



# UNITED STATES GOLF ASSOCIATION GREEN SECTION

## Mid-Continent Turfletter

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### SNOW MOLDS

Putting green grasses are never entirely free of organisms which may be parasitic to them. No doubt weather (humidity and temperature), is the most important factor which influences the activity of a particular disease causing organism. In the Midwest, weather conditions are again becoming favorable for attacks by the fungi which cause the diseases commonly known as snow molds.

The two most damaging fungi which fall in this category are Typhula, sp., which causes the disease, gray snow mold, and Fusarium, sp., which causes the disease, fusarium patch. The environmental conditions which favor attacks by these fungi are similar but not identical. For all practical purposes, we may say that Typhula requires free moisture to produce severe damage. Semi-dormant turf under melting snow is the proper setting for such injury. On the other hand, Fusarium can be damaging under a broader range of weather conditions. It has been found to be destructive under or near melting snow but also when temperatures are above 80° F.

Fusarium Patch More Prevalent - Fusarium attacks practically all species of turf-grass and can be severely destructive to bermudagrasses and bentgrasses. Attacks are usually more severe in the Midwest during spring and early summer when temperatures are between 40° and 60° F. and abundant moisture is available. In many cases this disease is most prevalent in the shaded areas beneath trees.

Disease symptoms are visible as reddish spots usually about the size of a dollar and having a border of distinctly reddish or pinkish hue. These spots often grow together and kill large areas of turf. Turf attacked by Fusarium is usually killed. Recovery is made by growth from surrounding areas or from the germination of Poa annua.

Control Measures - Fungicides are available which will control these diseases. However, effective application is more difficult with Fusarium than with Typhula. One or two applications of inorganic mercury, thiram, or a mixture of inorganic mercury and thiram, usually is sufficient to keep Typhula in check provided the applications are properly timed. One application should be made in late fall just prior to snow and freezing weather; the other during a mid-winter or early spring thaw, if necessary.

On the other hand Fusarium is usually most destructive when moisture is "running" during thaws and rainy weather in the spring. Fungicides are, therefore, washed from grass blades and are less effective. It appears that phenyl mercuric acetate (10%) and inorganic mercury compounds give the most positive control of this disease. When the fungus is active, applications usually must be made every ten days to two weeks.

Treatment for control of snow mold should be made immediately on all areas to be protected. Choose one of the treatments suggested below:

1. If inorganic mercury is used alone, apply 3 to 5 ounces per 1000 sq. ft. It can be mixed with sand, organic fertilizer or topdressing and broadcast on; or it can be sprayed on as a water suspension.
2. If inorganic mercury and thiram are mixed and broadcast or sprayed on, the following rates are usually applied per 1000 sq. ft.: mercury compound 2 to 4 ounces plus thiram 6 to 8 ounces.
3. If thiram is used alone, anywhere from 8 ounces to 1-1/2 pounds per 1000 sq. ft. are applied. It appears that 8 to 10 ounces is usually sufficient.

The fungicides which have been applied for control of gray snow mold should keep fusarium patch in check until free moisture in spring reduces their effectiveness. If fusarium patch becomes a problem at this time, inorganic mercury at 3/4 to 1 ounce per 1000 sq. ft., or phenyl mercuric acetate (10%) at 1 to 1-1/2 ounces per 1000 sq. ft., sprayed on, usually gives the most positive control. If the disease is severe and weather conditions are favorable for parasitism by this fungus, applications every 10 days to two weeks may be required. In any event, keep a close check for renewed disease activity.

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The 1958 Yearbook of Agriculture, entitled "Land," is now available. Land is discussed from the aspects of history, use and management, income and value of land, resources and problems of ownership and control. In the foreword, Secretary Ezra Taft Benson says,

"This book will stimulate thought about our land and its use. It will provide much material for discussion. This is as it should be, for discussion often strikes the spark to ignite inspired thoughts that guide us into a better future."

The yearbook is available from the Superintendent of Documents, Washington 25, D. C. The price is \$2.25. Senators and Representatives to Congress are allowed some yearbooks for free distribution. You may be able to obtain a copy by writing to your congressman.

### HORMONE INSECTICIDES ?

A recent issue of Life Magazine carried an article on the subject of hormone insecticides. The author, Albert Rosenfeld, suggests that such insecticides would cause insects to "grow too fast or too slow, or to emerge at the wrong time of year" when they would not be able to survive. There appears to be ample evidence upon which to base a belief that hormones can be incorporated into formulations that would have insecticidal value.

### THINGS TO THINK ABOUT

1. Is your 1959 budget ready for presentation? Do you have records of 1958 costs upon which to base your estimates? Can you justify your request for funds under each item listed?
2. Do you maintain a reserve fund to provide for equipment replacement? Would the establishment of such a reserve help you?
3. You are likely to hire new men next spring. Do you have a systematic program for training these new men? Now is a good time to plan such a training program.
4. Are you and your employees constantly watchful in regard to safety? Would a safety campaign around your shop pay off in reducing injuries? Safety means more than the prevention of serious accidents. It also means avoiding skinned knuckles resulting from use of the wrong kind of wrench and the strained back from lifting something in an awkward manner. Safety is an attitude. Think safety and teach your employees to do likewise.
5. How do your men use hand tools? Do they use the proper tool for each job? Laxity in this respect may mean broken tools and damaged machinery. Pliers do a good job of rounding the corners on nuts. Crescent wrenches can be broken quite easily when the stress is put on the movable jaw. A campaign of this kind during the season when much shop work is being done can help your men to cultivate good tool use habits.

### DATES TO REMEMBER

- December 3, 4, 5, 1958 - Oklahoma Turfgrass Conference  
Oklahoma State University, Stillwater, Oklahoma
- December 8, 9, 10, 1958 - Texas Turfgrass Conference  
A. & M. College of Texas, College Station, Texas
- January 26-30, 1959 - 30th National Turfgrass Conference and Show  
Golf Course Superintendents Association of America  
Sherman Hotel, Chicago, Illinois

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