MAY MEETING

Our May meeting will be held at the Ridge Country Club on Tuesday May 7. Charlie Rack will be our host. It has been a long time since we have been to Ridge Country Club. It is on the south side of Chicago at 103rd and California Avenue.

PURDUE'S MIDWEST REGIONAL TURFGRASS FOUNDATION TURNS OUT HUGE CROWD DESPITE THE BAD WEATHER

Registration was well over 500 for the 26th annual conference held at Purdue University. Dr. Daniel presented another outstanding educational program. Some of the papers presented were very basic and fundamental but very interesting. A good review is always necessary and welcome. We were pleased to see such a good turn out from the Chicago area. The usual President's dinner was held at Sarge Biltz's but for some reason the President didn't show up. Somebody got their wires crossed. It was fun anyway.

The President elect is Steve Fraizer of Indiana. A young capable man. No one from our local Chapter was elected because of poor attendance to the annual business meeting. We had one man nominated but he was defeated. This is a shame because we of the Midwest Association have been so very active in the Turfgrass Foundation for many years. We still have the largest number of members participating in the Foundation. Next year we should make an effort to place a man in nomination and then get him elected.

ANNUAL FLOWER SHOW BREAKS ALL ATTENDANCE RECORDS

Over 350,000 people jammed the McCormick Place for nine days admiring the beauty of Nature. This broke the total attendance record established last year by some 30,000.

Carl F. Mees, coordinator of the University of Illinois extension service, said the University's booth at the show handed out over 100,000 pamphlets to persons desiring information on lawns and gardens.

The Illinois Turfgrass Foundation participated with a booth in conjunction with the University of Illinois. President Jim Brandt announced that he was well pleased with the amount of traffic and interest in the booth which consisted of flats of lawn grasses and the various lawn weeds. He appreciates the assistance given by the Midwest Association of Golf Course Superintendents in manning the booth. Over 35 members of our Association participated.

The University won the Blue Ribbon for their booth which included the ITF's booth. A great deal of interest was shown and some interesting questions were asked by the people passing through the booth. One of the most asked questions involved Powdery Mildew, another was Fairy Ring and its cure, and then the usual weed questions were also asked.

POINTS OF INTEREST

While at Purdue, Bill Lyons of Firestone Country Club told us of a case where a copper wire was placed in some drain tile 13 years ago and is still keeping tree roots from entering the tile. Checking into this we find that it is quite common practice. It seems that a chemical reaction on the copper wire creates copper sulfate in minute quantities which is strong enough to kill all roots that might enter the tile.

We also hear of a manufacturer that has patented a pelleted Ammonium Sulfate. This might be another method of applying a quick shot of Nitrogen to the fairways.

Wouldn't it be nice to have a Hospitality Room of our own at the next National Convention in Philadelphia? Think about it.

GOLF

It is a science, the study of a lifetime, in which you may exhaust yourself but never your subject. It is a duel or a melee, calling for courage, skill, strategy and self control. It is a test of temper, a trial of honor, a revealer of character. It affords a chance to play the man and act the gentleman.

It means going into God's out-of-doors, getting close to nature, fresh air, exercise, a sweeping away of the mental cobwebs, genuine recreation of the tired tissues. It is a cure for care, an antidote to worry. It includes companionship with friend, social intercourse, opportunities for courtesy, kindliness and generosity to an opponent. It promotes not only physical health but moral force.

D. R. Forgan

TURFGRASS DISEASE CONTROL

Dr. Malcolm C. Shurtleff
University of Illinois

(Continued from last month)

2. *The environment is made less favorable for the causal organism and more favorable for the grass plant.* Fungi which cause all turf diseases (except those produced by nematodes) require much the same sort of environment that turfgrass requires: food, moisture, oxygen, and a favorable temperature. The basic concept here is to grow grass in an environment which will be unfavorable to the growth, multiplication, and spread of disease-producing fungi. This we can do by:

a. Keep the grass blades as dry as possible for as long as possible. Fungi, with the exception of the powdery mildews, require free moisture on the grass plant for three to 12 hours or more to infect a plant. Poling, brushing, or hosing are means of removing dew and gutted water in which these organisms thrive. There are reports of superintendents applying non-toxic, surface-active detergents to grass which prevented dew from clinging to the grass blades. The fungi couldn't penetrate without moisture and no disease developed. Poor surface and subsoil drainage result in compaction and soil aeration problems. Roots are suffocated from lack of oxygen or are "drowned."

