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BLAMES SPIDER AS CAUSE OF Brown Patch Studied by Doctor —HANDLED LIKE SICK MAN

By W. Frank Beck, M. D.

I N looking over many golf courses, I find the name *brown patch* is misleading. Those who are in charge of the maintenance are too liable to call everything that is brown or looks brown, brown patch. It should be named grass blight, the same as potato blight. They are, indeed, very similar in character. The experiment about which I am writing has extended over a period of two years, entailing much labor and hardships.

Cause

In this article I am considering only two conditions, the cause and the treatment of brown patch. I like to consider and look upon greens as the human body subject to various bacterial and infectious diseases. Bacteria causing brown patch first come from a small black spider about the size of a pin-head. It is very shy and in its rapid motion is not exceeded by any creature. The bacteria first appears on the tiny web that this spider spins. No doubt it comes from the inside of the spider. When the dew forms on this tiny web and the climatic conditions are just right for its growth and development, it will then colonize on the dew. This always occurs at night or very early in the morning.

At this stage the disease is extremely contagious. It is blown by the wind or carried by the feet of birds to other places on the green. But wherever it forms it always retains its original concentric formation. As soon as the sun or early light strikes this formation the bacteria die and break down very rapidly, producing a deadly ptomaine. This scalds the grass, turning it brown and we have now, for the first time, true brown patch, which is dead bacteria and broken down vegetable matter forming vegetable pus. Generally, we speak of pus as dead

bacterial matter and as destroyed flesh.

At this stage it is not contagious nor can it be carried to other sections. Before the death of the bacteria, I had been able to produce brown patch in all kinds of grasses and in all kinds of shapes. In one place I produced it in the shape of a moon, quarter full, by cutting out the center and walling it off with strips of glass before the bacteria died. The attack of brown patch will vary in degree just the same as a disease of the human system.

For example, one member of a family may take typhoid extremely hard while another case in the same family and under the same conditions will be quite all right, depending upon the strength of the bacteria on the one side and the resisting forces on the other. Sometimes brown patch will be so severe that it will kill every blade of grass, while at other times it will be only slightly brown.

I wish here to bring out a very important fact: brown patch depends on a specific bacteria and a climatic condition suitable for its growth. The type of soil, the kind of fertilizer used and the variety of grass has nothing whatever to do with its growth. If a certain kind of grass seems more subject to it, it is only because the condition of the turf affords a more comfortable and suitable home. The same might be said of many diseases of the body, such as diphtheria which ordinarily forms in the throat, yet I have seen it in the eyes, nose, and other parts of the body.

Treatment

We must treat this disease just the same as an infectious disease of the human system. When brown patch breaks out, the whole green is sick or is affected in some way even though in certain portions of the green it is not noticeable. For that reason I am strong in the belief

A physician who is intensely interested in course maintenance advances the accompanying theory of brown-patch origin and treatment. GOLFDOM offers his opinions and observations, not by way of endorsing them, but for the comment of other students.



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that we must use the same heroic means that we would in treating diseases of the human body. I am more positive than ever that all cases of brown patch can be prevented. My long investigations have led me to the belief that there are only two forms of treatment that should be used. The first I wish to mention is whipping the greens. If one could whip a green one hundred per cent perfect before the light or sun touches it, it is my opinion that this would be one of the most effective ways of preventing brown patch. One learns a great deal about a green when in the act of whipping. It is very much like placing the finger on the pulse of a sick person. The character of a pulse, although it is indescribable, tells the learned physician whether the patient will live or die; so will the rod in the hands of the experienced operator give him the same thrill and the same information.

Chemicals

I am not recommending any particular preparation for the treatment of brown patch; I wish merely to mention some of the chemicals which I used in my investigation. Any strong poison or antiseptic that will not destroy the grass will be effective. My early investigations were carried on with a solution of bi-chloride. I had not gone very far until I found that it broke down the vegetable cells so rapidly that on a fine turf I would not recommend its use. In many of my experiments I used semesan. I am now positive that such a preparation will prevent the development of brown patch if 1 lb. is used in solution on a small green and 2 lbs. on large greens, spraying the green every 9 days, starting two weeks before the brown patch season and always using a good force pump.

You will notice that I am very strong on the preventive treatment of brown patch. I am sure that the future treatment will be to keep the green always under the influence of a strong antiseptic.

Municipal Golf Pays in Grand Rapids

OPERATION of public golf courses by the local government authorities is accepted today in Grand Rapids, Mich., as a matter of course. It is not uncommon

for more than 1,300 rounds of golf to be played on the four municipal courses in one day. These courses are not only self-supporting; they are operated at a profit to the city.

