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# The NATIONAL GREENKEEPER

*Official Organ of The National Association of Greenkeepers of America*

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VOLUME II.

No. 12

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The National Greenkeeper  
cordially extends Holiday Greetings  
to its friends who have so ably supported  
our magazine during the past year. May  
we all succeed in making the game of golf  
more interesting and enjoyable for  
those who play it in 1929.

*Official Organ of The National Association of Greenkeepers of America*

## The Low-Down on Bent Grass

By E. S. GARNER, M. S.  
Agrostologist, Rhode Island State College

THERE are wonderful lawns at some of the colleges at Oxford, in England, and most people have heard how one of the gardeners accounted for their splendid condition.

"We've mowed 'em and rolled 'em for five hundred years."

Now the grass at the Oxford colleges is undoubtedly becoming well acclimated, and we cannot say with any degree of certainty that ours will be equally good in five hundred years; but we can say, and I for one do, that there are lawns and greens in this country which, at the tender age of six months, are at least as good as any of the vintage of 1428.

There is another Old Country fable, however, which contains a moral. Says Judge Hardhead, to gardener Giles, who is weeding the lawn:

"I suppose, Giles, that that moss would eventually kill the grass?"

"It would, my lord."

A few days later the judge sees gardener Giles again attending to the lawn.

"I suppose, Giles," says he, "the grass will eventually kill out that moss?"

"Not a doubt of it, my lord."

Now we talk about things familiarly and think we know them, but when some judge comes along and says "I suppose weed control is more a matter of the soil having much active aluminum than a question of high acidity, is it not?" or "Which do you consider the best strain of bent grass, Giles?" we are apt to be a little ambiguous, ourselves.

I have been a greenkeeper and I have done a little construction work and I have had a business in seed and stolons and I have written a thesis about the bent grasses; yet I do not seem to be catching up at all as regards the questions which I can answer.

If you had asked me, six years ago, which strain of creeping bent I liked the best I would have said "The Metropolitan, of those I've seen, much the best."

Now I would say "What do you mean by creeping

### Was A Greenkeeper



PROFESSOR E. S. GARNER, M. S.

Was graduated from the School of Agriculture at Oxford, England. Took his Masters Degree under Doctor Kennedy, the eminent agrostologist at the University of California. Spent four years as greenkeeper and in business in Southern California and is now agrostologist to the Agricultural Experiment Station of the Rhode Island State College at Kingston, R. I.

bent? Do you mean that which comes in German bent seed and is not like Rhode Island bent, or velvet bent, but is like the strains which have been propagated at Washington? You mean that? Well, that is creeping bent all right, but so is every other bent used on golf courses; they all creep."

You say you don't call every kind of bent that creeps "creeping bent." Oh, I see. Well, would you call this coarse, straggly one, with stolons two feet long, creeping bent? Oh, that's *maritima*, is it? Then *maritima* isn't a creeping bent? You say the term "creeping bent" should not be used except for the species which Linnaeus named *Agrostis stolonifera*. Well, which species *did* he give the name to? There are several specimens so-named in the herbarium at Upsala; one of them undoubtedly belongs to a different species from the others and is not stoloniferous.

Dr. Karl Lindman describes the true *Agrostis stolonifera* of Linnaeus as having a long ligule, an open panicle and an erect culm, decumbent at the base, or producing stolons. But if we call all the bents which answer that description *Agrostis stolonifera* we shan't be any better off than if we call them all creeping bent!

I would suggest finding a new name for the group which includes the Metropolitan, Washington and Virginia strains. If you mean which of that group, when you ask which strain of creeping bent I like best, I say the Metropolitan, but if you mean which of all the bents that creep (as I think you ought to mean if you use that term) I must say that I am not sure. Some of the new strains of velvet bent seem almost too good to be true, and some of the *maritima* seed from Oregon makes splendid turf, in the West, too.

And it is getting like that with most things; I simply don't know what is what. However, some people have found out some things and others have found out others. There's no doubt we are getting along pretty fairly, between us. The Experiment Station here at Kingston, Rhode Island, has been in the forefront for a number of years in experiments with golf grasses. I believe that it was here where the

theory of promoting acid soil conditions by fertilizer treatment, in order to encourage bent grass and reduce weed growth, originated.

