



MEETING NOTICE:

Date: May 19 Thursday
 Place: Bedford Golf and Tennis Club
 Lunch: Available in grill room 12 noon
 Golf: 12 noon Green Chairman—Supt.
 Please, if at all possible, bring your own caddy. There are only 7 golf carts available and a few caddys.
 Cocktails: 6 PM
 Dinner: 7 PM
 Program: Dr. Noel Jackson, University of Rhode Island Turf Diseases
 Dr. H. Tashiro, Entomology Dept., Cornell University Hyperodes Weevil Up-date
 Host: Terry Boles 914-234-3779
 Directions: Take I 684 to exit 4 (Rt. 172). Take a right at the bottom of the light. At the intersection of 172 and 22 (Shell Station on left), take a left, route 22 north. Remain on route 22 thru Bedford Village. Bedford Golf and Tennis Club is ¼ of a mile on the left.

COMING EVENTS:

May 12 LIGCSA Southward Ho
 May 23 MGA Seminar—Sleepy Hollow C.C.
 May 24 HVGCSA Rockland Lakes
 June 23 Mt. Kisco C.C. 1st round Supt. Championship
 July Waccabuc C.C.
 August 4 Rutgers Turfgrass Research Field Day
 August Picnic
 September 30 Round Hill C.C. Superintendents Invitational
 October 11 Siwanoy C.C. 2nd round Supt. Championship
 November Annual meeting
 November N.Y. Turfgrass Association Host: Cornell Turfgrass Conference
 December Christmas Party

MEMBERSHIP:

The following individuals have been approved for membership in MGCSA:
 Mr. Philip Gallo—Class C—Emanuel Shemin
 Mr. Scott Niven—Class B—Greenwich C.C.
 Mr. Peter Rappoccio—Class B—Century C.C.
 Re-Classified—
 Mark Millett—Class B—to A
 Mr. Vernon Burnham—Life
 Mr. Robert Capstick—Life

MGCSA News:

We had a nice sunny day for our April meeting at Westchester Hill. Mark Millett hustled to the last minute for his first Superintendents meeting. It certainly makes you put your best foot forward to show your fellow professionals how you can do it too. Certainly the club went all out to welcome us, and the manager and his staff served an excellent meal. Everybody was really praying for rain and talking about the many varied breaks they had in their irrigation system when they turned it on trying to get water out in the dry spell. The dogwoods are in bloom so now is the time to get your hyperodes weevil control down. I think we are going to find soil temperatures are the key. I have been taking soil temperatures on my greens for the last few weeks. Starting on the 16th of April at a depth of 4" the temperature was 48°. Now it's only 52° on an average. On May 1st, the temperature readings at 1" were less than 4" which indicates the effect of cold frost on upper surfaces. If you wonder why things don't respond well at this time of year with some nice 70 degree days, well, our readings on May 1 at 1" level were as low as 46 degrees. Not much grows or germinates at these temperatures.

Let's all try to get our Green Chairman to come to the May meeting.

Garry N. Crothers



Left to right, Tom Nally, Westchester County Co-Op Extension Agent; Dr. George Hudler, Cornell University; Robert Mullane, Alpine Tree Co., Edward C. Horton, President MGCSA.





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MGCSA Research and Fund Report

We have already sent out the Statements for 1977. We would like all clubs to continue their support of this Hyperodes Weevil Project. We do hope that this year more Superintendents contribute to the Fund. As you know the Metropolitan Golf Course Superintendents Association is committed to a yearly contribution of \$8,000 to \$10,000 for the next two years to complete this Program. To date the following clubs have contributed in 1977:

The Ardsley Country Club	Wee Burn Country Club
Bedford Golf and Tennis Club	Winged Foot Golf Club
Blind Brook Club	Burning Tree C.C.
Brae Burn Country Club	Century C.C.
Fenway Country Club	Elmwood C.C.
Quaker Ridge Country Club	Knollwood C.C.
Piping Rock Club	Greenwich C.C.
Rockland Country Club	Round Hill Golf Club
Sleepy Hollow Country Club	Woodway C.C.
Waccabuc Country Club	Old Oaks, C.C.

