



MEETING NOTICE

Date: June 29th, 1972 (Joint meeting L.I. MGCSA)
Place: Engineers C.C.
Glenwood Road, Roslyn, L.I., N.Y.
(phone number) 516-621-5350
Golf: 12:00
Lunch: Available after 11:30
Cocktails: 6:00
Dinner: 7:00
Speaker: H. Palmer Starner
Topic: Promising Breakthrough in Control of Dutch Elm Disease
Host: John Madden, Past President of MGCSA and also a former Secretary of MGCSA.
Directions: Long Island Expressway Eastbound to Exit 39N. Go North on Guinea Woods Road approximately four miles and cross route 25A.
NOTE: Please return attached post card immediately or phone reservation by 10 AM 6/29/72. Reservation required.

PLEASE NOTE: Luncheon, bar & dinner will be on cash basis.

Coming Events:

- June 20-21 Cornell Ornamental Horticulture Research Open House
June 22 NJGCSA, Tamerack C.C.
July 18 NJGCSA Pro-Supt. Championship
July 20 Mt. Kisco, Supt. Championship
August 10 Rutgers University Field Day
August 24 Silver Spring C.C.
Sept. 11 Field Day Brae Burn C.C.
Sept. 21 Invitational, Whippoorwill Club
Oct. 4 Sunningdale G.C.
Nov. 16 Lake Isle C.C. Annual Meeting

MGCSA News:

Everett "Woodie" Wood had the course in great shape for our May meeting. It was like a mid-summer day with the beautiful color of spring blossoms all over the course. We have now got our schedule filled out for the rest of the year so programs can be planned for in advance.

Well, the rains continue to come at least once a week and poorly drained areas are certainly in evidence and many of the courses as there isn't any way to cut a bog area or swamp. I hear that Bob Alonzi is looking for a sponge about the size of 120 acres.

Rutgers University will soon be starting a breeding program on bent grasses. NJGCSA donated money to start the program which Dr. Reed Funk will head. Dr. Funk has done a tremendous job with blue grasses so I am sure we will all look forward to the results with bents in the coming years.

Ben Kowalski and Garry Crothers passed their GCSAA certification exam. The exam, even though it is an open book exam is a good test of what a well-rounded Superintendent should know.

Some food for thought - - - -

"The easy way is efficacious and speedy - the hard way arduous and long. But as the clock ticks, the easy way becomes harder and the hard way becomes easier. And as the calender records the years, it becomes increasingly evident that the easy way rests hazardously upon shifting sands, while the hard way builds solidly a foundation of confidence that cannot be swept away."

from the USGA Journal by Daniel Rand

Closing the Gap

Woman, paying bills, remarks to husband: "I think we're re-establishing communication with the children, Harry. The phone bill last month was up \$97.83."



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**IT'S THAT TIME AGAIN – An Editorial Opinion.**

It seems that lately our area has been 'invaded' with the suitcase peddlers on their seasonal pilgrimage to our courses selling everything from soup to nuts. Many of these companies are just discovering golf courses and the possible selling potential. And many are determined to sell golf courses in spite of the fact that they know little about our wants or needs.

These mail order firms have a secret tonic guaranteed to cure anything on your course. And of course they offer a "free" watch or coffee maker with every 55 gallon barrel of their product. And if you happen to ask these order takers what is in their product, the usual answer is "lots of good stuff". But in most cases they just happen to be out of specimen labels.

We have many of good commercial people who call on us. People who handle nationally advertized products, whether they be equipment, chemicals, or turf supplies. People who attend our meetings and support our organization. You know the people I

am referring to, people who are concerned with our problems and how to solve them. People who we will see throughout the year, not just in the spring. People who we can trust. I think these individuals and their companies are the ones who deserve our support.

Pat Lucas

**Job Opening:**

Golf Course Superintendent "Construction"  
Town of Ridgefield, Conn.  
Contact: Vince Paccadolmi  
Golf Commission  
Town of Ridgefield  
Waccabuc C.C.  
Waccabuc, N.Y. 10597

**LOCATING CAUSE OF PRESSURE LOSS IN POWER SPRAYERS**

from the Univ. of Mass. bulletin.

When a sprayer fails to maintain pressure, a systematic check of the outfit will usually disclose the cause of the trouble. Here are a few suggestions:

1. Is there sufficient liquid in the tank to cover the intake?
2. Is the strainer on the end of the feed line clogged?
3. Is the strainer in the sediment well clogged?
4. Are there any valves held open by solid particles – particularly at the intake valves?
5. Are there any valves which are stuck?
6. Have the discs worn so that there is too great a discharge of liquid from the nozzels?
7. Is there a possibility of an air leak in the feed line with suction feed outfits?
8. Are there plungers which are leaking?
9. Is the engine operating at the proper speed?
10. Is the pressure regulator out of adjustment?

**ALGAE IN TURFGRASS**

When turf grasses become thin the surface of the soil may become covered with a thin coating of green scum. This thin layer is made up of single celled, very simple green plants (algae) that are maintaining themselves where there is adequate moisture and light. These algae do not attack grass directly; they merely occupy space left vacant when grass disappears through other causes. When the algae die the layer turns black and becomes hard and rubbery, preventing new seedlings in becoming established and preventing new sprouting from older plants.

Green algae can be killed by light dusting (2 or 3 pounds to 1,000 sq. ft.) of hydrated (builder's) lime. The plants then turn black and can be raked up. Where the black scum has formed, either naturally or through treatment with lime, this rubbery mass must be broken up with a rake or other tool before new grass can become established.