In 1924, the Department of Public Welfare, seeking to demonstrate its contention that the time had come for active, rather than passive, recreation, opened a nine-hole course experimentally at John Ball Park. Interest in municipal golf from that time on was rapid and sustained.

At a nominal fee of 15 cents per round, or two rounds for 25 cents, the course was self-supporting from the start, and last season, on an income of \$6,685, it produced a profit of \$2,189, 35,375 rounds being played by 23,839 patrons.

Following the success of this demonstration, the late Charles R. Sligh gave the city a long-time lease of 67 acres in the northern section, and advanced \$9,500 toward its improvement as a second course. This course has a total length of 5,066 yards, par 66. On a fee of 50 cents per round, 35 cents for nine holes, or 75 cents for a day's play, it showed a profit of \$8,233 in the 215 days of permitted play last season. The season's receipts were \$22,834, and maintenance, \$14,601.

In 1928 the Indian Trails municipal golf course was completed and opened on a 100-acre section of Woodlawn Cemetery property that will not be needed for cemetery purposes for a number of years. Although opened late in the season, it showed an operating profit for its first year of \$3,390. A second small course, opened this year at Highland Park, has not entirely met the demand.—*American City.*

IT MIGHT be said that the "natural" school of architecture means that the original topography is disturbed as little as possible, and where such is necessary, the actual work is disguised as much as lies within the art and skill of the designer and constructor to look as if the work had been done by nature herself. Needless to say, working along these lines leaves a memorial pleasing to the eye of the golfer and gratifying for the green-keeper. Freakish mounds and greens of extraordinary originality are hard to keep up and really give little satisfaction in proportion to their cost. In my opinion, they rarely conform with what might be called ideal golfing holes.—*C. A. Tregillus.*

PRO MERCHANDISING STUDENTS SAY Pro Shop "Atmosphere" IS GREATEST, DISTINCTIVE SALES AID

By Herb Graffis

SOME of the bright business men in the pro ranks are wondering if the tendency to follow too much in the footsteps of the ritzy retailers isn't a mistake for the pro who is dressing his shop with an idea of increased sales. Not that these doubters question for a second the favorable selling influence of neatness and attractive display, but they suspect that the pros may be inclined too much toward sacrificing the distinctive charm of the pro shop and replacing it with an imitation of a part of Fifth avenue or Michigan avenue establishment.

There's a lot to that criticism when you get right down to thinking about it. One of the pros I know is a fellow who is seldom heard of to any extent out of his own district where he is an old-timer and has a lot of friends in the profession. This man does a grand business at his shop and his members all regard him as a "character" and a fixture. They are loyal customers of his. This pro has been away from the land of the heather these many, many years, but you'd never know it to hear the rich burr of his talks with his members. When you're with him alone or with his family and he's away from the club there's rarely a suggestion of Caledonian in his speech. That man is a smart stage manager of sales. He knows what members expect and "click to" and let's them have it with both barrels.

"Local Color" Aids Sales

Among the paragraphs in Willie Ogg's comments in November GOLFDOM was a brief suggestion that the pros might be going wrong in straying away from the golf shop atmosphere. I have been thinking about that line ever since Bill wrote it, trying to dope out just what was in it for the good of the cause.

Now comes a letter from Dave Towns at Lake Wales, Fla., that causes further thought on the subject. Dave writes:

"Some of the material in shop displays in GOLFDOM does not tally with my own experience. I find that I sell more golf

clubs in my shop by not going to such obvious effort to dress the shop up "pretty." I have my bench where my members can watch me closely making my own irons. A couple of the finished clubs are around on the bench where a member can grab them easily. Real men like nothing better than to "sit in" with the pro in his shop when he has his working clothes on, where the smell of the wood and even the glue and the sight of the shavings and the business-like looking bench make a strong play on the constructive instinct.

"The players see what kind of stuff they are getting and know why I can guarantee every shaft and club in my shop."

That listens like fixing up the selling picture in an impressive way, for regardless of what percentage of stock in a shop is bench-made, the sight of competent work being done on the bench is going to give the member some convincing evidence that the pro knows his stuff on clubs and will pick, or make, only what he knows will be a credit to the pro's reputation and judgment. Just how far this sort of stuff will go in boosting business with women GOLFDOM hesitates to guess. That angle has to be considered, for the women are getting to be a bigger part of the pros' market every day. Somewhere between the two extremes of the pro shop that is heavy on the formal side and the old shop that was cluttered up with nothing much but atmosphere and clubs in various stages of completion, there is a happy medium. The pro is in an ideal position to locate it and dress his shop so you'd know, if you came into it after being blindfolded, that it was the business headquarters of an able professional instead of a corner of some department store.

