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spirited champion  
of them all!!**

**the WESTCOASTER**

*"Super 36"*



Here it is! The all-new Westcoaster "Super 36" — with the Bold New Look and unmatched stallion-spirited performance. The body of the "Super 36" is tough Fiberglass. Color is molded-in. No chance for rust to mar its sleek beauty.

Elliptical rear leaf springs, shock absorbers and aero-type front suspension give you a feather-bed ride, ground-hugging stability. New adjustable seat automatically tailors the "Super 36" to fit you.

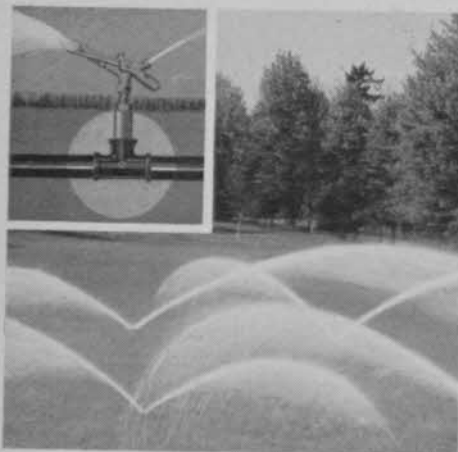
A new fool-proof built-in recharger is a Westcoaster exclusive. These are only highlights, of course, — actually you can count at least a dozen engineering features that make the Westcoaster "Super 36" your most comfortable golfing companion.

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players in the matches to compete both for team and individual titles.

Last year at Wentworth, Eng., the U. S. carried off both trophies with two of its all-time immortals, teamed for the first time. Ben Hogan won the International Trophy with a 72-hole score of 277 and teamed with Sam Snead to capture the Canada Cup with a combined stroke total of 567.

It was the first appearance in the British Isles of Hogan since his dramatic British Open victory at Carnoustie in 1953. Record Crowds of 20,000 swarmed the Wentworth course to watch Hogan and Snead in action.

"I wouldn't be surprised if we get an even greater reception in Tokyo," said Hopkins, who was honored by America's golf writers recently for his contribution to international good will through golf. "Japan has shown a tremendous interest in golf."

### Japanese Like It

Golf is relatively new in Japan. Nevertheless, there are at least 500,000 players regularly playing the country's 70 courses. Kasumigaseki CC course, 30 miles from Tokyo, is a 6,895 layout and compares with the famed Winged Foot course at Mamaroneck, N. Y.

Visiting golfers in Japan will find a unique setting. Japanese players themselves hit their shots speedily and play without undue delay or deliberation. Caddies are teen-age girls, neatly dressed in blue slacks and jackets.

Matsutaro Shoriki, who popularized baseball in Japan by bringing over the late Babe Ruth and later sponsored visits by the Brooklyn Dodgers, is honorary chmn. of the international tournaments.

Yuji Kodera of the Japan Golf Assn. will serve as general chmn. of the competition. Any profits derived from the tournament will be used to establish a four-year scholarship fund to send a Japanese student to an American university.

Hopkins' future plans in international golf also include the establishment of junior and senior tournaments which might run concurrently with the International matches or be staged at different sites and dates.

Check the Manufacturing News

Page 98

for Information on New Products



**GREEN FLOSS-COVERED  
METAL CLUB RACKS**

TOP & BOTTOM OF WOOD RACK



Width - 11 in. Depth - 8½ in.

**TOP & BOTTOM OF  
IRON RACK**



Length - 11 in.

Length - 10 in.

Professionals who saw the Wittek Club Racks at Dunedin this winter ordered over 1000 sets.

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The racks that make it easy for your customers to sell themselves.

These are the modern display racks that are helping pros everywhere sell more golf clubs. They always keep your clubs orderly and prominently displayed — and make it tempting and easy for your players to get their hands on them.

Compact design and minimum mounting space will meet the widest variety of display areas and arrangements.

