

# What A Hot Summer We Had!!

## Wet vs. Dry

By M. E. FARNHAM

SUPERINTENDENT OF GOLF  
COURSES

*Philadelphia Country Club*

THE above title which strikes me as very much to the point when summer conditions are discussed may attract attention if nothing else I have to say does. I think the aspect I have in mind will be easier to reach agreement on than that more frequently before the public.

When members of a club return after their vacations knowing that the rainfall has been abundant, even to excess, they seem to feel that those in charge of golf courses must have been having more or less of a vacation too. I find myself expressing the opinion, rather frequently, that I would rather have drought conditions to contend with than periods of excess precipitation and extreme humidity.

Given the rather doubtful drainage of present on greens, a heavy downpour, followed by bright, hot sun and heavy play—result, for want of a better name, "Scald." In addition, such conditions make fertilizers, especially those organic in nature break down very rapidly, giving the grass too much food, resulting in vigorous soft growth extremely susceptible to attacks of disease and severe injury thereby.

Over-watering may well bring about similar results. Over-watering can be prevented but when the water comes from the

## Editor's Note



IN LINE with the policy of the National Association of Greenkeepers of America, Colonel John Morley, president of the association, recently sent out his annual letter to greenkeepers throughout the United States and Canada requesting them to report conditions as they found them this season just past. It is a privilege to print for the benefit of those engaged in turf culture a condensed report from the most experienced greenkeepers from all parts of the country. What they say will be helpful to everyone concerned, because their opinions are based upon practical experience as

contrasted with text-book theory.

We quote extracts from Colonel Morley's letter and also print his questionnaire in full. Colonel Morley says:

"We have been through a hard season, hardly any of us has been immune from turf troubles due to the hot weather and drought.

"Golfers generally do not understand how we try to cope with unusual conditions and they are daily asking questions, not in a spirit of criticism but because they want to know and help us in any way they can.

"It seems to me to be our duty to tell the members of our clubs through our official organ, the NATIONAL GREENKEEPER, something about the problems we had to solve in the season of 1931.

"Will you please, therefore, send our magazine a short account of what nature handed you and what you did along the lines of the enclosed questionnaire."

## QUESTIONNAIRE FOR THE NATIONAL GREENKEEPER

*Prepared by* COLONEL JOHN MORLEY, *President,*  
National Association of Greenkeepers of America

- 1.—Did your turf become infested with webworm? If so, what treatment did you apply, and what results if any did you observe?
- 2.—Was your turf affected with large or small brown patch? If not and you did not use any mercury compounds as a preventative, what methods did you use in the way of fertilization?
- 3.—Do you omit using organic fertilizers during the summer months?
- 4.—Do you think that over-feeding or over-watering hastens fungus diseases?
- 5.—Have you observed various diseases on greens that have been dried out for the lack of water and appear to receive plenty of air?

skies what can one do. Keep your soil as open as possible and look to the drainage. Soil as well as surface are my only thoughts on the question.

Brown patch and Philadelphia seem to be synonymous. As a result one more routine operation is added to those necessary to keep the course in shape. There is nothing mysterious about the "patch"

question. The fungus, in one form or another, is around all the time and when conditions are right it becomes parasitic on our beautiful turf and the beauty disappears.

I have been very successful with applications of 1/3 bi-chloride and 2/3 calomel, 2 ounces per 1000 square feet, mixed with screened soil and broadcast once

# Here's What the Greenkeepers Say

every 2 or 3 weeks. If the grass is dry we do not hesitate to treat regardless of temperature.

When we seem to have things pretty well in hand something like this webworm comes along. I have not been bothered much on either of our courses and feel that perhaps the fact that our turf is all pretty well poisoned may be an explanation.

## Florida Speaks

By O. SPROULE BAKER, *Greenkeeper  
Boca Raton Club, Boca Raton, Florida*

1.—WEBWORMS started about July 1. Sprayed arsenate of lead (under pressure of 300 lbs.), into turf forty pounds per green, eight thousand square feet in one hundred and fifty gallons of water. Control not complete. Tried Red Arrow oil of Pyrethrum extract spray one to four hundred which brought them (and with wire worms, ear wigs, bugs and beetles) to the surface stunning them but not a kill to the webworms, all others killed.

