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Here's a golf car, built by specialists in golf course maintenance equipment, that has all the features you have been looking for. It's easy on the turf...it's super-safe...it's rugged, dependable and trouble free!



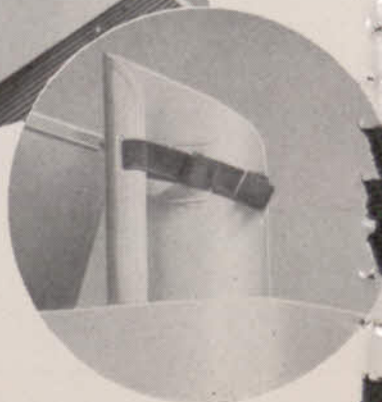
With only three simple controls, brake, accelerator and switch, the Worthington Champ is easy to drive.



A rugged motor drives both wheels through a differential, making the car easy on the turf in turns.



Only the Worthington Champ gives you 200 ampere-hour batteries for more travel between charges.



The Worthington Champ provides ample space for two golf bags, as well as other equipment.



**WORTHINGTON
MOWER COMPANY**

Stroudsburg, Pennsylvania

WORTHINGTON



**GOLF
CAR**



43 YEARS OF GOLF TURF

**EXPERIENCE PROVES THE WORTHINGTON
CHAMP WELL WORTHY OF THE NAME—**

Here's the car you'll want on your course. It's easy on the turf of your finest fairways. Low center-of-gravity makes it almost impossible to tip over. With big, dependable, 200-ampere-hour batteries you get more play between charges. Try this car on your course today. Your Worthington Golf Car Dealer will be happy to arrange a "no obligation" demonstration!

MAIL COUPON TODAY



**WORTHINGTON MOWER COMPANY
STROUDSBURG, PA.**

Please send me complete information on the
Worthington Champ Golf Car.

Name _____

Address _____

City _____ Zone _____ State _____

McLaren's Records Give Cost Picture

When the green committee at the Oakwood CC in Cleveland, O., begins compiling the many columns of figures that go into the preparation of the annual maintenance budget, its task is greatly simplified because of the extensive records kept by Supt. Malcolm E. McLaren.

Five separate work sheets are used by McLaren in accounting for the purchase and maintenance of equipment, fertilizer, fungicide and insecticide application, grounds payroll and work performed on each of the club's 18 holes. Detailed summaries of these are made available to the committee at budget time.

To aid other supts. in setting up similar records, McLaren has graciously consented to allow GOLFDOM to list the items that appear in his work sheets.

Equipment

Year Purchased	Amount	Cost	Est. Life	Annual dep.	Replace in (year)
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Tractor & Truck Record

Gas	Grease	Oil	Tires	Battery	Oil Filter	Hours Operated
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Grounds Payroll (Bi-monthly)

Name	Hours	Rate	Gross Pay	Deductions	Net Pay
				S. Sec. Hosp. W. Tax	

Fertilizer, Fungicide, Insecticide Application Record

Hole No. _____

Date Applied	(List each type and brand of fertilizer by No. of lbs.)	Same for Fungicides (ozs.)	Same for Insecticides (ozs.)
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30 Day Maintenance Cost Record

(Allotment of employee time spent in maintenance of greens, tees, etc. for the month of _____)

Greens:

Cutting, Polcing, Top dressing, Spraying, Watering, Cup Change, Fertilizing, Renovating.

Tees:

Cutting, Watering, Fertilizing, Ball Washers & Towels, Renovating.

Fairways:

Cutting, watering, Fertilizing, Weed Control, Renovating.

Rough:

Cutting, Mowing & Trimming, Weed Control

Repairs:

Course Equipment, Repairs to Bldgs. Golf Service Eqpt.

Miscellaneous:

Compost, Tile, Repair, Paths, Bridges & Steps, Raking Bunkers, Hauling, Trees, New Construction, Water System, Ashes & Coal, Tennis Courts, Clubhouse grounds.

