



***“course kept in top condition
by the Agrico Program”***

says Frank Eck, Superintendent
Concord Hotel Golf Course, Kiamesha Lake, New York

“For many years we at the Concord Hotel Golf Course have kept our greens, tees and fairways in top condition by following the Agrico Feeding Program recommended by the Agrico Soil Service. I consider this Program, coupled with AGRICO and AGRINITE FERTILIZERS, to be real turf insurance for me.

Agrico's proven methods of feeding greens, tees and fairways give me the

healthy, dark green, deeply-rooted turf I want. That's why I follow the Agrico Program on my entire course. We're sold on it.”

The Agrico Soil Service will be pleased to recommend a balanced feeding program to fit the particular needs of your course, without charge or obligation. You'll be extremely proud of the results.

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Grau's Answers to Turf Questions



Can We Afford It?

Many courses are being built. Many more are needed. Some courses are in excellent condition, turfwise; others are in a sad state. To the trained eye it is readily apparent that nitrogen starvation is one of the reasons for thin, weedy turf on most courses. Fertilizer test plots confirm these observations.

When an approach is made to club officials and the supt. regarding an adequate feeding program, the response occasionally is likely to be, "Oh, we can't afford that!" The suggested program never is in excess of needs — quite often, for the sake of economy, it may be below the quantity known to be desirable.

It seems that when a club can afford to hire an architect and a builder to provide a course, surely there should be funds provided to properly maintain it. Without playable turf, a golf course is without excuse for existence.

Unfortunately, there are a few club officials who feel that the place to save money is in the purchase of fertilizer.

This is false economy. Recently a green chmn. told how he had saved his club a great deal of money by buying a low-cost material. It was applied at a rate to supply less than 40 lbs. of N to the acre for a season. The fairways were sadly in need of renovation. The chief cause was N starvation. Much member dissatisfaction was expressed.

Sample Requirements

The nitrogen requirements of an 18-hole course at a midwestern club, are about as follows:

	Total lbs. actual N for the year
Tees—6 lbs N per 1,000 sq. ft. per year	600
Fairways—4 lbs. N per 1,000 sq. ft. per year (estimate 40 A. of fairway turf)	7,000
Greens—8 lbs N per 1,000 sq. ft. per year	880

(Note: It is understood that Ca, P, and K and all growth elements must be in balance)

These figures are modest and do not represent the maximum that could be applied. Some greens get 10 to 12 lbs. N a year — 8 is about average. Bermuda fairways and greens can utilize much more N than bluegrass and bent. To use less than the required amount of N is to deny the grass its capability of providing a dense cushion of playable turf for which members pay their dues. Adequate feeding brings about these benefits:

Denser turf to make play more pleasurable;

More efficient use of water. Hungry plants require up to five times more water than those properly nourished;

Steadier growth;

Healthier grass with fewer disease problems and more benefit from fungicides.

Cost Is Reasonable

Cost of an adequate N feeding program is reasonable enough. At clubs where inorganic materials are used it may be as low as \$1,200. Where there is optimum feeding of natural organics it probably runs around \$3,500. In either case, depending somewhat on the standard of course maintenance, the figures mentioned probably don't exceed 5 or 6 and certainly not more than 7 or 8 per cent of the entire maintenance budget. Even if labor costs in handling fertilizer, storage and application are taken into ac-

