedling growth of Highland colonial bentgrass, Seaside creeping red fescue and Merion Kentucky bluegrass were studied.

Fresh sawdust of all 12 tree species caused a suppression of growth with the most severe phytotoxicity noted with ash and red oak. Growth suppression from fresh sawdust was the greatest with Merion, somewhat less with Pennlawn and the least with Highland and Seaside bentgrass.

The data indicated that the toxicity was caused by a water soluble component of fresh sawdust rather than a decomposition product. When the sawdust was weathered for two to seven months the adverse toxic effects diminished substantially.

*Comments:* Consideration is sometimes given to the possibility of using sawdust in place of peat as a source of organic matter for incorporation into soils prepared for putting greens and trees.

The use of sawdust is of particular interest when there is an adequate local supply. Sawdust does

function as a source of organic matter for increasing the soil humus level, cation exchange capacity, aggregation, moisture holding capacity and aeration porosity.

The above data suggests that the use of fresh sawdust should be avoided in turfgrass seedbeds. If sawdust is used, it should be subjected to weathering for an extended period of time. Another adverse effect resulting from the use of sawdust is the nitrogen deficiency which often occurs on turfs grown on a soil-sawdust mixture, especially when the sawdust is relatively undecomposed. Nitrogen is required for decomposition of sawdust and thus competes with the turfgrasses for the nitrogen present in the soil.

For this reason, sawdust which is in an advanced stage of decomposition is preferred for use in soil amending. Keep in mind that a higher fertilization rate may have to be applied when sawdust is used as a soil amendament.

## Root Growth of Bermudagrass Varieties at Three Mowing Heights in 1966.

W. R. Kneebone. 1966 Report on Turfgrass Research, University of Arizona, Report 240. pp. 15-17. (Department of Agronomy, University of Arizona, Tucson, Arizona 85721.)

Twenty-two bermudagrass varieties were evaluated at cutting heights of three-fourth and five-sixteenth inch plus one strip which was left unmowed. On the unmowed plots, the maximum heights achieved were two inches for Tifdwarf; five inches for Tifgreen;

nine inches for Tifway and Santa Ana; and eleven inches for U-3 and Arizona common bermudagrass. The leaf growth rate of Tifdwarf was extremely slow. Evaluation for leaf texture and density showed Tifdwarf, Santa Ana, Tifgreen and Tifway to be acceptable while U-3 and Arizona common were inferior.

In late fall, two-inch diameter plugs were collected to a depth of twelve inches. The roots were washed free of soil, oven-dried and weighed. Tifdwarf, Tifway and Tifgreen, in that order, produced a greater quantity of roots, but the differences were not great.

Also, the five-sixteenths inch mowing height treatment resulted in superior root production compared to the three-quarter inch and unmowed treatments. The authors suggested that the greater root production was due to an increased density at the lowest cut or resulted from reduced vigor caused by thatch development at the two higher cutting heights.

Coated Urea, Thiourea, Urea-formaldehyde, Hexamine, Oxamide, Glycoluril and Oxidized Nitrogen-enriched Coal as Slowly Available Sources of Nitrogen for Orchardgrass.