Supt's Bulletins Explain Course Conditions at Woodbridge

R. L. (Dick) Viergever, supt. of Woodbridge (Calif.) G & CC, is now writing a monthly bulletin that keeps members informed as to what is going on so far as maintenance of the course is concerned. Dick posts the bulletin in the pro shop and in both the men's and women's lockerrooms.



Viergever

Last month, Viergever's bulletin explained why it was necessary to aerify and tear up the 17th green and why it will be necessary to

rebuild the entire putting surface there. Brownspot that appeared on the 3rd green also was explained.

Viergever points out that it has never been much of a problem to explain a supt's problems and reasons for doing certain things to the green committee or club directors, but members often are kept in the dark about such things. The bulletin, he feels, will keep just about everyone around Woodbridge abreast of what is going on.

Play Open in Caracas

Top U. S. golfers have been invited to compete in the second Open tournament to be held at Valle Arriba GC, Caracas, Venezuela, from Nov. 28 through Dec. 1.

**The Fifth International Trophy
and Canada Cup Championship
International Golf Matches**

sponsored by

International Golf Association,
Japan Golf Association
and Yomiuri Shimbun

October 24 through 27, 1957

at the Kasumigaseki Country Club,
Tokyo, Japan

Previous winners:

Argentina 1953

Australia 1954

United States 1955

United States 1956

1957 United States team:

Sam Snead, Jimmy Demaret

International Good-Will through Golf

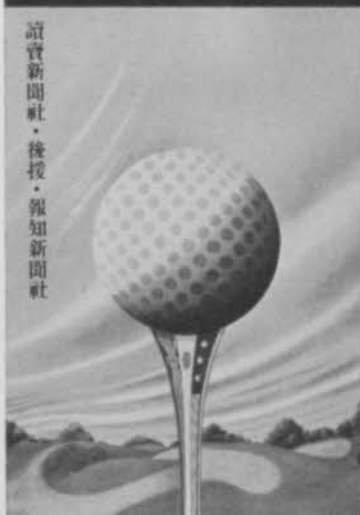
第5回インターナショナルトロフィ
第5回カナダカップ
争奪ゴルフ世界選手権大会

主催・国際ゴルフ協会・日本ゴルフ協会



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Why superintendent Du Pont Tersan[®] 75 to pro

TURF FUNGICIDE

With "Tersan" 75
—NO SNOW MOLD

No "Tersan" 75
—SNOW MOLD ATTACKS

At Oak Park Country Club, "Tersan" 75 protected turf on left from snow mold that attacked untreated area.



W. E. UPGRAFF, Oak Park Country Club,
Oak Park, Illinois,

reports: "Our results with "Tersan" 75 for preventing snow mold over the past four years have been excellent. It's easier and much less expensive to prevent snow mold with "Tersan" 75 than to replace damaged turf. This year, I plan to treat all greens, tees, banks and approaches with "Tersan" 75."

TERSAN[®] 75 Turf Fungicide • **SEMESAN[®]**

s. everywhere prefer event snow mold attacks



O. JOHNSON, Happy Hollow Country Club,
Omaha, Nebraska,

reports: "I've had no disease problems in 20 years of using 'Tersan' 75 to prevent snow mold and all other turf fungus diseases. I never have to worry about injuring the grass with 'Tersan' 75, even if an excessive rate is used. I don't intend ever to use a fungicide other than 'Tersan' 75—it keeps our members happy."



F. E. MAURINA, Tripoli Golf Club,
Milwaukee, Wisconsin,

says: "We have been using 'Tersan' 75 to prevent snow mold for the past 8 years with very good results. Generally, we apply 'Tersan' 75 in late November, middle January and early March at the rate of 8 oz. per 1,000 sq. ft. in spray or dry form."

H. FANNIN, Mayfield Heights Country Club,
Cleveland, Ohio,

reports: "I've been using 'Tersan' 75 since it first became available. To prevent snow mold, I apply 'Tersan' 75 before the first snow in November, and again in January. Of course, 'Tersan' 75 is my old stand-by for large brown patch control, too."