*Improve your display — increase your sales.*

**IRON RACKS — Each \$3.75 WOOD RACKS — Each \$4.65  
COMBINATION SET — Wood and Iron — \$8.00.**

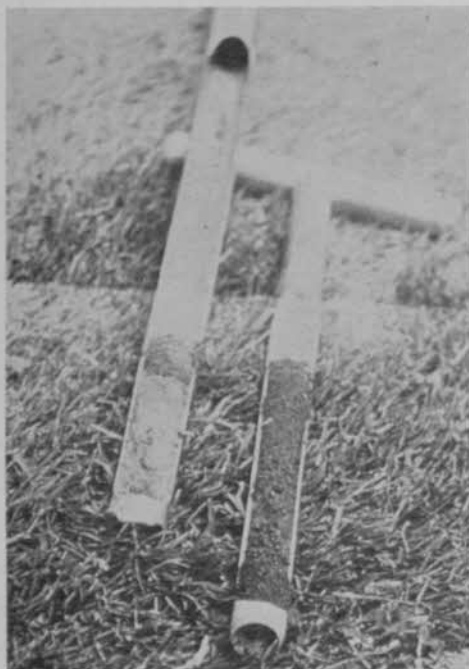
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Soil cores removed from Aqua-Gra treated (right) and untreated areas on heavily matted aprons of Plainfield (N. J.) CC. Note dry spot in background and powder-dry soil (core at left). Moist core from treated area is 15-ins. long and was obtained from soil under same mat condition.

## Tells How Wetting Agents Increase Water's Efficiency

*Soils Treated with New Non-Ionic Substance Hold Moisture Longer as Result of Lab Findings*

By **ROBERT A. MOORE**

Vp. Aquatrols Corp. of America

**I**F WE look back over the history of turfgrass management, we see constant development and improvement in fertilizers, new and special grasses, special soil mixtures, improved sprays, special equipment and the like. However, through all this development and in your daily work of producing better turf, we have been governed by the physical limitations of plain water.

Since plain water governs many of our maintenance procedures, Aquatrols Corp. has endeavored to change its physical properties so that water could be more efficiently used. Certainly plain water isn't sacred and after analyzing results obtained in the laboratory and more important, in actual use, we knew we were approaching the problem from the right direction. The use of a wetting agent to make water wetter and more efficient definitely produced and maintained better turf.

### **New Agents Work**

But first, let us start at the beginning with a brief definition of what wetting agents are and how they work. Wetting agents have two basic characteristics: First they are surface active; and, second, they are penetrating agents. In other words, soil wetting agents penetrate into the coil and attach themselves to the surfaces of soil particles. In this way they facilitate

the wetting of these soil surfaces by subsequent waterings.

These materials are not to be confused with soil conditioners. The wetting agent is merely held in the soil and in no way changes soil texture. However, it does change the physical properties of water that come in contact with treated soil.

### **Lowers Surface Tension**

In changing the physical properties of water, a wetting agent lowers the surface and inter-facial tensions, permitting a freer movement of the water. This yields a better soil-moisture distribution. Therefore, soil wetting agents have many beneficial applications where water is used in turf maintenance.

Actually, there are various kinds of wetting agents, and the general types are classified as ionic and non-ionic.

By way of definition, ionic materials form charged particles when in solution and are generally more chemically active.

Non-ionic materials do not form charged particles when in solution and are comparatively chemically inactive.

Comparing these physical differences between ionic and non-ionic wetting agents

\* The above article is based on a paper by Moore which was read before the 1956 Pennsylvania Nurserymen's Assn.

# THE *Quick-Change* TURFGRASS TOOL



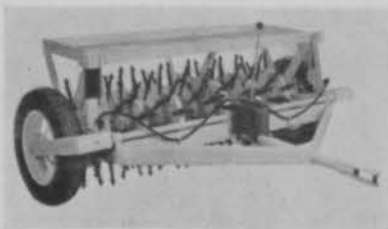
WEST POINT VERTI-CUT\*

**Easy Adjustment**  
from  
**Verti-Cutting Position**  
to  
**Spiking Position**

No need to buy another turfgrass tool for spiking — the West Point Verti-Cut converts easily to a spiking position so that soil can be kept open during periods of adverse weather and/or heavy play.

Verti-spiking, following Aerification and Verti-cutting, prunes surface roots and works the soil into the thatch. Verti-spiking provides a means for water to move off the surface, thus materially reducing injury from scald during hot weather. Write for full information about this West Point 2-in-1 turfgrass tool.

## *The AERIFIER Is Basic to Turfgrass Maintenance*



GRASSLAN AERIFIER

The loose-walled openings made by the AERIFIER Spoons insure effective distribution of fertilizer, lime and insecticides . . . encourage root growth . . . reduce wasteful water runoff.

With four tractor-drawn and three power driven AERIFIERS, West Point has the right AERIFIER to fit your needs and your budget.