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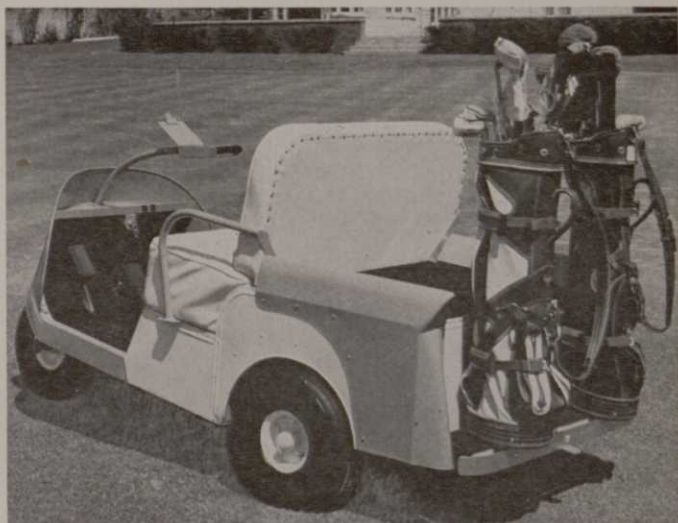
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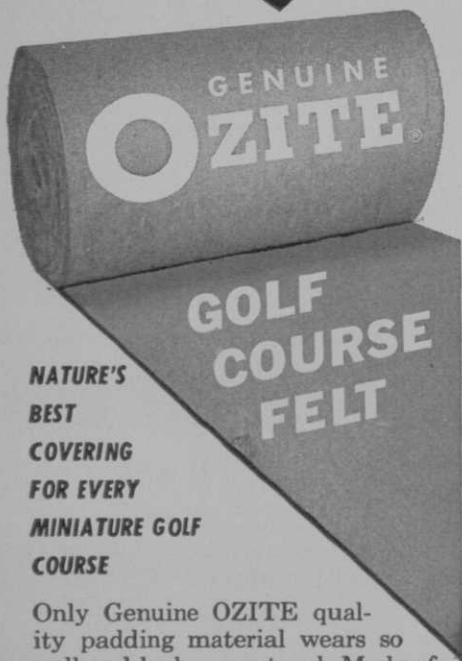
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count, the total cost for sufficient nitrogen to grow grass properly probably amounts to more than 10 or 12 per cent of the annual budget.

Club Needs Superintendent

Q. We have a major problem and that is lack of proper maintenance and upkeep of our greens. Our course is located in the Black Hills and we are unable to employ a permanent supt. Our playing season is relatively short, running from May 15 through Sept. 15. We do not have extremely hot and humid weather. We do have long winters with a large amount of snow, generally averaging around 12 ft. As a result there's considerable snow mold. We brush the greens as soon as the snow is off.

We do not have an aerating machine. So our greens have been aerified only once in many years. They have been topdressed twice in the past four years with 70% sand, not too fine, 30% dirt and other fertilizers, generally sludge. Other than being topdressed twice in a long time, we generally fertilize early each year after the snow is off. That is about the extent of upkeep. We have some chickweed, poa annua and other foreign matter. Test of plugs from our greens by state laboratories revealed that the pH is too high.

Our course was built in 1935. Our greens are bent and I understand very good materials were used in construction. The drainage is away from the green and is very good.

I would appreciate it if you would outline a definite program to aid in rebuilding our greens. Also explain the value of aerifying and topdressing and why so much sand is used. This will aid in explaining to our directors and members what is needed and the value of upkeep.

(South Dakota)

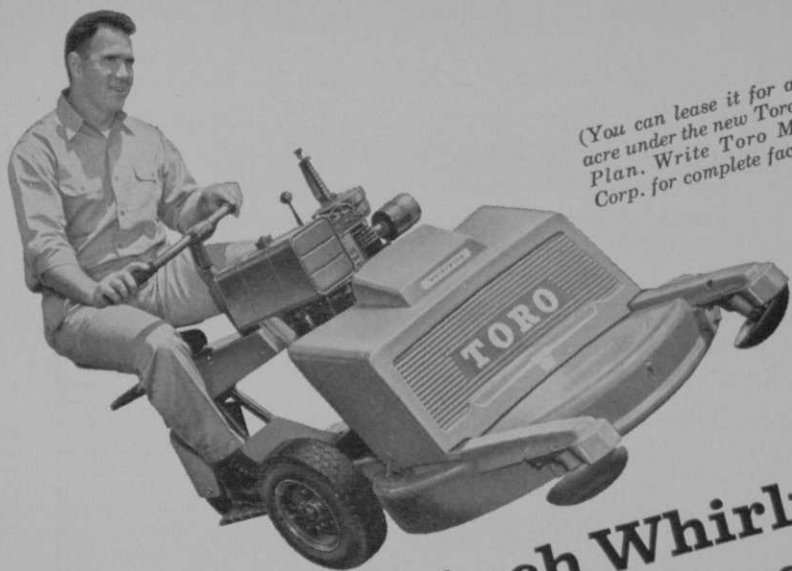
A.: A short playing season does not seem to be a valid reason for not having a full-time supt. A year-round man could assist with many things other than grass during the winter. With a good supt., many of your present problems would be cared for routinely.