The result, too frequently, is disease. "Dead," humid air over a pocketed turf area results in disease problems. There is no wind to dry off the grass blades. If we could keep the grass dry, and this includes the thatch, we would have no disease probelms aboveground. Root rots which result in "wilt in July and August are commonly the direct result of overwatering the root zone to keep the turf soft. Keeping the soil near saturation prevents normal root growth and favors the growth of organisms like Pythium, a common water mold, to take over. Proper water control is the single, biggest environmental factor in keeping disease in check.

b. Eliminate the dead grass (mat or thatch) in which disease-organisms thrive. This helps "starve out" these fungi and forces them to compete infavorably with multitude of bacteria and fungi in the soil, many of which are antagonistic or even parasitic on the disease-producing organisms which attack grass. The thatch also acts like a sponge in holding excess moisture. Elimination of thatch has cut many a fungicide budget in half!

c. Keep large trees away from greens or install root barriers.

d. Don't injure the grass by careless use of pesticides, using a mower out of adjustment, leaving the cup too long in one spot, walking or riding on turf which is soggy, removing ½ or more of a grass blade at one mowing, etc. Remember that anything you do to grass to weaken it, may lower its natural resistance, allowing a disease organism to "take over."

3. *The disease organism is killed or prevented from thatching the plant and producing disease.* We have talked about removing moisture thus preventing a fungus from penetrating. We could also mention the use of sand or other sharp particles to provide for superior surface and subsurface dainage and aeration. You can probably think of other ways to prevent distribution of organism. But the principal means of control here is chemical. We can apply a soil fumigant to the turf area before planting and kill fungi, nematodes, insects, and weed seeds — all at once, using a single chemical like methyl bromide, chloropicrin, Vorlex, Vapam, or V.P.M. Soil Fumigant. The expense is fairly high but more and more of this is being done before the seeding or soding of greens, tees, stadium turf, even home lawns. Generally a polyethylene cover is placed over the treated area to retain the fumes of the fumigant. The only problem is that disease and nematode problems may become *more* severe later because of the lack of competitive fungi, bacteria, and nematodes in the treated area. Once a disease-producing organism is introduced (blown, washed, or tracked) into such a treated area there is no " biological check and balance."

This gets us down to the use of turf fungicides on *preventive* schedule, applied *before* the disease strikes. We recommend that you follow the manufacturer's directions on the package label as regards to rates of use, interval between applications, compatibility with other chemicals, grasses to be used on, etc.

The method of application is very important. We suggest you use at least 5 to 10 gallons of spray per 1,000 square feet to adequately wet the grass blades, thatch, and top quarter inch or more of soil. I would use five gallons of spray against such diseases as powdery mildew and rust which attack only the grass blades. Other diseases such as dollar spot, brown patch, Pythium, melting-out, and snow molds attack the crown and root area before growing on and over the grass surface. Here 10 gallons per 1,000 square feet is barely adequate. For diseases like brown patch, where the causal fungus is known to survive in the form of sclerotia burried in the soil, 15 gallons would probably do a better job.

High pressures are *not* necessary! It is much more important that the fungicide be applied evenly. This can best be done in most cases by using a multi-nozzle boom and applying the chemical equally in two directions. The time interval between spray applications should vary with the temperature, disease expected, grass condition, chemicals used, and the amount of rainfall or artificial watering. The spray interval may be as short as two or three days in hot, wet weather or be stretched out to two weeks if the weather is cool and dry. Some fungicides give some protection for a week or 10 days even when four to six inches of water has fallen as rain or been applied by sprinkler. Another chemical may only last two or three days under similar conditions. The problem is complex and one that you have to "feel out" for yourself, based on your knowledge of the chemical and its past performance, the problem turf area involved, past fungicide and other records, plus knowledge of the factors involved which cause a particular disease to flare up. It is only through the keeping of records that you can hope to determine why a certain fungicide failed — or did the job. All the fungicides in the world cannot replace a poor management program.

The equipment you use is also important. How fast can you get around and complete a spray application? If Pythium strikes is this fast enough? These are questions you have to answer for yourseelf. The important thing to get uniform coverage of the grass. This may mean putting in a commercial spreader-sticker or wetting agent to insure wetting of the grass blades plus better penetration of the thatch and soil surface.

This paper was presented at the University of Illinois at the 1962 Annual Conference.