There is nothing that can be done to prevent algae from occurring on a soil surface except to make the conditions better for the growth of the grass. Where the grass is dense and the ground surface not overly moist, algae do not appear. Very often areas troubled by algae are poorly drained. Frequently there is not adequate sunlight for good turf growth, and the problem is accentuated if there are many shrubs, trees, and other objects to block the movement of air and hence keep the soil surface moist over long periods. Any improvement that can be made in these fundamental factors will be beneficial. Then it is a matter of reseeding as required, adequate fertilization, and good maintenance.

## THE MOVEMENT OF PHOSPHATES & NITRATES IN SOILS RELATED TO ALGAE FORMATION IN LAKE TAHOE

The results of some research work done on the movement of phosphates and nitrates in soils.

In the west, we have many oligotrophic lakes — that are beautiful, clear, blue water. Among them and perhaps the most outstanding is Lake Tahoe. Now, as in many areas of the country, the lake is being encroached upon by commercial development, housing and recreation facilities, such as golf courses. I don't know if any of you have oligotrophic lakes as opposed to eutrophic.

My study concerns the movement of nitrates and phosphates in soils. As you know these fertilizer elements are the prime causative agents of algae, scum and aquatic weeds. However, phosphate is the primary culprit. Much of the area around Lake Tahoe is being seeded to turf and shrubs — often with heavy applications of fertilizer.

### Materials and Methods

I took ten random soil samples from the Edgewood Golf course. Much of this course extends to the edge of the lake. The soil is SCS Class IV, named Elmira. It is a coarse textured, excessively drained soil underlain below 60 inches with a sandy granitic alluvium. Eight of these samples were topsoil (0-18 inches deep) from the turfed area and two samples were taken of the subsoil (18-48 inches deep). The samples were placed in a 2 gallon can, and the bottom of the can perforated. The samples were 10 inches deep and 11 inches in diameter.

Normal fertilization of the golf course is at the rate of 600 lbs. of 16-6-8 annually, applied at 200 lbs./ac in early June, July, and September. Two tenths inches of water is applied by sprinkler each night.

The eight topsoil samples were turfed to bluegrass identical to the turf on the golf course. The two subsoil samples were left bare. Two tenths inches of water was applied per day, as practiced on the course. No water percolated through the soil after 3 weeks of this treatment. This indicated that pollution by fertilizer is not occurring on this particular area under present management practices.

However, I carried this experiment a bit further in an attempt to see what would occur under different management practices. On four of the samples, 16-6-8 was applied at the rate of 200 lbs./ac; and four samples received 600 lbs./ac of the same fertilizer. Water application was increased from 0.2 inches per day to 0.5 inches per day.

### Results and Discussion

As noted previously, water applied at the rate of 0.2 inches per day did not emerge as free water from the soil profile. This is in agreement with most consumptive use studies. At low application rates, almost all the water is lost by evapo-transpiration. The nutrient travel in the soil solution is naturally no greater than the wetted depth. Along this line there is much disagreement as to depth of wetting — many agronomist maintain that if the top four inches of the soil is kept moist, the turf will get ample water — others disagree with this concept and say that it is essential to have available moisture at least to an 18 inch depth.

**NITROGEN** — At the rate of .5 inches of water per day large amounts of nitrogen moved through the soil. This is not new — we all know that nitrogen moves in solution through soil — however, the startling point is the tremendous difference between the nitrogen content of percolated water and the nitrogen content of Lake Tahoe. The experiment indicated clearly that nitrogen movement is directly proportional to the amount of fertilizer and water applied — However, there is a sharp reduction in movement when the solution passes through the subsoil. The present N level is .025 ppm. Dr. Sawyer (who is published in New England Water Works Journal) says .3 ppm of N will support algal bloom.

**PHOSPHATES** — Results of many experiments indicate that phosphorus becomes fixed in the soil and there is little movement. Many researchers do not agree. My research showed definite movement of phosphorus in soil. There is not time to go into all the ramifications of phosphorus — suffice it to say that the phosphorus content of percolated water was many hundreds of times greater than the phosphorus level of Lake Tahoe. There is a sharp reduction in phosphorus after passing through subsoil.

Dr. Sawyer (New England Water Works Journal) found that phosphorus is the key element in determining the biological activity in a body of water. Data regarding critical levels of inorganic phosphorus are not too well correlated, however, critical levels of organic phosphorus are much more decisive. Nuisance conditions can be expected in midwest lakes when the concentration exceeds .01 ppm. We do not have far to go to reach this figure, as present phosphorus level is .007.

Now I would just like to say a word about surface run-off. Water samples were taken at the sprinkler head and 150 feet down stream from the sprinkler. It was found that at the sprinkler head phosphorus was 3.75 ppm — 150 feet down stream it was 1.18 ppm. This follows the textbook criteria that phosphorus adheres to soil particles as it moves across the surface. However, under frozen conditions things are different. ARS has found that water moving across frozen ground (from snow melt) carried 6 times more phosphorus than percolated water from the same area. It is assumed that a mat of organic material on the soil surface and the frozen soil itself, prevent the compounds from coming in contact with the soil.

As indicated previously, the lake is not being polluted by fertilizer applied to the golf course. This is due to light frequent irrigations. This is further verified by analysis of the water in a stream traversing the golf course. This analysis showed phos and N at about the same level as that in the lake. However, this does not preclude the possibility that under different management, fertilizer elements would reach the lake. Considerations must be given to the fact that this study included only one moment of time — other studies at different times may reveal altogether different results. Therefore, it behooves us to institute a constant monitoring program of all streams flowing into oligotrophic lakes.

In conclusion, I would like to say that my research indicates movement of nitrogen in soil — but much more important, and critical — a definite movement of phosphate.



Edward C. Horton, Secretary  
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