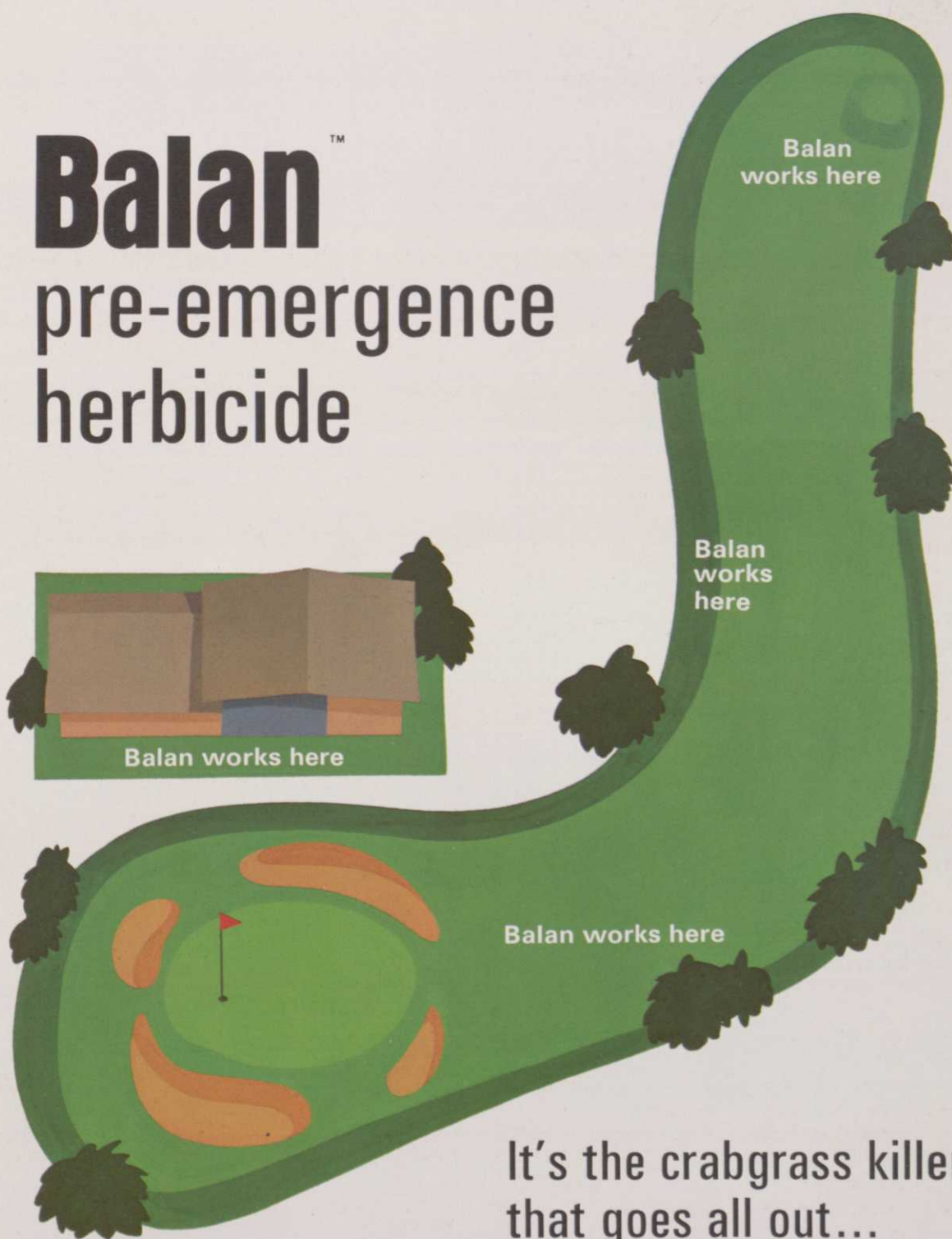
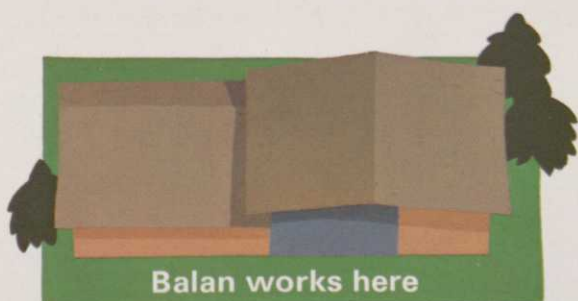
J. D. Beaton, W. A. Hubbard and R. C. Speer. *Agronomy Journal* 59(2):127-133, 1967, (from the Research Station, Research Branch, Canada Department of Agriculture, Kamloops, B. C., Canada).

The Nitrogen uptake and apparent recovery of applied nitrogen were determined for ten nitrogen carriers following a single nitrogen

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# Balan<sup>TM</sup> pre-emergence herbicide



It's the crabgrass killer  
that goes all out...  
all over...all season.

# Balan gives you pre-emergence undesirable grasses. Works

**All-out control: tests prove Balan's effectiveness.** There's good reason why many fine golf courses today count on Balan in their weed-control programs. First Balan was subjected to long, exhaustive testing at the Eli Lilly-Elanco research center. Its crabgrass-stopping power was confirmed during years of trial in the field. Leading universities added their recommendations after thorough testing.

When the findings were made known, many

turfgrass professionals put down test strips on their own fairways. And they agreed with the plant scientists. Balan works. Balan stops smooth crabgrass, hairy crabgrass, goosegrass, watergrass (barnyardgrass), yellow and green foxtail on established turf. Stops them cold. Check with the university turf specialist in your area and see.

**\*All-over control: Balan's modest price permits it.** Costs as little as \$15 per acre, depending on type of turfgrass and climatic zone.



## This side-by-side test is proof.

Straight through the summer and into fall, Balan continues working in the treated area at right. Desirable turf isn't crowded out by crabgrass, isn't competing for moisture and nutrients. Look how crabgrass has taken over the untreated area at left.

