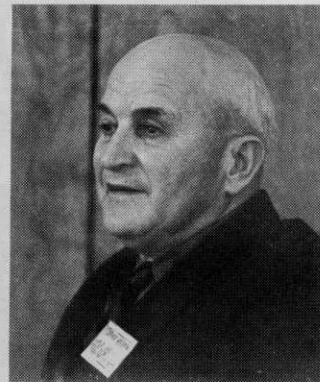


*Disease, Thatch, Pelletized Clippings, Sod Covers
Cicada Wasp, Sod Strength, European Turf . . .*

At Michigan's 40th Turf



These gentlemen, part of the 450 persons attending the 40th Michigan Turfgrass Conference, are listening to a report on European turfgrass culture.

Of course, Clarence Wolfrom was there . . .

EMPHASIS on beautification may be new on the national scene, but it's at least a 40-year-old idea in Michigan.

That's how long the Michigan Turfgrass Conference has been convening. Only Massachusetts can claim seniority, of about a year.

"We saw a need for research and education," recalled Clarence Wolfrom. Fulfilling these original objectives, he continued, "have been the greatest contributions of the conference over the years . . . this plus the experience exchange that goes on."

Wolfrom, superintendent of the Maple Lane Golf Club, Warren, attended the first conference, helped form the Michigan Turfgrass Foun-

ation. He was the first vice-president and served as the second president. He received the Meritorious Service Award last year.

Clarence Wolfrom has attended all 40 of the turfgrass conferences.

He contributed ideas for a course of study for students interested in a career in turfgrass management. A two-year program is now offered that includes both classroom study and on-job experience. Currently, the course has 24 first-year students, 23 second-year students, and more than 30 are expected to enroll this fall.

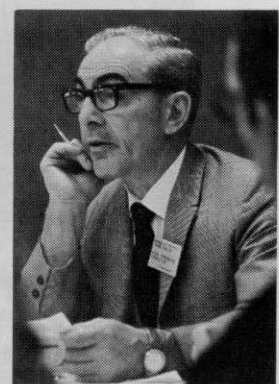
With encouragement backed by financial support (another \$7,200 was voted this year) from the Michi-

gan Turfgrass Foundation, the University has developed one of the best turfgrass research programs in the country. About three dozen major studies are under way.

A steady flow of reports on research progress comes through the University information offices, but the big events are the summer field days and the winter conference.

Some 450 persons came to the 40th conference at East Lansing, Jan. 27-28. Sessions dealt with research reports, sports turf, sod production, pest control, and pesticide usage.

Special reports in this issue on irrigation from Carl Miller of Miller Sprinkling Systems, and Ted Woehrl, Oakland Hills superintendent, were a part of the conference



Board of directors of the Michigan Turfgrass Foundation is in session, with representatives of MSU present. From left are Dr. Kenyon T. Payne, MSU; James E. Armstrong, J. D. Armstrong Landscape Co.; Vice-president William Milne, Country Club of Detroit; Dr. Paul E. Rieke, MSU; William F. Miller, ABC Sod Farms; Norman W. Kramer, Point O Woods Country Club; and President Frank Forier, Terminal Sales Corporation . . .

Conference



... As were about 50 students from the turfgrass program.

agenda. Following are glimpses of what else was reported.

Fusarium Blight Increasing

A fungicide to control **Fusarium** blight still defies discovery. The problem, since it appeared in Michigan six years ago, is increasing on sod farms and home lawns. The disease is associated with compaction and drought stress on lawns, said Dr. Joseph Vargas.

Circular rings of dead grass indicate the presence of the disease, which apparently affects root growth. Vargas said shorter roots have been noted in the diseased grass. In dry weather and as the ground dries beyond these affected roots, the plant's leaves wither and

turn brown. Surrounding grass continues green with moisture supplied from a greater depth by longer, healthy root systems.

In the absence of a disease treatment, Dr. Vargas recommended fertilization and daily watering to ease the drought stress.

Dr. Vargas discussed other turfgrass diseases and gave his recommendations of curative chemicals and cultural practices (Table 1).

But chemical companies need to be more specific in pinpointing what diseases their products will cure, stated Dr. Malcolm Shurtleff, plant pathologist from the University of Illinois.

"For which *Helminthosporium* leaf spot" is a chemical effective? he asked. "There are 26 kinds. Which rust? Which smut?"

New Facts on Thatch

A cultural management program to determine how to reduce thatch, after eight years, has resulted in "no observable thatch accumulation," reported David P. Martin.

"Contrary to what has been believed, clippings contribute very little to the thatch layer," he said. Instead, stems and roots are the major contributors.

Up to now, Martin continued, mechanical removal of thatch was the only method known. But research is in progress to determine if thatch can be reduced by increasing the number of microorganism that bring about thatch decay, or to increase the activity of existing microorganisms.

So far, Martin said, "use of sucrose and ferulic acid has almost doubled activity."