It is quite possible that your greens are in need of a thorough thatching. Aero-thatching removes unwanted, excess material, and, at the same time, the one machine cultivates and aerates the soil. The playing surfaces are left intact. Water and fertilizers easily enter the rootzone. A good time to do the job is in spring when growth has started. Healing is much faster under these conditions.

In your case, and wherever minimum maintenance is desired or necessary, a twice-a-year feeding program is in your favor. For this you could make a spring application of a solid ureaform at 15 lbs. to 1,000 sq. ft. preferably just after aero-thatching. In late summer you would make an application of 0-20-20 at 5 lbs. to 1,000 sq. ft. plus 10 lbs. of solid ureaform. This is your entire feeding program.

Chickweed, poa annua and other foreign matter may be planted with unclean topdress-

(Continued on page 75)



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TORO 32-inch Whirlwind* steers with your fingers!

Look at the features of this new 32-inch Whirlwind by Toro. Look at that rugged circular housing stamped out of 9-gauge steel. No corners to catch clippings. More efficient cutting. Puts all the 9 horsepower to work. And this rotary gives you a side discharge chute for less clumping and clogging . . . an optional leaf deflector attachment . . . a reinforcing cone inside the housing, and an opposing cone-shaped housing deck to give super-strength, minimize vibration and fatigue failure of parts. Yet despite its heavy-duty construction, the new Whirlwind 32 can trim to within $\frac{1}{2}$ inch, turn around a 14-inch tree trunk.

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**Nineteen Get Degrees
at Mass. Turf School**

Nineteen turf majors received associate degrees from the Stockbridge School of Agriculture at the University of Massachusetts in May. Everett C. Wood, New Bedford, Mass., was chosen as "the outstanding senior" in the turf class. The choice was based on scholastic achievements, leadership ability and participation in school activities. Robert Sullivan of Westfield, Mass. and John Mulhearn of Worcester, Mass. were graduated with honors, their scholastic averages being second and fifth highest in the graduating class of 167 students.

The two-year course in turf management consists of classroom lectures and practical exercises in turf and supporting subjects ranging from arboriculture to report writing. A five month placement training period during the spring and summer of the freshman year gives the students a taste of practical turf management. The enrollment in each year's class is limited to 25 students.

Another popular course in turf management at the U. of M. is the winter school for turf managers. This course, established

in 1927 by Prof. Lawrence S. Dickinson, is open to supts. of courses, cemeteries, parks, and industrial and municipal grounds, and their assistants. This course will be conducted from Jan. 15 to Mar. 9 in 1962.

A third course of turf study available at the university is the four-year program of the agronomy dept. in which a student can select his courses with emphasis on turf management.

**Maintenance Costs Per Hole
Up 45 Per Cent in 9 Years**

According to Harris, Kerr & Forster, New York club accountants, the per hole cost of maintenance has increased steadily since 1951-52 so that now it is 45 per cent higher nationwide than it was nine years ago. A breakdown of Western courses, costs of which have gone up 42 per cent since 1951-52, are shown by these figures:

1951-52	\$2,623	1956-57	\$3,332
52-53	2,835	57-58	3,453
53-54	2,949	58-59	3,567
54-55	3,021	59-60	3,692
55-56	3,204		

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SPOTRETE

Contains 75% Thiram, a wettable powder fungicide. Make your own low cost, broad spectrum Thiram-Mercury fungicide by using 3 oz. Spotrete with 1 oz. PMAS per 1,000 sq. ft. Apply to greens weekly.

CADDY

The liquid Cadmium; contains 20.1% Cadmium Chloride. Goes into solution quickly and surely. No residue in spray tank. Specific for Dollar Spot, Copper Spot and Snow Mold. Safety and economy at 1 oz. per 1,000 sq. ft. Widely tested for disease control, Caddy is the only liquid Cadmium available.

THIMER

The new, broad spectrum wettable powder fungicide; contains Mercury and Thiram. Use weekly at 3 oz. per 1,000 sq. ft. for complete disease control . . . including Large Brown Patch. Proven on championship courses as well as municipal courses in our largest cities. Comes in pre-measured, ready-to-use, 20 oz. cans. Most economical at 3 oz. per 1,000 sq. ft.

METHAR

Contains Disodium Methyl Arsonate for Crabgrass and Dallis Grass control. Methar is available in liquid or wettable powder form. Mix Methar with 2,4-D for complete weed control, including Silvergrass in fairways. "Super Methar", (AMA) Amine Methyl Arsonate is also available.