Individuals

Robert Tosh	Terry Boles
Dan Verrille	Edward C. Horton

Please check to see how your club is acting on this important matter.

Individuals or commercial firms who wish to contribute may do so by making a check out to MGCSA Research Committee, Box 37, Rye, New York 10580.

Research Committee

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 Sherwood Moore, Woodway
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 Edward C. Horton, Winged Foot Golf Club
 Dr. A.V. Virtuoso, Whipoorwill
 Roger J. King, Quaker Ridge

Mr. Edward C. Horton, President
 Metropolitan Golf Course Superintendents
 Association, Inc.
 Box 37
 Rye, New York 10580

Dear Mr. Horton:

I am sure that Dr. Tashiro has or will be writing you to express his appreciation for the support of his research which the Metropolitan Golf Course Superintendents Association is providing. I wish, however, to add my note of thanks for your continuing interest and support. These extra dollars make it possible for Dr. Tashiro and his associates to pursue the insect problems which have been so troublesome in some areas in recent years.

Sincerely,
 E.H. Glass
 Head of the Department



Left to right, Tom Nally, Westchester County Co-Op Extension Agent; Dr. George Hudler, Cornell University; Mark Millett, Host Superintendent, Westchester Hills C.C.; Tom Tuthill, Manager, Westchester Hills C.C.

PRESENTATION BY DR. GEORGE HUDLER AT APRIL MEETING By Don Pullen Assistant Superintendent Westchester Country Club

At the April meeting, we were fortunate to have Dr. George Hudler as our guest. Dr. Hudler, a tree specialist who recently joined the staff at Cornell, offered his thoughts on work being done on some of the most common tree diseases that we see today.

Dutch elm disease was the first major topic. Dr. Hudler mentioned how recent research has showed that one of the major treatments used today, stem injection of lignisan, has been shown to cause added damage to the tree by allowing fungi to move into the wounds causing decay. The lignisan enhances the growth of this fungi and decay has been shown to occur in at least 80% of the trees which are treated by stem injection. Constant watching of any elms is imperative in order for any hope of saving a tree to occur. Preventive injections should not be done because of decay. Only when the disease is noticed should one start any use of lignisan. As for preventative spraying, following the Cornell recommendations

are the best hope of control. Dr. Hudler pointed out that elm phloem necrosis is easily confused with Dutch elm disease because of its similar wilting symptoms. When it is noticed, the tree has no chance of survival because severe root damage has already occurred.

Also discussed were verticillium wilt on maple and diplodia tip blight on pine. These are fungus diseases which thrive on cool, moist weather. Dr. Hudler noted that when dealing with verticillium, remove infected areas further down the branch cutting just the immediate infected areas is not adequate enough for good control. Diplodia tip blight occurs mainly on Austrian pine and can be easily identified by small but plentiful fruiting bodies on the needles and cones. Control is enhanced by removing all infected branches and cones supplemented by the Cornell recommended sprays.

In the question and answer period, it was noted that as pesticide applicators, we must remember that only products labeled for a specific problem can be used for that problem. Even though some recent research has shown other methods as possible cures, the law does not allow those to be used without being labeled for that specific use.

**DR. NOEL JACKSON ADDRESSED
THE NEW JERSEY GCSA
by Ted Horton**

The MGCSA was well represented at the recent New Jersey GCSA monthly meeting at the prestigious Ridgewood Country Club. We found it a most enjoyable day on a golf course which

was impressively groomed by Superintendent Ed Walsh and his crew. The evening was capped by an excellent meal and a distinctive educational program was conducted by their President, Paul Boiselle. But perhaps the highlight of the evening was the presentation made to Bob Kapher, who had recently retired as Superintendent at the host club. It was quite satisfying to be able to accord a fellow Golf Course Superintendent this recognition after his many years of service to his club and profession.

Dr. Noel Jackson, Professor of Turf Pathology at the University of Rhode Island, completed the evening by presenting an informative review of Winter Injury and Turf Diseases.