By finding the webworms again active next few hours we again sprayed Red Arrow to bring them to the surface and then sprayed them with "Cyano-gas," a dust mixed six pounds to one hundred and fifty gallons of water and added forty pounds arsenate of lead to eight thousand square feet. The kill was one hundred percent with not any damage to the turf, other than that which had been done by the sod webworms.

A week later a light shot of sulphate of ammonia, five pounds per thousand square feet. Care should be given not to use either the dust or sulphate of ammonia too close together as the base of carrier of the gas is hydrated lime. (Calcium cyanide dust (Ca Cn) 2) (40 to 50% Calcium cyanide).

Also the "gas" sprayed on the greens where etiolation of plants (yellow spots) is caused by scurvy scale (a soft bodied sucking insect) which most all of us in the past have been passing off as a "Scald" of some kind. We worked this out during this past year by cutting a plug and putting under a strong glass for examination finding the roots infested with the small grayish white scale which we looked up and found to be scurvy scale.

It is also controlled with the usual brown patch dose of one ounce corrosive sublimate, two ounces of calomel per thousand square feet after two or three applications—lime sulphur (32 degrees Baume). Spray one gallon to one hundred and fifty water also is good control if the spray is forced into the mat of grass. It will not burn at the above rate. The reaction of the lime sulphur in the soil is too gypsum, and will leach out. Have found this scale as deep in the roots as two inches. Think I have made a discovery of helpful importance to our brother greenkeepers in this. If so, I am happy to pass it on to you all.

2-A—No brown patch this summer on these Bermuda greens, but did use the corrosive and calomel, one and two ounces respectively per one thousand square feet as a preventative to prepare for seeding to Kentucky bluegrass this next month.

2-B—The mercury compounds with sulphate of ammonia applied in dry form, five pounds per and three times during summer.

3—No; made two applications, each of Milorganite of fifty pounds per thousand square feet about two months apart and top-dressed over the material.

4—Over-feeding is not good at one dose, rather small amounts and often during the season when play is on. (We are closed from April to December,



SCENE ON THE GOLF COURSE AT BOCA RATON, FLORIDA

but maintenance is intensively pursued the entire year with all its vexing problems in this part of the world. Rain? about 17 inches over Labor Day! Drouth all summer).

5—No, we have not, as we keep enough moisture and by using peat moss in the top-dressings obtain good air pore space.

## Toronto Hit by Hot Weather

By WM. J. SANSOM, *Greenkeeper*

*Toronto Golf Club, Toronto, Ont.*

HAVING received questionnaire for our NATIONAL GREENKEEPER, prepared by our worthy President, Colonel John Morley, I feel that it is our duty to try and tell the members of our clubs through our NATIONAL GREENKEEPER journal something about the problems we have had to deal with this season of 1931.

It undoubtedly has been a very hard season on turf grasses. Due to the very hot, humid weather and drought we have had very few courses, I venture to say, but what have had their own troubles—brown patch, scald and the webworm. Golfers as a rule do not know or understand how their greenkeepers try to cope with these unusual conditions.

No doubt there will appear in the NATIONAL GREENKEEPER some very interesting and educational articles of what Nature has handed to us this season if we will only write our own observations and our methods of treatment.

On looking over my records for this season for watering alone, fairways, tees and greens, starting on the 9th day of May and continuing up to the present time of writing, the 17th day of September, with no prospect of a let up in sight as yet. The latter part of June became very hot. On the 17th day of July we had a severe thunder storm with a temperature ranging from 85 to 100 degrees. Immediately after the storm, we discontinued watering until the 23rd and also four days in August from the 10th to 14th—surely a record season for watering.

Our courses around the Toronto District suffered most from scald although there was some brown patch reported, I have to admit that I did not see any brown patch until after treatment and the turf had recovered. But I did see plenty of badly scalded greens.

