

Brown Spot

By DR. J. E. CANNADAY, Chairman Green Committee,
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I ENJOY your publication very much. I am chairman of the Green committee at the Sedalia Country Club, and have the responsibility of the greens.

Please understand now, that I don't pretend to know anything about a green, nor how to take care of it. While I have been doing that for several years, about the time I think I have learned something and feel a desire to demonstrate what I have learned, I find out that it doesn't work. But I am always interested in "brown spot."

I was very much interested in reading John Morley's article in the November issue relative to brown spot. What I am going to say isn't new by any means. The experiences that I have gone through in the operation of commercial greenhouses have given me some ideas about diseases of a fungous nature.

FUNGI ARE PLANTS

FUNGI are plants, but different from most other plants in this respect. Most plants, and that includes the grasses on our greens, can live and grow because they contain the green substance, chlorophyl. This substance is the basis of all life. Through the action of the leaf chlorophyl when in the presence of sunlight and certain degrees of temperature is the only chemical laboratory where anything is definitely made from raw materials.

Fungi are plants which do not contain chlorophyl and cannot exist by themselves, but always exist from work done by some other leaf which contains chlorophyl. Fungi live on organic matter and the amazing thing to me is that they are able to exist and maintain life

when conditions are not favorable for their growth.

My experience in a greenhouse has led me to believe that all life depends upon three or four factors. The first one is light, the second heat, the third humidity (the degree of moisture) either in the air or at the root system of plants.

All commercial florists soon learn by very expensive results that they must govern these conditions, which they can do to a large extent under glass. The florist knows when he has a

"set up" of the equations of light, heat, moisture, etc., favorable for the production of the plant that he desires to grow, and he likewise knows that whenever this condition is not favorable for the plant that he desires to grow, whether it is temperature, light or humidity, invariably conditions are set up favorable for the growth of some fungus.

In roses it is mildew, in carnations it is rust and so on through the whole list. Now come the grasses that we grow on putting greens. Any greenkeeper knows when to expect "brown spot" to show up. Brown spot is a fungus,

which grows and thrives when the factors favorable for the growth of putting grasses are unfavorable. They are high temperature, both day and night, high degree of humidity in the air, and subdued light, or cloudy weather.

I realize that there are many greenkeepers who know far more about the subject than I do, and they may take grave exceptions to what I am saying, but bless their souls, they are a noble group of humanity. Any man, who has the ability to make a putting green, so true and



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tensive study of plant life and applied
it to greenkeeping problems



VIEW ON COURSE OF THE SEDALIA COUNTRY CLUB, SEDALIA, MO.

so pleasing to look at, that we can hole out, is dispensing as much real joy and satisfaction as any mortal living. I often feel that the greenkeeper is not appreciated. I have seen business men rush out to the course and come up to a pretty green, make their putt and go on, without ever thinking or at least never expressing themselves that some man has rolled and tossed on his bed, so imbued with the idea of putting his work over with satisfaction to those who play golf.

A good greenkeeper is just as skilled as any physician or lawyer, and he should be so considered by the men who receive satisfaction from his work and study.

We know when we have a "set up" of favorable conditions for the growth of the fungus or fungi, which produces brown spot, and I believe our greatest results will come from trying to break the combination as set up by natural conditions. This is going to be very hard to do out of doors, while we can do it under glass much better. Our old standby for all leaf fungi is sulphur, I mean under glass, and I have been trying to find an application of sulphur, but the

great trouble I have is that out of doors we do not have the heat to generate the fumes like we do with our steam lines in the greenhouse. We know that all fungi live on organic matter and we know that greens do better when they are fed with humus, which contains organic matter.

TOP DRESSING FOR GREENS

I FIND less trouble with "brown spot" when we topdress with soil, which has the humus in it directly made by turning under green crops. I have ten acres of soil, which we have been preparing for about eight or nine years. This preparation is for the growing of greenhouse crops but we haul it a mile or more to topdress our greens with it. It was bluegrass sod and was plowed up, and then worked down and sowed to cowpeas. We turn these under when they are in bloom, about July. In the fall we sow rye, and turn that under just at the blooming period. We work it down, and then sow cowpeas or soy beans and turn them under. We get two green crops every year and we have been doing this for eight or nine years. We

do not add manure at all for topdressing, but I do think it makes a good topdressing for putting greens, and we have good greens at the Sedalia Country Club.



I believe that we have organic matter in this compost, which is not as prone to produce favorable growth of fungi, such as "brown spot" as compared to making a compost from manure. Whether we will ever be able to break up the combination of heat, a lack of sunlight and humidity which is unfavorable for our green's grasses and quite favorable for the growth of brown spot fungi or not, I don't know.

I have tried sieved road dust by sprinkling it on the greens when we had favorable conditions for the development of "brown spot" fungi. The aim I had in mind was to take up the moisture at the junction of the plant and its root system. I was striving to overcome this high degree of moisture by letting the dry road dust absorb it. I think we had good results.

THE USE OF SULPHUR

IF WE have a real topdressing, and can put this on late in the evening, we are sure that we get good results for the above reasons. We have used flowers of sulphur and feel that we get good results with that. We have a powder blower and choose a time when there is no wind, and let it fall to the ground. I believe in this very much, but I may be all wrong and I have come to the conclusion that I know very little about brown spot. I have also tried real hot water near boiling point and hold a sprinkling can about three or four feet above it and sprinkle it lightly. I believe that has helped a great deal. We are certain that a high temperature is very hard on fungi and all bacteria. I got that idea from the pasturization of milk. We dust sulphur over our greens if we can get sunlight. We don't expect any results from it unless the sun is shining. The truth of the matter is I am like many of the boys trying to do something that I don't know how to do and don't know when I have done it.

I do know, however, that if I can get sulphur on a leaf under glass and can get sunshine, I am tying hard knots in all fungi's tails, and they can't stand that.

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