Winter Injury

Noting that the snow fell this past winter on hard frozen ground, Dr. Jackson commented that there was very little free soil moisture at the surface to promote a severe incidence of Snow Mold Disease. He also illustrated that free water on the surface can be left almost two weeks without any problems unless the temperature changes dramatically. Such temperature fluctuations often result in severe injury within two or three days.

This past winter was severe on the Rye Grasses. Less than 2 to 3% recovery was noted on almost all of the new fine leaf Ryes at Rhode Island. "Perhaps," suggested Dr. Jackson "do not rely too heavily on the Ryes."

Some desiccation from prolonged cold weather and dry winds on exposed areas was witnessed, but generally, the crowns were not damaged. Heaving of the top 3 to 4 inches was

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seen. "Above all," cautioned Dr. Jackson "do not obey your first reaction to take out the roller and pound the area back into shape. Wait until the ground dries out and then perhaps apply a light roller to the area." Foot and traffic damage was severe at times resulting in considerable persistent damage. To avoid such damage requires a good rapport between the Superintendent, Green Chairman and playing members.

A slide presentation was then offered to review some of the common Turf Diseases which are prevalent in our area:



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1. **Snow Mold Disease** can be a problem when you have deep snow falling and remaining on unfrozen soil. Two types are common and are named and diagnosed primarily by the color of the disease resting bodies: thus we have Pink and Gray Snow Mold. In areas of high atmospheric pollution, soot particles fall on snow and are trapped by the sticky mycelia of the fungus producing the appearance of a Black Snow Mold.

Once you have noted damage caused by Gray Snow Mold it is usually not worth while to apply a fungicide. However, Pink Snow Mold can still cause damage during the spring if conditions are favorable. Dr. Jackson noted that the best control of the Snow Mold Diseases could be obtained with Mercury Fungicides (Not allowed in New York State) whereas the combination of Cadmium and the Benzidazole compounds would produce good but less persistent control.

2. **Red Thread Disease** generally begins as a saprophyte on the dead tissue and organic matter accumulated throughout the winter. But it can then gradually spread to living tissue. The new Rye Grasses are particularly susceptible to the disease which favors cool, moist weather. The damage is usually quite superficial and can often be masked by addition of Nitrogen. Chemical control can also be possible with Cadmium fungicides or Daconil.

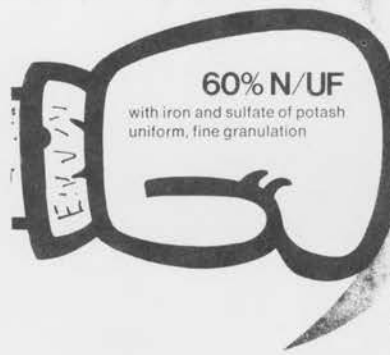
3. **Leaf Spot Disease** is a fungus which sporulates abundantly on dead tissue that has dried out for 2 or 3 weeks and is then re-wetted. The cool, moist weather experienced in spring often requires chemical control of the disease. Fungicides such as Dyrene, Daconil, LSR and Dithane M45 were suggested by Dr. Jackson.

4. **Ophiobolus Patch** is especially damaging to the Cereal

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Grasses. It is also a serious and persistent disease of Bent Grasses. It first appears like a small Fairy Ring but then the grass assumes a red or bronze appearance before dying. The fungus also tackles the crown and roots of the plants and it was observed by Dr. Jackson that the disease "invariably follows heavy liming." PMA (Not allowed in New York State) if applied at double the normal rate will arrest the disease. Dr. Jackson requested that if the disease is noted on your course please send samples to him for study.

5. **Striped Smut** is identified by its typical black spores. The fungus invades the grass plant systemically & therefore requires systemic fungicide for control. Dr. Jackson expressed a preference for the Benoyml fungicides and suggested an application in the fall. But he noted that these fungicides tend to encourage Leaf Spot Disease and as a result he recommended that in order to provide a year's protection from Striped Smut you apply a combination of 8 ounces of Tersan 1991 plus 8 ounces Terrachler per 1000 square feet between October 15 and November 15.