Martin hastened to add that "po-



... James D. Standish, III, executive secretary of the Golf Association of Michigan; Jas. W. Smith, Huron-Clinton Metropolitan Authority; Robert Spoelma, Spring Lake Country Club; Roy Peck, Kalamazoo Country Club; Clem Wolfrom, Detroit Golf Club; Dr. Joseph M. Vargas, Jr., MSU; Ted Woehrle, Oakland Hills Country Club; and Dr. James B. Beard, MSU.

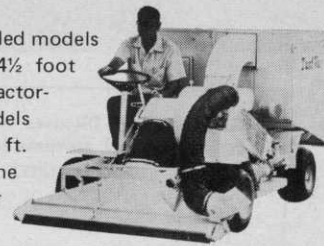
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RAPID-GRO

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TABLE 1. Turf Diseases — Chemicals to use; cultural practices to employ.

DOLLAR SPOT

Chemicals:

Daconil 2787
Dyrene
Cadmium

Cultural Practices:

Maintain fertility
Remove dew early

BROWN PATCH

Chemicals:

Daconil 2787
Fore
Dyrene

Cultural Practices:

Avoid high N fertility
Increase air circulation
(trim trees, for example)

LEAF SPOT

Chemicals:

Fore
Daconil 2787
Acti-dione Thiram

Cultural Practices:

Remove clippings
Raise cutting height
Fertilize

FUSARIUM BLIGHT

Cultural Practices:

Fertilize adequately
Water daily in hot weather

FAIRY RING

Chemicals:

Methyl Bromide
Chloropicrin
Vapam

Cultural Practices:

Inject water

POWDERY MILDEW

Chemicals:

Karathane
Acti-dione Thiram
Sulfur

Cultural Practices:

Reduce shade

SNOW MOLD

Chemicals:

Calo-gran
Demosan
Cadmium
Calo Clor

Cultural Practices:

Avoid fertilizing after Sept. 15

LEAF SMUT

Chemicals:

PCNB
Benlate

STEM RUST

Cultural Practices:

Fertilize

Awards included three scholarships from the Golf Course Superintendents Association of America. Recipients are above, from the left, Tony Tredente, Duane Zienert and Mark Fields. John King (far left) is coordinator of MSU's two-year turfgrass management course. Norman Kramer (far right), GSCA president, presented the awards. Dr. Kenyon T. Payne received the Michigan Turfgrass Foundation's Meritorious Service Award and Mike Donahue was named "Outstanding Student."

tential use of stimulators is under further investigation, and the use of these materials is in no way a recommendation at this time."

Sod Clippings Pelletized

Because mowing is necessary to maintain sod quality, work is under way to see if clippings can be utilized in new ways. Dr. M. B. Tesar reported that two tons of pelletized clippings have been obtained. The pellets will be analyzed for total digestible nutrients, essential element content, protein content, and rate of digestibility.

Results to date indicate, he said, that pelletized sod clippings have considerable promise for use in specialized markets and could mean additional revenue for the commercial sod producer.

Coverings Reduce Winterkill

Dr. James Beard reported that his studies of winter protection covers indicate that both dessication and low-temperature kill can be prevented. He has determined that follow-up field testing confirms that cold-chamber techniques are valid in evaluating covers.

Of 16 types of coverings studied, the three best were a viscose-rayon fiber cover, a viscose-rayon-polyester cover, and an excelsior blanket. Some covers brought green-up three weeks earlier, he said.

Again, cultural practices can reduce winter-kill problems, he contended. Choose the proper variety. Seaside, for example, is definitely superior in resistance to dessication, he said. High rates of nitrogen applied just before winter sets in in-

crease the chance of both dessication and low-temperature kill.

Beware the Cicada Wasp

This is the year to watch for the cicada wasp around golf courses, warned Dr. William E. Wallner. The 14-year locust cycle is at hand, and the killer wasps should be unusually active.

The wasps are large, having a wing span of about 1½ inches. And they're capable of a serious sting, said Dr. Wallner.

Broadcast spraying isn't advised. Rather, he said, look for the burrows — the sand traps are a likely place — and apply a diazinon paste to the edges.

Sod Strength Evaluated

Sod heating and sod strength evaluations proved to be of considerable interest in the sod production session.

Dr. James Beard reviewed findings regarding sod strength that were demonstrated at the field day this summer.

The study is based upon only one year's results and final conclusions can't be reached until several more seasons, he said. Nevertheless, these findings have come to light:

— Most cutting height (one-half to 2½ inches) and frequencies (one and two times per week) resulted in an acceptable level of sod strength. The best strength was achieved by mowing at the 2.5-inch height once a week.

— Different varieties produced sod strength from 35 pounds required to tear (South Dakota Common) to 168 pounds (Nuggett), with 75 pounds considered as adequate to permit harvesting, handling and laying

without problems. The top five varieties, including pounds to tear were: Nuggett, 168; Pennstar, 167; Fylking, 158; Pp-1, 155; and A-34, 146. Belturf, Merion, Captain, PSU k-107 and Jamestown Red Fescue all rated 140 or above.

— Most sod varieties exhibited an increase in sod strength between June and August.

— In a mixture study of six varieties — Fylking, Merion, Newport, Park, Prato and Windsor in 11 different combinations — those blends containing Fylking tended to rank higher in sod strength.