Prevent snow mold with Du Pont "Tersan" 75

Superintendents everywhere report easy, economical and reliable snow mold prevention with Du Pont "Tersan" 75. A proven thiram fungicide, "Tersan" 75 also protects your turf against large brown patch, dollar spot and other

important fungus diseases. "Tersan" 75 is packaged in handy 3-lb. bags for easy measuring and handling. For extra disease protection and maximum safety, combine "Tersan" 75 with Du Pont Semesan® Turf Fungicide.

Fungicide • **VPM** Soil Fumigant



REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

all chemicals, follow label instructions and warnings carefully.

1957 Turf



O. J. Noer

NOER: Heavy Rains Hurt; Advantages of Bent Greens; Bermuda for Fairways

THE 1957 season was good or bad — depending upon the particular spot in the country. Weather was never more variable. Courses in the East, from Mass. south to Washington, were plagued with extreme drought. This has created an interest and demand for complete water systems. There was too much water in many parts of the Midwest. Chicago and Ind. had several heavy rains of 3 to 6 ins. in less than 24 hours followed by hot, humid weather.

Poa annua took a beating and there was extensive damage in flooded, low-lying areas. The same type of injury occurred in the Minneapolis-St. Paul area. More than the normal early summer rainfall prevailed extending west to Omaha and beyond. Heavy infestations of crabgrass and goosegrass followed in its wake. Parts of Florida were drenched with excessive rainfall. Bermudagrass turf became thin as a result of continuous overly wet soil. Complaints came from California about performance of grass on putting greens and on other areas of thatched grass. Nighttime temperatures were said to be higher than normal. Wilting and localized dry spots must have been responsible for part of the troubles. Both are associated with hot day and nighttime weather.

Supts. in the Kansas City to Philadelphia belt have learned to expect these things every summer. They know how to prevent damage or loss of turf. It would be well for others to learn their secret. When grass turns blue and shows footprinting they promptly apply a little water by hand to revive the wilting grass and to reduce surface soil temperatures. During bad spells of hot weather they watch seven days a week. These supts. have learned the im-

portance of using water lightly at the first sign of wilt. A delay of half an hour can be the difference between saving and losing grass in critical weather.

Learn to Use Aprons

The winter was not too bad in the snow mold belt — north of a line through New York, Chicago, and beyond. Fungicides gave good control. Clubs have learned to include aprons around the greens and adjoining slopes which drain onto the green as parts of the treated area. Tersan, the phenyl mercurials, etc., have been acceptable except in areas where unusually severe attacks can be expected. The trend there is toward the 2/3 calomel, 1/3 corrosive sublimate mixture at 3 to 5 ozs. per 1,000 sq. ft., either by liquid or dry method. In the Prairie provinces of West Canada the use of corrosive sublimate alone is the favorite treatment at 3 to 4 ozs. per 1,000 sq. ft. It is applied dry with sand or dried activated sewage sludge as the carrier to facilitate uniform distribution and lessen grass discoloration.

In eastern Canada, notably in the Montreal area, turf on the greens appeared to have wintered well. The grass got off to an early start. Then there was a cold snap followed by windy, drying weather. The greens at some clubs fared badly. The grass was mostly poa annua. Recovery was slow and did not start until temperatures were favorable for seed germination. At other clubs there was no loss of consequence. Their greens had a good cover of bent grass with very little poa annua. Its loss was not noticed.

Clubs with bad greens blamed the man in charge rather than the grass because
(Continued on page 72)

Roundup

GRAU: Diminishing Water Supply Calls for New Appraisal of Fertilizers



Fred V. Grou

The 1957 Turf Roundup could well be resolved around a single subject — water. During the year, the northeastern part of the country suffered one of the worst droughts in history. Parts of the southwestern region had seven years of rain dumped on it within a few weeks. In Kansas and Chicago, two months of rain fell in one day. Recently, in Florida, we learned construction work that was started in May couldn't be finished until August because of continuous heavy rains. Other sections in the central area had nearly perfect rainfall — just enough at proper intervals. On the west coast, where they really know what drought is, the 1957 Turfgrass Field Day, sponsored by the S. Calif. Turfgrass Council, featured Water Supply, Water Quality and Water Management.