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New York: 630 Fifth Avenue. Los Angeles: 510 West Sixth Street. Chicago: 39 South La Salle Street. Toronto: 4 King Street (West)

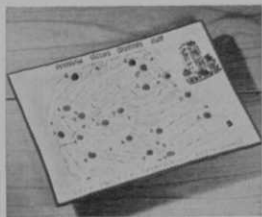
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Bidwell Changes Face of Olympia's North Course for PGA Event

A total of 170 professionals will compete in the 43rd PGA Championship which will be played on the North course of Olympia Fields (Ill.) CC, July 27-30. By mid-June 67 players had been qualified for the Championship with about 100 to be selected for the remaining spots through sectional tests held on June 19-20 throughout the U. S.

Olympia Fields is located about 25 miles south of Chicago's Loop.

The North course is more than 6,700 yards long and par is 70. It is one of the two courses at Olympia which, before the Depression, had four standard length layouts. Olympia's clubhouse is one of the



In photo is ashtray with map of Olympia Fields' North course, one of the souvenirs of the 1961 PGA Championship.

largest in U. S. and is palatial in design and decor. A clock tower, that can be seen for miles, is one of its standout features. The club is more than 45 years old and its first pres. was Amos Alonzo Stagg, one-time Chicago University coach and the "grand old man of football." He served from 1916 through 1919.

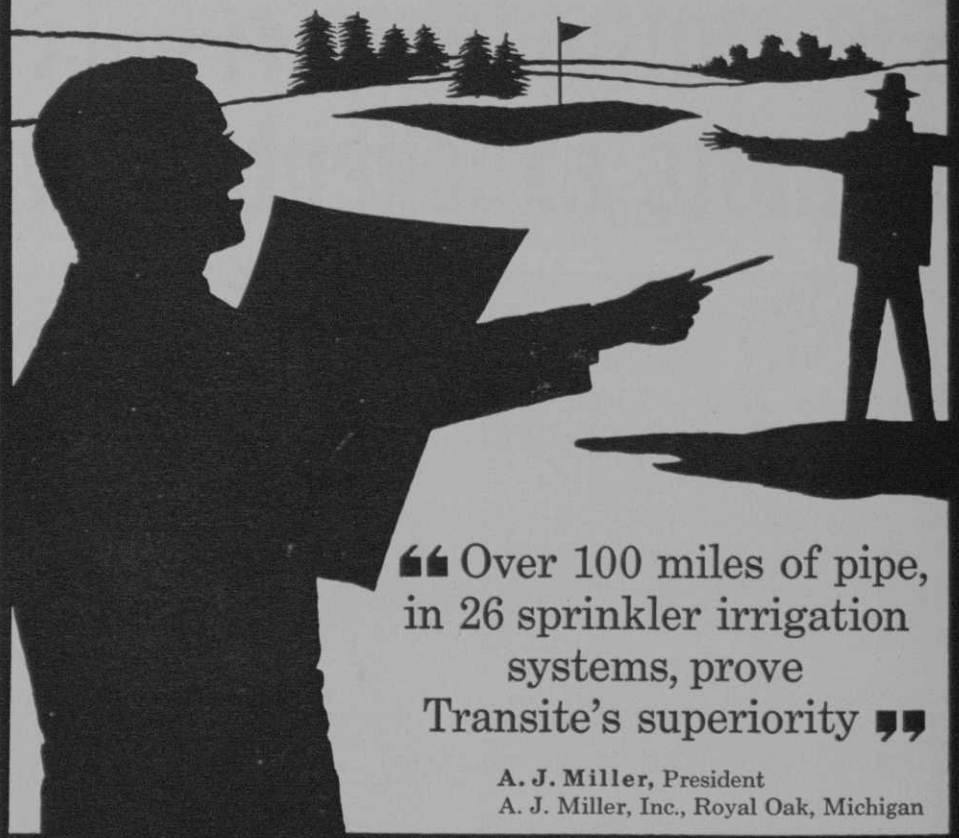
Two Years of Preparation

Warren Bidwell, Olympia's quiet, hard-working supt., who has played an important role in the affairs of the national GCSA in the last decade or so, has been working for nearly two years to get the North course in shape for the big test. In that time he has designed and constructed 32 new green traps, relocated 13 fairway bunkers and added 320 yards to the course by enlarging tees. Fairways also have been narrowed. Green traps formerly were located from 20 to 30 yards in front of the putting surfaces, making it difficult for high handicap players but easy for par shooters. Both PGA and Olympia Fields officials agreed that the traps should be moved back. About 400 tons of sand were imported to complete the job.