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LONG-LASTING NITROGEN FERTILIZER,  
ALWAYS SPECIFY...**



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BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

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FERTILIZER COMPOUND

"...helped our greens take heavy play,  
hot weather and high humidity  
better than any greens in my  
30 years' experience"

Reports **"Hank" Hennings**, Superintendent  
Rock Island Arsenal Golf Club  
Davenport, Iowa

Mr. Hennings uses Du Pont "Uramite" for the base of his fertilization program. He applied "Uramite" in the fall of 1955—10 lbs. per 1,000 sq. ft.; and in the spring of 1956—15 lbs. per 1,000 sq. ft.

His July 1956 report continues: "We now have gone through over a month of hot weather with temperatures as high as 95° and humidities up to 75%. As can be seen, all greens are in excellent condition in spite of two tournaments this week in addition to

the regular heavy play. The players from the four competing clubs in the tournaments commented that these are the outstanding greens in the vicinity. They, too, liked the uniformly good texture and color.

"We have not had one attack of fungus to date, and it appears my regular treatments are more effective. I credit this to the healthier turf resulting from the strong root system and greater turf density that has developed since I first applied 'Uramite' last fall."

## The nitrogen with built-in control

- 38% nitrogen from methylene ureas
- Has prolonged release rate . . . resists leaching
- Uniform granules are free-flowing
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to a field application on the basis of actual observations in turfgrass and landscape work, we find two evident facts:

(1) The ionic wetting agents are erratic in soil applications which is attributed to the higher chemical activity causing them to combine with certain soil matter so that they no longer act as wetting agents.

(2) The non-ionic wetting agents are consistently beneficial in soil use. Being chemically inert to soil matter, they do not combine to lose their identity as wetting agents.

As you can readily see, there are wide variations possible in the performance of wetting agents in soil use. It is interesting to note that these agents can actually vary in behavior from "water-wetters" to "water-repellents." Of course, we here are interested in "water-wetters."

From the work that has been done, the ionic wetting agents have been shown to be:

- (1) Specific in use
- (2) More toxic to plant material and micro-organisms than the non-ionic types, and

(3) Erratic in soil applications

Non-ionic wetting agents have been shown to be:

- (1) Broader in application
- (2) Less toxic to plant material and micro-organisms than the ionics.
- (3) Promoters of micro-organism activity
- (4) Consistently beneficial in soil use
- (5) More effective

It was at the conclusion of many lab and university tests that we selected non-ionic "water-wetters" that gave the best performance. This selected blend of non-ionic wetting agents was then applied to various field problems under actual operating conditions by golf courses, nurseries, landscapers, greenhouses, cemeteries, parks, etc. These tests confirmed that there are many economically practical applications for a soil-wetting agent.

Having briefly described wetting agents and some of their behavior patterns, I am now going to discuss their application in solving many of the watering problems found in turf maintenance work.

### Localized Dry Spots

Under localized dry spots there are several known causes such as thatch, pimples or contours and hard-spots. (Compacted areas will be discussed separately). These areas are hard to water — puddling in some areas, running-off in others — but in all cases, it is difficult for water to pene-



Robert A. Moore, who wrote this article, inspects fifth green at Whitmarsh Valley CC in Philadelphia, which showed great improvement after it was treated with Aqua-Gro.

trate and wet the soil. Treating these areas with a wetting agent permits water to wet through thatch, to soak-in quickly on pimples areas rather than running-off; and to penetrate hard-spots. In each case, water is distributed evenly and deeply in the soil where the wetting agent is used. This makes waterings more effective, encourages deeper root systems and leads to less frequent watering.

Random illustrations from the field where controlled demonstrations were possible are as follows: Under thatch, Warren Lafkin in White Plains reports taking an area know to be badly thatched. The soil was dry enough to show signs of wilt. Half the thatched area was treated with the wetting agent and after a period of identical watering, the areas were inspected by taking soil cores. Water had uniformly penetrated 6 to 8 ins. in the treated areas as compared to less than 2 ins. in the untreated areas. There was a definite improvement in the grass in less than 24 hours.

Plainfield (N. J.) CC observed similar results in the case of heavily matted aprons.

Reports from Texas show a marked improvement in watering St. Augustine grass, which, as we all know, produces a very heavy mat or thatch. Watering treated areas was so much improved that the watering schedule could be cut in half.





## Read what superintendents say about DI-MET:

*"Our greens were badly infested with crab grass, sedge and dallisgrass. With DI-MET, for the first time, we have control of these weeds."*

**Frank Ward, Supt., Bradenton Country Club**

*"I cannot say enough for DI-MET. My greens had been full of both sedge and bull grass for years. DI-MET cleaned them up 100%. After applying DI-MET, I re-seeded and got a fine stand of grass."*

**A. G. Attaway, Supt., Hollywood Country Club**

DI-MET Liquid covers up to 40,000 sq. ft. per gallon. Available in gallon cans or 5 gallon drums. Applied with LINCK'S LIQUID SPREADER or hand or power sprayers. Effective, selective. Normally requires only two applications for complete control.