I was fortunate in not having brown patch or scald on any of my greens. But I did have scald on two fairways, No. 1 and No. 18. These fairways are pretty well enclosed with trees with very little

air circulation and a soil that is very sandy and which gets very hot. The two fairways mentioned looked very beautiful up till the third week in July. The turf being quite 30 per cent of *Poa Annua* took the scald very badly with the result that I have very little *Poa Annua* left in those fairways. I have let Nature take its course and have not used any special treatment.

Personally, I am of the opinion that over-feeding and over-watering does help fungus diseases. The only explanation that I can give for escaping both brown patch or scald on my greens was due to the fact that I was at that time using the Del Monte rake for my greens very freely and also making sure my greens were being very thoroughly poled with bamboo each morning.

My watering was done at night, starting at 9 o'clock and finishing at 6 o'clock. We get our water supply from the creek having no storage tank and pump direct to the greens and fairways. Therefore our water from the creek is always quite warm in comparison to the township water used by many of the clubs.

I believe there can be too much dope used in the way of fertilizers and chemicals for the production of a good healthy turf. Not so much, perhaps, the use but rather the abuse that tells the tale. When we consider and enumerate the list of fertilizers, inorganic, organic, humus and mushroom soil that is on the market it is a very easy matter to err on what we use. I have always stuck to the practice of not using any organic fertilizer during the hot summer months to set up or cause any fermentation. At the same time I am a firm believer in organic provided it is used in early spring or in the fall of the year—around the middle of September for fall and April for spring use.

Nature does her best for turf when the nights are cool with a normal rainfall. In the spring and fall nitrogen from an organic source is slowly released to feed the growing turf.

I can truthfully say that we have never had a case of brown patch and have never spent a cent of money on any chemicals for a preventative. I am old-fashioned enough to still depend on using a good compost for topdressing, believing that by building up a healthy soil we can produce a healthy turf.

I believe in aerating greens by a thorough raking occasionally, using a good two or three-year-old

compost two or three times through the growing season, enriched by an inorganic fertilizer, about a 5-12-2. The grass then gets a steady diet of natural food and is able to ward off most diseases through just being healthy. I use a little of Sulphate of Ammonia, mostly in liquid form, taking care not to promote too lush a growth to withstand a sudden spell of hot weather.

Pay strict attention to the watering of greens, not to create a water-logged condition. It does not harm a green to get a little on the dry side occasionally as its natural nitrogen is a valuable stimulant when used on soils in good condition but it should not be used entirely as a fertilizer. There is a great temptation on the part of a greenkeeper to use a little more which may prove detrimental to the grass and favorable to the various diseases.

A great deal of trouble is caused by inexperienced Green committees who have not the necessary knowledge themselves and are oftentimes carried away by high-pressure salesmen, who have this or that to sell that will make grass grow on a billiard ball. Club officials should get in closer touch with their greenkeepers and together work out a system to install for fertilization and not pay so much attention to what the high-pressure salesmen have to say. By doing so there would be less trouble.

Place confidence in your greenkeeper as by doing so you will accomplish what you set out to do, for in greenkeeping as in other things it is much easier to keep right than to make right.

## Webworm Hits Detroit

By HIRAM F. GODWIN

*Redford Golf Course, Detroit, Mich.*

REFERRING to your questionnaire, the webworm or cutworm was quite destructive in places. I do not believe they destroyed greens so much, as most of these were arsenated for angle worms, but on lawns, whole areas were eaten off. Five pounds of lead arsenate applied either dry or in solution seemed to give full control.

Brown patch has not been particularly evident this season. Mercuric chloride or Semesan seemed to give full protection.

An occasional light dressing of Ammonium Sulphate along with a compost containing humus is the only fertilizing I use during the warm months of the year. My opinion is that over-feeding or over-watering does not necessarily affect the fungus, but it does get the grass in a soft condition, which makes the grass more subject to fungus attacks.