Just now I am trying to find out, among other things, to what extent the characteristics of the pure-bred strains can be transmitted through the seed; in other words whether seed grown from, say, Metropolitan stolons will produce turf like Metropolitan turf. Mr. A. N. Peckham, who harvests large quantities of bent seed in the New England states, has already found that it will do so, for a year or two, but that sooner or later it becomes pollinated by seed of the native bents and then the characteristics are lost.

It may be possible, however, to breed true for a number of generations, in which case a distinct variety could be produced that would be much less susceptible to cross-pollination. Rhode Island bent, redtop and velvet bent are well defined species and pollination of one by the other is apparently ineffectual.

#### SEED FROM BENT GRASSES

WE ARE also trying to find out exactly how much seed the different kinds of bent produce. We have laid out forty-eight plats and are growing redtop, Rhode Island bent, the Metropolitan, Washington and Virginia strains of "creeping bent," four velvet bents and three strains of seaside bent from Oregon—four plats of each kind. We will see to what extent the seed cross-pollinates, the weight of seed produced and how little fertilizer need be used in order to get a remunerative crop.

It will be at least another year yet before any recommendations can be made to those interested in seed production, but we hope that this may become a valuable subsidiary industry in Rhode Island and elsewhere in New England.

At the present time South German mixed bent is being retailed at 70c a pound and it is certainly not possible for our farmers to grow seed to sell at 70c retail. In Germany a large family of children will cut the seed and sell it at a few cents a pound, whereas the American farmer has his children at school, or engaged in other cultural pursuits; pays \$3.00 to \$5.00

(Continued on page 20)

# Brown Spot

By DR. J. E. CANNADAY, Chairman Green Committee,  
Sedalia C. C., Sedalia, Mo.

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



J. E. CANNADAY  
*Who as president of the Standard School of Floriculture has made an intensive 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

**I**F 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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**HOTEL STATLER, BUFFALO**  
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A BIG and successful affair! That seems to be the outlook for the Second Annual Greenkeepers' Convention and Golf Show to be held at Hotel Statler, Buffalo, February 13-16, 1929. These four days will be crowded with good times, educational conferences and discussions on greenkeeping problems, trips to Niagara Falls and Canada, to say nothing of the Golf Show with all its features. No greenkeeper no matter how far away he lives should miss it.

A different plan for the educational program is to be adopted this year. Instead of sessions both morning and afternoon the committee plans to have three afternoon sessions on Wednesday, Thursday and Friday from two to five-thirty and schedule nothing in the forenoon until Saturday when the annual meeting will be held. In this way the greenkeepers will have the better part of the day to themselves for visiting and sightseeing and looking over the exhibits where everything will be shown from the biggest five-unit tractor gang to the tiniest tool used on the course. The seedsmen, the fertilizer manufacturers, the fungicide and insecticide makers, and a host of others who furnish material and equipment in everyday use by the greenkeeper will exhibit complete lines of products and personally be on hand to meet and talk with those in attendance.

## Buffalo Show Looks Like Big Affair

By ROBERT E. POWER

The greenkeepers' Golf Show and Convention is the only time in the whole year when practically all the makers and all the users of greenkeeping equipment are gathered together under one roof. Not only will the Hotel Statler give special rates to the greenkeepers but the trunk line railroads have promised to list the Greenkeepers' convention this year so that low fare rates from all points in the United States to Buffalo can be procured.

In the way of entertainment Buffalo promises to outdo itself. A new and unique feature will be a midnight stag poker on Friday night with the performers from the various local theatres taking part and putting on specialty acts. The banquet on Thursday night will be open to greenkeepers and their friends and families and golfers generally.

Seventy-five percent of the show space is already sold and the balance is rapidly being taken up. (See list of exhibitors on Page 13). There is more than three times the space that the Detroit Show had last year.



**AL SCHARDT, SECRETARY**  
Buffalo Greenkeepers' Entertainment Committee



**BALL ROOM OF HOTEL STATLER, BUFFALO**  
Where the second Annual National Greenkeepers' Golf Show will be held  
February 13-16, 1929