Such a fitting and distinctive shop atmosphere means capitalizing the pro's individuality and specialization. That is what makes people willing to spend more money. The pros have learned plenty in picking up the essentials of selling dis-

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Call you to Southern California this Winter

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Catalina Open Dec. 13-14-15	7,500
S. Gabriel Ama-Pro Dec. 17-18	1,000
Pasadena Open Dec. 20-21-22	4,000
Long Beach Open Jan. 3-4-5	3,500
Los Angeles Open Jan. 8-10-11-12	10,000
Agua Caliente Open Jan. 14-15-16-17	25,000



CALIFORNIA this winter will be a mecca for the followers of golf. History of the sport is in the making at Agua Caliente where \$25,000 in prize money will be distributed at the termination of four days of play on January 17th. The richest purse the game has ever known, arranged as a sequel to the series of brilliant events listed above, will turn the eyes of golfdom to Agua Caliente, in Old Mexico. Here, under the shadow of the Campanile, professionals and amateurs of international repute will wage a contest unique in golf annals!

Horse Racing

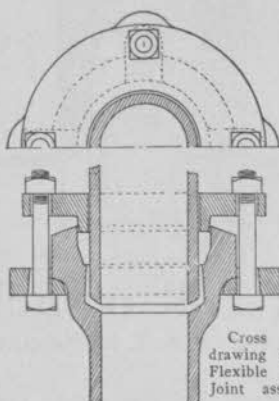
Opens December 28th

Interest is at fever pitch among followers of the turf over the Premier of the Agua Caliente \$2,000,000 Jockey Club which will inaugurate eighty-one days of classic racing at the most beautiful plant in the world on December 28th of this year. Winter visitors to Southern California will find a unique interest in this new playspot of the America's.

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drawing showing
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Joint assembled.

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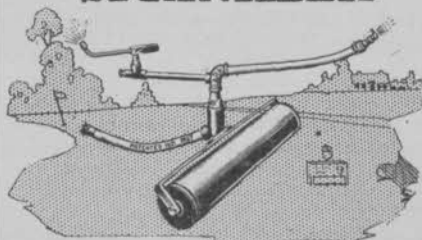
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Detailed Information on Request

Trial sprinkler sent pre-paid. Price \$15.00 each.

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plays from other retailing fields and now it looks like the next move is to exercise their ingenuity in profitably blending the principles of the stores' successful displays with a strictly pro shop atmosphere. It's bound to come and probably some of the foresighted boys already are planning it to a marked degree for their next seasons.

Chip Shots Around the Pro Circuit

Well, now, one great international crisis is avoided for the newspapers now carry the story that Walter Hagen didn't send the Prince of Wales a bill for \$325 for a set of matched woods and irons that were sent to the bonny monarch after he had played with Sir Walter. The affair carried two stories: one that the bill was sent and another that it wasn't. Perhaps the fine Italian hand of impresario Roberto Harlow got this two-time feature into print. Why not send the bill to the Prince? He isn't married so what has he got to spend money for?

Not Too Many Pro Shops

You hear merchandising experts say that one reason for the advent and hectic growth of the chain stores is the surplus of small retailing outfits that have no economic license for existence. It is interesting to note the pros' immunity from this criticism. There is just one pro shop per club and not an over-development of retailing outlets in the pro field.

Protest Florida Shakedown

Some timely comment on the pro entry fee required in open tournaments conducted for resort publicity is made in the *Bristolite*. The La Gorce demand for a \$25 entry fee came in for a strong and entirely justified slug. It is reasonable to suppose that \$15,000 prize money wouldn't have been offered if the establishment hadn't seen more than that amount of publicity in sight as the result of professional participation.

The claim that the \$25 fee was needed to keep off the course coyotes was not in order. Presentation of a P. G. A. card for the current year would have been assurance enough that the entrants meant business.

But, anyway, the Bristol paper sets forth:

"Unless certain differences are ironed out there may be a scarcity of tournament professional golfers in Florida next winter. The competitive awards were nothing to speak of anyway, but the blow-off came when the date drew near for the one event in which they had a chance to play for real money. That was when the boys were soaked a \$25 entrance fee for the La Gorce tournament.