I have observed this summer several going to decided extremes in withholding water and fertilizer, much to the detriment of their greens. I consider the soil should be kept moist enough at all times so that the roots can replenish the plant-food removed in the cuttings and I like to keep sufficient available nitrogen in the soil for the plant.

Fifth question: My experience has been that if greens are properly watered, fertilized and top-dressed that no spiking or other tearing up of the turf is ever required.



LAWRENCE HUBER  
Wyandot Golf Club,  
Worthington, Ohio.



HIRAM F. GODWIN  
Redford Golf Course,  
Detroit, Mich.



W. J. SANSOM  
Toronto Golf Club,  
Canada

## Rain and Heat Proved Enemies

By JOSEPH BALL, *Greenkeeper*  
*Chartiers Heights Country Club, Crafton, Pa.*

I AM at a loss how best to answer your questionnaire.

This has been a very trying year for greenkeepers. Grass could not be controlled under the adverse conditions of weather. Rain and heat were the enemies of good turf this summer.

I do really think that over-feeding and over-watering may have a tendency to encourage brown patch. The moment the sun shines in spring we are all rarin' to go. We use rich composts and fertilizers of high nitrogen content before the grass has had time to recover from its winter sleep. Now most of us topdress and fertilize in the fall. What becomes of this; it remains dormant in the ground until climatic conditions in the spring start bacteria life again.

Many of us never think of this and the results of too hasty topdressing in the spring produce a fast growth of succulent grass, soft and spongy and susceptible to brown patch.

It's the boast of many greenkeepers of twenty catches of clippings early in spring. It would be much better three or four in spring and twenty in July.

I have had brown patch, both large and small, and mostly controlled by lime. My greens are in pretty fair condition just now and will only recover fully after the first frost.

## Webworm In Iowa

By C. R. FRAZEE, *Greenkeeper*  
*Hyperion Field Club, Grimes, Iowa*

ANSWERING yours of the 8th, my turf became badly infected with webworm this summer. However, after treating it with arsenate of lead, following up with a treatment of Paris Green I found Mr. Webworm pretty well under control. Two days later I fertilized three of my greens with Vigoro, the other fifteen with sulphate of ammonia. My greens are badly scarred but coming along nicely again. Having no sod I will re-stolon the larger areas this week. The small places will cover themselves.

I used no organic fertilizers during the summer months. Over-feeding and over-watering seem to

encourage fungus diseases. I have never observed diseases on greens that appear to receive plenty of air.

I have had very little brown patch, large or small. This quickly disappeared after a treatment of Nu-Green.

## Boyd One Of Lucky Ones

By J. B. BOYD, *Greenkeeper*  
*Sunset Ridge Country Club, Winnetka, Ill.*

IN ANSWER to the questionnaire sent out by Colonel Morley, President, may I submit the following from my experiences:

I guess I am one of the lucky ones this season, for this reason: I have had no serious trouble, whatever, and am still "hammering the old ivory" for such good luck, and living in hopes that it continues.

First of all, it has been one of the hardest years I have ever experienced in my greenkeeping. I have had no trouble with the webworm, but did have some with the army cutworm like I used to have in the good, old farm days. I treated them, or rather fed them some poisoned wheat bran. They seemed to like to eat it, and soon disappeared.

A few large brown patch showed up, which I believe were due to watering after dark with a sprinkler. After giving my greens a good spiking I changed my method to early morning watering by hand and the patch disappeared.

The following is what I consider one of the most important things to remember about good greenkeeping:

Watch greens very closely for brown patch. By using some mercury compound this summer as a preventative rather than a cure I was able to keep ahead of it. I shall continue to do this same thing in the future. As a consequence I was blessed this summer with very little trouble of this nature, and I thoroughly believe that if this method is consistently kept up it will eliminate same in the future.

About organic fertilizer, I have used very little of it since the middle of May. Sulphate of ammonia mixed with a little mercury compound sprayed on I have found to be conducive of the best results.

I find it best not to use very much organic fertilizer during the summer months. During the spring, however, I use it freely. My experience in 1930 taught me this.