Much of the reconstruction work in the last two years has been carried on in the

(Please turn to page 52)

A golf course designer from Michigan reports:



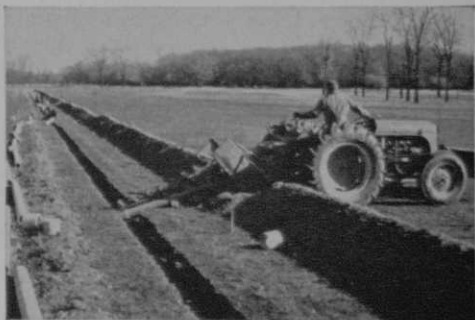
“Over 100 miles of pipe,
in 26 sprinkler irrigation
systems, prove
Transite’s superiority”

A. J. Miller, President
A. J. Miller, Inc., Royal Oak, Michigan



“We’ve had a great deal of experience with Transite Pipe in golf course sprinkler irrigation systems . . . as a matter of fact, over 528,000 feet of experience. Our superintendents and installers prefer Transite because it is not fragile and therefore can be handled in a normal manner. Its light weight and simple coupling method are also appreciated. And, with Transite, we never have to worry about reduced carrying capacity over the years due to internal corrosion. The variety of water supplies we have to deal with makes this of prime importance. Judging from the reports received from satisfied customers, I’d say that Transite has performed as well for them as it has for us.”

For the whole Transite® story, write Johns-Manville, Box 14, G-7, New York 16, N. Y. In Canada: Port Credit, Ontario. Cable address: Johnmanvil.

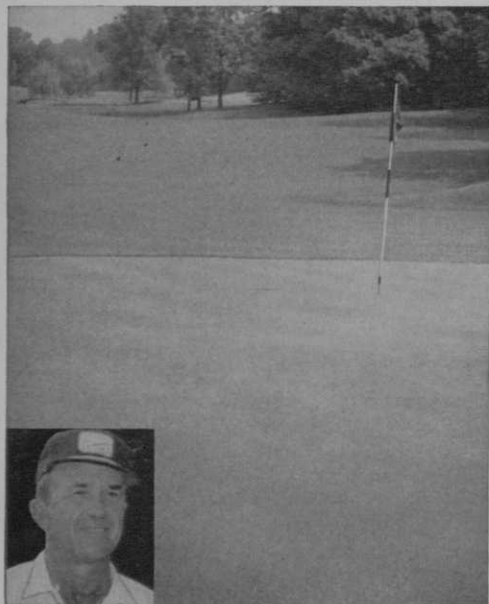


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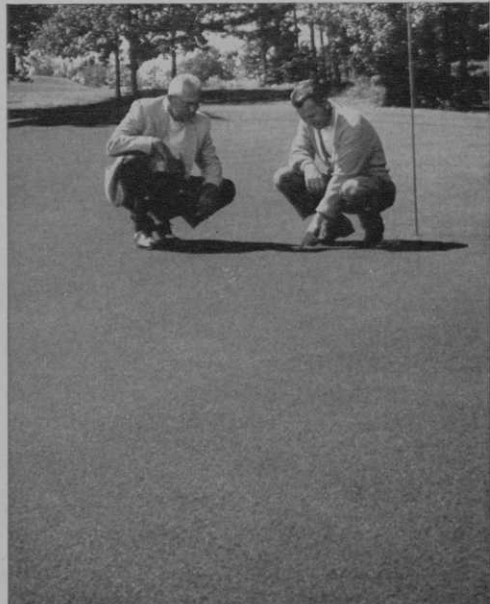
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—Walter Pieper, Superintendent
Flossmoor Country Club, Flossmoor, Illinois



In the hot, humid climate of LOUISIANA

—"We have Tifton 328 on all our greens, and our members expect them to stay in good condition. For the last three years I've used Du Pont 'Uramite' as the basic source of nitrogen on these greens. It's easy and safe to use and helps me maintain high-quality turf. I believe it is the most economical fertilization program I can follow."

—C. D. Smith (on left), Superintendent
East Ridge Country Club, Shreveport, Louisiana
(With Golf Pro, J. B. "Cotton" Hill.)

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