Mountain springs in Pa. (Fountain on the Mountain) that apparently had flowed unceasingly so long as old settlers can recall, now are bone dry. It is a matter of conjecture if they will run again. Wells in many parts of U.S. have gone dry. Deeper drilling has not been successful in all cases.

It is reported that, by 1975, industry will require 215 billion gals. of water daily. This is a 100% increase over current industrial consumption and more than we now consume for all uses combined.

It is estimated that nearly three-fourths of all water that falls is lost through evaporation. Part of this loss is being reduced by floating a monomolecular layer (1 molecule thick) of cetyl alcohol (hexadecanol) on the surface of enclosed bodies of water (lakes and reservoirs). This cetyl alcohol is tasteless and odorless and can be floated safely on reservoirs being used

for drinking. It has been calculated that 70% of the evaporation from a surface of water can be prevented by this thin layer of material.

Experts are working hard on the problem of saving and utilizing the water we have and to trap and hold the rain that falls. It is a task of gigantic proportions. Other scientists are learning how to make fresh water out of salt water. Several methods are feasible and some are in operation but the cost is high.

It also has been proposed to tow icebergs into a harbor, close the gates and let the bergs melt into usable drinking water. Fresh water floats on top of heavier salt water, thus providing a supply of good water.

In some areas streams are being diverted into deep wells, storing seasonal excesses below ground and recharging the ground water, which often is used 40 times as fast as rain and snow can replenish it by seepage.

In the turfgrass field, attention is naturally being directed to those grasses which can use water efficiently and are drought resistant and drought tolerant. Among these are Bermudagrass, bluegrass, tall fescue, buffalograss, bahiagrass, centipedegrass, red fescue and zoysia. Destruction of bentgrasses during the severe drought periods has been of such magnitude it is doubtful if they will be included in any future seed mixtures for unwatered turf. *Poa trivialis*, another moisture-loving grass, has perished by the acre. Lawns that have been planted to mixtures containing this grass have suffered severely where water was denied.

Good grasses, well fertilized, turn brown
(Continued on page 103)

1958 clubs feature new

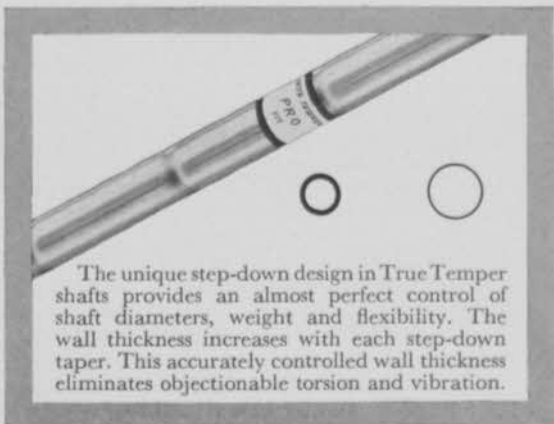


... Produced to meet the exacting design specifications developed by golf professionals and the club manufacturer.

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CMB is a new alloy steel of flawless quality and tremendous strength, created by Timken Company for use in True Temper PRO FIT shafts exclusively.

This special analysis, chrome-manganese-boron steel alloy gives PRO FIT shafts an amazing new toughness, plus a new control of flexibility. These characteristics are employed in meticulous manufacturing and testing techniques to produce golf shafts that will give increased accuracy, greater distance and a better "feel."



The unique step-down design in True Temper shafts provides an almost perfect control of shaft diameters, weight and flexibility. The wall thickness increases with each step-down taper. This accurately controlled wall thickness eliminates objectionable torsion and vibration.