Further, I am confident that overfeeding of the

greens, which causes a succulent growth, followed by hot weather with its high humidity of atmosphere plus the pouring on of water, day and night, will cause trouble any time by producing large quantities of fungus diseases.

Answering the last question, let me state first that I have never had occasion to observe diseases on greens of this nature. The greens should be spiked often so they can get plenty of air.

This and the above mentioned are some of the methods I am using here at Sunset Ridge. They are proving very satisfactory by producing good results. Again, of course, they are more or less general in their nature and may be applied to any course, hence I feel no hesitancy in commending them for consideration and usage.

If my experiences and methods as here related prove of benefit to any of my interested friends and contemporaries I shall feel amply rewarded in the knowledge that they find sanction and usage.

## No Webworms At Westwood

By ALBERT J. SCHERER, *Ass't. Greenkeeper*  
*Westwood Country Club, Cleveland*

ANSWERING your questionnaire:

1. We were not troubled with the webworm but we used arsenate of lead as a preventative.
2. For small brown patch we used Corrosive Sublimate and Bordeaux mixture.
3. We used some organic fertilizers during the summer months.
4. Yes, over-feeding or over-watering will hasten fungus diseases.
5. I have seen a green that had gone too long



NO. 14 AT THE WESTWOOD COUNTRY CLUB, CLEVELAND

without water; as a result after the green was sprinkled it would show scald spots.

## No Webworms In Wichita

By CHESTER MENDENHALL, *Greenkeeper*  
*Wichita Country Club, Wichita, Kansas*

IN REPLY to Colonel John Morley's questionnaire:

No. 1. We were not bothered with turf webworms this season.

No. 2. We use a mercury and calomel compound as a preventative for brown patch. This treatment has been very successful.

We fertilized our greens every fourteen days during the summer months, using a very light application of fertilizer. The fertilizer is mixed with dry sand and applied to the green with a Thompson fertilizer spreader. The fertilizing is done late in the evening just before sundown and watered in by the night water man.

No. 3. We do not use organic fertilizer during the summer months.

No. 4. I think that over-watering and over-feeding will hasten fungus diseases. But there are

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other dangers in over-feeding. If you over-feed grass during the hot summer months and run into a few days of damp, cool weather you are sure in for trouble. You will get a rapid, sappy growth, and every time you mow your greens they will get lighter in color and more sappy. Then when that hot sun comes out they will melt down like a fat man that has been over-fed and kept in the shade.

So I would say feed often, feed light, but beware of over-feeding.

## Turf Problems At Crestmont

By JOHN ANDERSON, *Greenkeeper*  
Crestmont Golf Club, West Orange, N. J.



JOHN ANDERSON

THE season just passing will probably go down in history as being one of the hardest for the greenkeeper, especially in the East. From early June until late August, weather conditions have been such that some of the golf courses with the oldest and best established turf have found it very hard to keep greens, tees, and even fairways in playing condition. The reason mostly is poor drainage.

Three major tournaments were staged at Crestmont this season. The Women's Open, June 11, 12, and 13; we had so much rain before and during this tournament that we were pumping the water out of traps and bailing it out of depressions in the fairways for five hours before the start of the last day's play. These conditions showed us where our drainage system was deficient. Three of the approaches to the greens were so bad one week after this tournament that they had to be re-sodded.

A hot sun beat down on us in that water-soaked condition and wiped the Poa Annua and the Kentucky Blue Grass right out of these approaches. There was nothing to do but drain and re-sod them. They were playable for the Metropolitan Open, July 13, 14 and 15, but we continued to get lots of rain and very hot sun. It taxed us to the limit to keep the greens right. Repeated attacks of brown

patch, mostly large, were intercepted just in time, using a mixture one part Bichloride and three parts Calomel: three ounces to 1000 square feet in twenty pounds of mushroom soil and sand. No fertilizer whatever was applied.