6. **Dollar Spot** is found everywhere that fine turf is grown. The disease shows a great capacity for adaptation. For example, Cadmium is tolerated now and some resistance to the systemic fungicides has been shown. However, many chemicals can still be used for effective control.

7. **Copper Spot** was briefly discussed and it was commented that this disease is prevalent on Velvet Bent.

8. **Brown Patch** now has several new variations occurring. Along with the high temperature, high humidity disease we have a cool temperature Brown Patch Disease. It is extremely fast growing fungus and is very common in the soil.

9. **Pythium** is one of the most damaging diseases of turfgrasses. Known as a "water mold" disease the spores are swimming spores which accounts for the "streaking" patterns of the disease. Dr. Jackson indicated that control can be obtained with the chloroneb fungicides or Koban. Dexon can be used but it rapidly deteriorates in sunlight.

10. **Fusarium Blight** is difficult and expensive to control. Ironically the disease tends to be severest on well established, well managed turf-especially if subjected to water stress. The systemic fungicides are somewhat effective but have to be

applied frequently. Dr. Jackson indicated that there is a glimmer of hope for 1 or 2 new chemical controls within the next year or two.

11. **Rust** is not too damaging to the fine turfgrasses. By keeping the turf growing vigorously most of the disease can be removed by mowing. If chemical control is required it can be effectively done with Zineb or Maneb.

12. **Mildew** is worst under low light intensity. It is usually only damaging when associated with Leaf Spot Disease and can be combatted effectively with Actidione-Thiram if necessary.

13. **Yellow Tuft Disease** has been documented on Bentgrass Turf for 50 years. The tuft is a number of tillers growing together with small, inadequate root systems. The disease has been blamed on nematodes in the past but is now known to be a fungus caused disease. The same disease is known as "Crazy Top" in Sugar Cane. Although not serious on Bentgrass, it can appear under cool, wet conditions. Often it may produce problems on Bluegrass sod when so many shoots are produced that the roots cannot support the plant and it yellows or possibly dies.

14. **Fairy Rings** seem to be the result of a sophisticated relationship between the plant and fungus. The environmental conditions are the single most influential factor. The best method of control is through mechanical agitation followed by thorough wetting of the soil. Dr. Jackson suggested that something naturally affects the fungus in such circumstances. The disease is difficult to eradicate and may require soil sterilization or in some cases physical removal of the soil.

15. **Anthracnose** is usually found on stressed grasses, especially Poa annua. It has been also seen to damage Bentgrass although, it is not an aggressive pathogen on well managed turf.

To wrap up his talk Dr. Jackson suggested that fungus diseases require "integrated control" and proper management of the fungicides. He favors late fall fertilization of Bluegrasses, believing that it reduced disease incidence. He noted, however, that such a fertilizer program would possibly promote the increase of Poa annua in Bentgrass—Poa annua fairways.



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MONDAY—COURSE MAINTENANCY DAY

For the past twenty or more years, Mondays have been termed Golf Course Maintenance Day for many Chicago area golf courses. Westmoreland has practiced this program since the early '50s.

Much of our golf course maintenance program is geared around Mondays. We strive to and take pride in doing all work that would tie up any tees, fairways or greens on Mondays so that interference to members and guests during the other six days is at a minimum.

One might ask what is done Mondays that cannot be done with members around. Twenty-two (22) Mondays a year we fertilize greens, tees or fairways. Once or twice a year we aerify greens and tees. During drought conditions we catch up water on Mondays, tree removal around tees and greens occur on Mondays and fairways are cross-cut on Mondays. All of these operations are necessary and in one way or another would cause interference or inconvenience to golfers. Also, the grounds crew is allowed to work much more efficiently on Mondays, because we are not stopping our machines to wait for golfers to play a ball.

Fertilizing takes time and care. When fertilizing greens, tees or fairways, it is always our practice to water in the fertilizer. If not, the salt content of the fertilizer could burn or discolor the turf. When fertilizing, each green is closed for 30 to 45 minutes so that the fertilizer is thoroughly watered in. One green at a time.