**Protect Greens, Tees, Club House Grounds**

### LINCK'S LIQUID SPREADER won't let you make a mistake!

For perfect results, apply DI-MET and other liquids with LINCK'S LIQUID SPREADER. Fast, lightweight, gives uniform coverage. No missed or over-dosed spots. For greens, tees, Club House grounds.

3 Models: Regular 4-gal. size illustrated. Estate size, covers 10,000 sq. ft. in 12 minutes. Junior Model ideal for spot spraying. See your distributor or write direct.

**O. E. LINCK CO., INC.  
CLIFTON, N. J.**



The second item under localized dry spots is pimples or contours that cause poor distribution of water in soil. This poor distribution causes the upper or face areas of these knolls, terraces, etc., to dry out faster producing dry-spots or areas of special water management.

Richlawn in Fort Worth, Tex., set out treated and untreated areas to demonstrate the benefits that could be obtained by the use of a wetting agent under these conditions. The areas that were terraced showed the following:

Untreated: (1) Level above terrace required watering every 4 — 6 days.

(2) Face of terrace required watering every 1 — 2 days.

(3) Level below terrace required watering every 6 — 8 days.

In the treated section all areas were watered on a 10 — 15 day schedule. Note the more uniform distribution of water as well as the reduced watering schedule.

Galloping Hills and Somerset CC in New Jersey reported that the use of wetting agents eliminated the problem of watering pimples or mounded areas on greens.

The third item under localized dry spots are hard-spots. These areas of the green are dense, hard to water, but are not the compacted areas in the normal traffic zone.

### Cures Hard-Spots

At Hercules CC, Wilmington, Del., several greens with histories of hard-spots were cured by treatment. Denver CC reported that the 18th green with a history of localized dry spots, showed no signs of drying until August after being treated with a non-ionic wetting agent in April. The spots were retreated with Aqua-Gro which "immediately restored the soil's ability to absorb moisture."

Several greens at the Olympic CC in San Francisco were so hard in spots that they couldn't be aerated, and consequently wouldn't wet more than  $\frac{1}{4}$  in. One full treatment gave 6 ins. of water penetration in subsequent watering. The hardness in these spots also disappeared.

Another interesting application was made at the Scioto CC in Columbus, Ohio. The 8th green never had any sun, being built low and in the wood. The green was hard and required frequent watering to keep it soft. This practice always caused trouble because of the lack of a drying sun. After one full treatment with the non-ionic wetting agent it was possible

to maintain the green with an infrequent watering schedule.

Fairview CC in Indiana and La Jolla CC in California both report improvement in watering dry-spots.

### Compacted Areas

Compacted areas are a major problem to the supt. on tees and greens and often on approach areas. Compacted soils are resistant to watering and lead to dry-spots unless special water maintenance is practiced. Compacted tees and greens also bring complaints from the golfers. When a non-ionic wetting agent is used on these areas, the water penetrates deeply into the soil with a uniform distribution. This even distribution of water in the soil causes a measurable increase in the softness of the soil.

One course that was treated had a tee that was so compacted that aerification was ineffective — no impression was made in the surface of the tee. Waterings were ineffective, wetting only 1 in. or less of soil. This same area was treated with the wetting agent and then watered. Twenty-four hours later soil sample cores showed excellent distribution of water 6 to 8 ins. deep. Three days later, aerification was completely effective. This application points up a good hand-in-hand application for very severe areas using the wetting agent first, watering, and then aerating.

### Improved Turf

Of course the use of non-ionic wetting agents is not limited only to curing problem areas as just discussed, but has many applications in the development of better plants.

For instance, we have numerous reports on the increased density of turf where wetting agents have been used.

At Plainfield CC there was a very definite increase in the boxes of grass removed from treated greens as compared to untreated — as high as  $8\frac{1}{2}$  to  $4\frac{1}{2}$ .

C. Arthur Righter, a landscaper in suburban Philadelphia, set out demonstration plots in several areas. Some of the turf plots were under Silver and Norway maples. He reported a much denser turf in the treated area with an increased rate of growth. He also spoke of a better color.

Richlawn of Fort Worth, substantiates these findings. The grass in the treated sections grew approximately 1 in. taller in a two weeks period. Somerset Hills Country Club reports that the turf on the treated greens was noticeably denser

*(Continued on page 92)*