— An evaluation of sod strength for 11 mixtures of Merion and Pennlawn Red Fescue (a sod mixture in demand for areas having both sunlight and shade) disclosed that mixtures containing as little as 30% Merion on a seed number basis gave comparable sod strength to the five highest ranking variety mixtures.

Studies of sod heating since 1966 indicate that:

— Mowing at 0.75 inch and removing the clippings are the most effective ways to reduce sod-heating injury.

— A high nitrogen rate (5 lb. N/1,000 sq. ft.) applied five days before harvest was detrimental to the sod. Respiration rate and percent kill were significantly increased; root production was significantly decreased.

Reports From Europe Trip

Dr. Beard and Dr. Paul E. Rieke reported on their trip to the International Turfgrass Society in Harrogate, England, and a subsequent inspection of turfgrass areas in a number of European countries.

Some general conclusions, they reported, were that the British are considerably behind the U.S. in turfgrass culture and maintenance; that Sweden, in some respects, is ahead of the U.S., particularly in the area of sports turf maintenance.

Solna Stadium in Stockholm, they reported, exhibited excellent grass, despite the fact that 90 games of soccer are played on the field a year. At Soderstadium, also in Stockholm, the field is in use 260 days of the year, to include flooding and freezing it for winter sport games.

At least a couple dozen stadiums were equipped with underground heating systems. Dr. Beard could think of only two or three in this country, one being at Green Bay, Wis., home field of the Green Bay Packers.

Your Reputation as Grower Goes With Handler of Sod

A wise sod producer may conclude that his responsibilities don't necessarily end when he delivers the sod to the purchaser. What happens in the next few hours, days or months could very well damage his reputation through no fault of his own.

These inferences come from the remarks of Ben Warren, president of Warren's Turf Nurseries, Palos Park, Ill., during the recent turf courses at Rutgers University.

There is considerable difference in sod handling, Warren said, depending on who handles the sod between grower and ultimate buyer. Sometimes sod isn't stored properly and deterioration results.

He has noted that some merchants have no provisions for rolling out sod, but move large volumes quickly. These largest and "better organized" dealers plan that any surplus can be used on landscape jobs by their own landscape department or local contractors.

"Vacuum cooling has been a great aid to this type of merchandising, so sod can be kept three or four days in stacks before damage occurs," he said.

Some dealers, he continued, may stock sod for short periods but have no provision for rolling out surplus on pavement or polyethylene sheets.

And there are merchants that stock no sod, but maintain an attractive plot of grass from which orders are taken.

The large volume that goes through the landscape contractor isn't endangered unless unfavorable weather occurs, he said, for the sod generally is planted immediately.

Again, he added, vacuum cooling has been a boon on occasions when

unexpected rain delayed installation for several days.

"A high percentage of this grass is well-planted by competent workmen, Warren believes, "but that small part that is poorly handled is provoking and makes an unfavorable and lasting impression."

Warren has observed these bad practices:

1. Failure to recognize and correct contaminants that exist in the site soil can lead to dissatisfaction. The two most noxious problems are quackgrass and bentgrass. Eliminate these before laying sod.

2. Poor grading resulting in water-holding depressions or a surface too rough for satisfactory mowing creates conditions that are almost impossible to correct after grass is established.

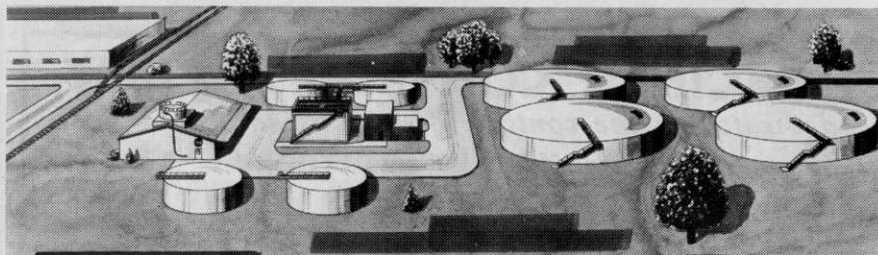
3. A not uncommon problem is the misuse of varieties. The outstanding abuse is the planting of Merion bluegrass in too much shade.

4. Lack of use or misuse of fertilizer is encountered.

5. Careless or ill-advised use of herbicides has caused from minor damage to complete kill.

6. Probably the most frequently encountered abuse of sod is seen in the management of water. This type of mishandling can be briefly described as ranging from too little, too late, too much, and too often.

In conclusion, Warren said, "properly advising the new owner in the care of his new grass is often neglected or overlooked. We suggest that written suggestions on the care of grass be placed in the hands of the owner upon completion of every job." (And that seconds the motion, we offered in the February issue about a turf owners' manual.)



The first phase of a new \$2½ million Chemagro Corporation waste treatment facility is under construction at the company's production plant for environmental control chemicals in the Kansas City, Mo., Northeast Industrial District. Estimated completion date is mid 1970. A staff of six will operate the unit 24 hours a day. The treated water will be purer than the water of the Blue River into which it flows.