Aerifying is another culture practice that completely takes greens or tees out of play. From start to finish a green is out of play for six (6) hours during the aerifying process. On these days the golf course is closed to everyone. Progress has been made in this operation over the years though. Ten years ago, it took 2 to 3 Mondays to aerify 18 greens. Today with newer machinery and better relations with neighboring superintendents, we can aerify 18 greens in 1 day.

During drought periods our irrigation pumps have operated for 24 hours on Mondays. During the other nights we try to apply just enough water to carry the turf through the day,

striving to avoid creating wet spots. On Mondays we triple our watering time and attempt to catch up the moisture lost during the week and fairways are wet for a number of hours after watering. With our system it takes 9 hours to give fairways 1 hour of water or about 1/4 inch, 2 hours for tees and greens and 1 hour for approaches. 14 hours to thoroughly water everything. Often on our peat fairways we will repeat the process to prevent the peat from drying out. It is not unusual for our irrigation pumps to operate 24 hours on Mondays.

To open the golf course on Mondays would naturally upset our golf course maintenance program. But the biggest inconvenience would be to our members and their guests. Where we now strive to do our maintenance work that would interfere with the game of golf on Mondays, by opening the course on Mondays we would be forced to interfere. Our efficiency would be limited, due to working around golfers and chances are what we now do on Mondays would have to be carried over into Tuesdays, Wednesdays, Thursdays and Fridays.

If we open on Mondays, we would have to alter our maintenance program to mow greens, we never cut greens on Mondays. This would take 9 man hours away from us. Our catch up watering on Mondays would have to be eliminated and this would mean wetter fairways during the mornings every day of the week, because we would have to increase our nightly watering rates. This also would cause more compaction due to carts on wetter fairways. In the long run, our turf quality and golf course playing condition would suffer if we were to open every Monday.

In summarizing, as far as opening the golf course on Mondays from the golf course maintenance view, the biggest inconvenience would be to our members and their guests. We would still have to perform our maintenance operations, but the pride the grounds crew has had in maintaining the golf course with the least possible interference to our members and their guests would be lost.

Submitted by: Julius Albaugh, Grounds Supt.
Credit: The BullSheet, March 1977



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TOPDRESSING KENTUCKY BLUEGRASS AND CREEPING BENTGRASS WITH SAND

DR. DOUG HAWES

Institute of Applied Agriculture
University of Maryland

Topdressing with sand versus none and summer versus winter fertilization are four management tools I am presently studying in an attempt to learn how to grow combination cool and warm season turf grass combinations in the transition zone. I am attempting to grow these combinations for use on tees, athletic facilities, fairways and home lawns. In this study, topdressing with sand has greatly benefited Penncross creeping bentgrass. At the same time Kentucky bluegrass, a blend of five varieties, has done better where it was not topdressed.

Topdressing was first applied in early summer of 1974. In 1975 and 1976 applications were made in late spring, mid-summer and early fall. The sand used has 89% of its size distribution between 0.1 and 1.0 mm. Each application consists of just under 1/8 inch. It is brushed and watered into the turf. The turf is maintained at 3/4 of an inch from late spring till early fall. Height of cut is maintained at one inch after the fall topdressing till late spring.

The first noticeable benefit of topdressing was in the fall of 1975. During August, 1975, the bentgrass had been almost eliminated by chinch bugs, brown patch and drought. When the warm season grasses turned brown after the first hard frost it became very clear that the bentgrass was in much better shape where it had received topdressing. Similar data, but without clear differences, was obtained this fall.

On the topdressed half of these plots less winter annual weeds, lower severity of spring dead spot on bermuda, and a lower percentage of dead areas due to insect, drought and disease damage has been observed. Thus the quality of turf was found to be significantly better on topdressed plots in July and November of 1975 and in February, April, June and July of 1976. Thatch accumulation appears to be less in the topdressed plots. However, thatch has not yet become a problem, and thatch measurements have not been made yet.

Some layering of sand and organic matter has been

observed. The layering does not appear to be creating a problem. Lighter, more frequent applications would eliminate this layering. Lighter applications would also be easier to work into the turf than the present 1/8 inch application.

There is very little literature on the topdressing of turfgrasses. Engel (1967) reported on a ten-year study where topdressing was used in three out of ten treatments for thatch control.