"But even prior to that they suddenly found themselves accorded the same treatment which any ordinary duffer might expect to receive. In other words, upon their arrival in Florida they were made to pay green fees. The profession simply wasn't recognized at all. When the pros, including the top sawyers, appeared at any of the courses they would be asked to register and then plunk down their green fees, generally about \$4 in that part of this fair land. And they would continue to be treated in that manner until tournament time rolled around.

"On top of that to be asked to dig down and lay a fee on the line was not so pleasant, especially for those who failed to finish in the money. At La Gorce, for instance, in addition to the \$25 fee the professional had his hotel and other expenses to reckon with, which meant that it cost between \$100 and \$200 for his several days' stay to compete in the tournament. And when he didn't get up in the money it was just that much red ink on his bank roll.

"The leading professionals have seldom paid an entry fee in tournaments. A majority of the clubs have figured it as good advertising or publicity to have the stars of the game play over their courses in tournaments. But all that seems to have been changed in Florida, where they charged \$3 per day or \$5 for the tournament for the gallery to walk around the course watching the high lights perform. And they made the pros who furnished the show pay for their own performance.

"At La Gorce half of the field had to pay \$25 for 36 holes of play, as only about that proportion of the field could make the grade for the final 36 holes. And that, of course, meant they had no chance to get a slice of the purse.

"There are those among the professionals who claim that if they didn't enter the tournaments down that way the meetings there would be complete flops. There is, to be sure, a deal of truth in that. In fact, what would the national open be if not a single one of the recognized stars were to enter."

Leach's Mail Bag Answers

Queries of Greenkeepers

Applying Lime with Milorganite

Sir:

We are rehabilitating our fairways, that burned out during the summer, by using pulverized limestone in certain places where the ground shows quite an acid reaction (pH5). The ground is first to be thoroughly rolled with a spike roller. We figure on using about one ton of limestone to the acre. The ground also needs fertilization if possible before seeding and we propose to use milorganite and apply about $\frac{1}{2}$ in. of rich top soil over the seed and fertilizer.

Can you tell me if the reaction of the pulverized limestone on the milorganite would destroy the value of the milorganite if they were put on together or the milorganite shortly after the limestone? Would it perhaps be better to apply the limestone where necessary, seed and topdress and apply to milorganite after germination? Under ordinary conditions I am advised that the milorganite would promote germination and could to advantage be applied before the top soil. My question is simply asked as to the limestone.

A. M. (N. Y.)

Reply

At this time of year, with the soil rapidly cooling, there is very little likelihood of ground limestone and milorganite being incompatible. There would be some element of danger in applying milorganite at the same time as *hydrated* lime, but inasmuch as the ground limestone is chemically more inert I believe you will be entirely safe.

The manufacturers of milorganite have done a great deal of experimental work with their product in relation to establishing new seedlings. As a result of this extended work they recommend the addition of 750 pounds of superphosphate (16%) per acre, this material to be worked into the soil to a depth of three or four inches. The superphosphate supplements the nitrogen of the milorganite, thereby producing a better catch of grass and a heavier turf more quickly than when the superphosphate is omitted.

B. R. Leach.

Pearlwort Control

Sir:

Thank you for your suggestions on treating pearlwort with arsenate of lead. I had an idea that lead arsenate did not affect pearlwort.

This season I have used arsenate of lead for the first time, using 5 lbs. to 1,000 sq. ft. in the first topdressing and thereafter through the summer 3 lbs. to 1,000 sq. ft. In September I applied 4 lbs. to 1,000 sq. ft.

I had quite a lot of chickweed this spring but now there is hardly a sign of it; but pearlwort has come into most of the greens this summer, some very bad. It has been a very dry summer and possibly it flourishes in a dry season. I will give the pearlwort patches an extra application of lead arsenate and see if I can discourage it.

G. D. (Maine).

Reply

Glad to have the dope regarding the action of lead arsenate on pearlwort. Would appreciate more letters from greenkeepers and club officials giving their first-hand experiences as regards the action of this chemical on individual species of weeds. In this way the limitations of the chemicals as a weed killer would more nearly be determined.

B. R. Leach.

Aluminum Sulfate Toxic to Turf

Sir:

Have you any practical information the use of sulfate of aluminum on be greens, used for the purpose of turning the greens acid?

M. G. L.
(Penn.)

Reply:

From a theoretical standpoint, aluminum sulfate would appear to be very desirable material for the purpose of acidifying the soil of golf greens but from the standpoint of actual practice the chemical, while it certainly increases the acidity of the soil, has proved decidedly toxic to fine turf.

Turf treated with aluminum sulfate grows *fairly* well during cool weather but, as the hot season approaches, takes on a