He used a sandy loam topdressing containing 8 to 12 percent organic matter. Topdressing containing treatments in this study were associated with reduced thatch, improved quality, reduced amounts of *Poa annua*, improved infiltration and freedom from dry spots.

Rice (1964) included topdressing in a relatively short term study he did on Penncross creeping bentgrass. He compared a sand, a loam and a loam-sand mixture with no topdressing. Skogley (1976) reporting on this thesis noted that the loam and the loam-sand mixture produced the highest quality scores. Sand resulted in inferior quality scores in the spring but was better than no topdressing. In July of each year only the no topdressing treatment was rated inferior. Roots were more



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plentiful under topdressed turf, and in a fall sampling only sand topdressing had significantly more roots below two inches. Sand was found to be most effective in reducing the organic matter accumulation in the surface inch of soil.

Skogley (1975), also reported effects of topdressing on management of velvet bentgrass. Using a soil-sand mix he reports topdressing seven times per year resulted in reduced organic matter and improved turf quality score averages two out of four years when compared to two topdressings per year but not when compared to four topdressings.

Madison (1974), in several similar articles suggested topdressing with sand containing fertilizers and pesticides as "an alternative method of greens management." Thompson and Ward (1965 and 1966) report topdressing to be the management method which best reduces thatch under bermuda grass. Both Cole (1975), Madison and myself suggest that topdressing will reduce disease problems. Engel, however, found more dollarspot associated with topdressing bentgrass plots than untodressed plots.

Most, but not all, writers on the subject favor topdressing. With those writers that do favor regular topdressing there is disagreement as to what should be used for topdressing material. Madison recommends sand and the USGA Greens Section appears to be leaning in this direction. Most of the old superintendents and most of the researchers above use or used a sandy loam, often with medium to high organic content. In the past, recommended practices were to use a material of the same composition as your soil. But if you want to improve the soil, most of you would want a sandier mix which would hold promise of better drainage. So why not topdress with sand? I personally see no good reason for including organic matter in a topdress mix when reducing thatch accumulation (organic matter) is a principle goal. I would feel more comfortable in recommending straight sand topdressing if there were some research results showing that it was indeed better than a loamy sand.

A straight sand topdressing does offer advantages over a topdressing mix. It should be a lot cheaper, and secondly, one should be better able to spread it cheaply and easily with large

cyclone spreaders. If you do go to straight sand route, I suggest you follow Madison's advice. Use sand less than 1 mm in size. This gives you a material which will work easily into the surface mat and thus not interfere with mowers or golfers.

I agree with Madison in that the first couple of sand applications should go on after a heavy, deep aerification in which the cores are removed before topdressing. The sand should then be worked down into the holes so that there will be a transition zone of sand and old soil rather than a direct layer of sand on soil. If the soil below is extremely impervious you can still create a soggy sand layer on top of the soil. But a more serious problem is to create a "Dagwood sandwich" of alternate layers of sand, thatch, calcined clay and other topdressing materials. Layers impede water, air and roots. Regardless of what you decide to do about topdressing, avoid layers of fine materials on coarse materials. Layers may cost you your turf and also your job.

Also I suggest that you topdress more frequently when creeping bentgrass stolons are growing the most. The peak growth period for stolon growth is the last half of June. Therefore, topdressing should be most frequent in the May through July period.

It should be noted that Madison is recommending 14 applications/year. For our shorter growing season 10 applications on three week intervals is probably comparable to his 14. Note that he is recommending only 3 cubic feet per 100 sq. ft. per application.

Holman Griffin recently wrote, "A good topdressing material (properly analyzed) can eventually modify or replace the poor soil to a depth which is adequate to give your green a new lease on life and provide a manageable situation." Properly done, topdressing can be beneficial to creeping bentgrass. Improperly done, it may cause you many more problems than it is worth.

I suggest you read the articles I mentioned by Engel, Madison, Skogley, Thompson and Ward before beginning on a topdressing program or before changing to a straight sand topdressing.

Credit: Mid-Atlantic Newsletter, April 1977

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