Early in the spring about May 1, four samples of soil were taken from each green and tested for acidity. Also for phosphoric acid content and showed a test of 6.4. Each one being high in phosphoric acid and each green tested the same. Keeping this test in mind, with very little acidity we applied fifteen pounds of ammonium sulphate to each green ten days before the late New Jersey Open, which started August 15. This was applied on Friday, in solution. That night it rained all night and all Saturday morning. Saturday afternoon and Sunday was very hot. On Monday morning all the poa annua in every green was gone.

Fortunately only three greens had enough poa annua to leave noticeably large bare spots, but they looked bad enough to me, even if there was some clover left. I immediately spiked the bare spots, seeded with red top and Colonial bent and top-dressed with mushroom soil. The New Jersey Open came and went and some favorable comments were passed on the condition of the greens, but I could not help feeling that there were plenty of missed putts on those three greens.

I have learned this season that it is not a question of how much water to apply when watering greens but to find out the minimum that is required and let that be the guide. Too much water, together with repeated applications of fungicides applied to greens which do not have sufficient surface or under drainage to run off excess water, has been the reason why many golfers have been playing temporary greens this season.

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## Calo-Clor For Brown Patch

By THOS. M. TODD, *Greenkeeper*

*Rolling Green Country Club,*

*Arlington Heights, Ill.*

**I**N ANSWER to the questionnaire sent out by our president, I will give a brief outline of our troubles this summer and how we handled our greens fertilizing during the season.

We were not troubled with webworm seriously enough to require treatment. There were some to be found but were so few that very little or no damage was caused by them.

We have nine greens seeded with South German bent and redtop which were attacked quite severely with large brown patch. Eighteen Washington bent greens were infected with small brown patch at times, but it was never very severe and we have never yet found any large patch on them.

We were less troubled with the small brown patch this year than we were the preceding two years that I have been here. One and one-half ounces to two ounces of Calo-Clor mixed with water and put on with sprinkling carts at the rate of one barrel to approximately one thousand feet was sufficient to check the disease in every case except on the large brown patch which required two successive treatments during the hot spell we had in June.

I have found that Calo-Clor does not have a harmful effect even when used on a hot day and without sprinkling afterwards if no more than one and one-half ounces are used to a fifty gallon barrel of water. It gives better control than a heavier dose washed in.

The only organic fertilizer I have used this summer was some pulverized poultry manure. I used it mixed with a complete mineral fertilizer and put it on dry with a fertilizer spreader. The mixture was put on the last week in May or rather about ten days before the last of May. A few greens were given some more of the same mixture during the first week of August, while the rest of the greens received the mineral fertilizer alone. Between the last part of May and the first part of August, two rather light applications of sulphate of ammonia were put on with the sprinkling carts. In the early spring a fairly heavy application of the complete mineral fertilizer was put on.

We water greens every other night but as our

water supply is somewhat limited we cannot water very heavily.

The grass on our greens has never appeared healthier or of a better color than it has this year, nor has it ever before resisted the attacks of brown patch so well. I believe that over-feeding does hasten fungus diseases by making the grass too soft to resist disease. So all of my fertilizer applications after the first spring feeding are rather light.

I think that if the grass has a constant supply of food to draw from it is better than to have periods of starvation alternating with periods of overabundance of food. As for watering, perhaps it may hasten the attack of fungus diseases if the green is not well drained, both underneath and on the surface, so that the grass becomes weak from air starvation.

I have not been able to observe the action of diseases on greens that have been dried out for lack of water as I have not been on a course where such a condition existed. However, our fairways, which are not watered, suffered badly this summer from "fairy ring." The rough, both bluegrass and fescue,

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was also affected. Due to the entire course being brown and dry the disease did not show up much until after the recent rains. Since the rains the damage is very apparent. Heavy rains in June followed by extremely hot weather is in my opinion responsible for the disease and scald on the fairways.

## Hammond Uses Milorganite

By FLOYD HAMMOND, *Greenkeeper*

*Ella W. Sharp Park, Jackson, Michigan*

**I**N REPLY to your questionnaire, I will say that we had some trouble from the webworm on three or four greens. We applied arsenate of lead at the rate of six pounds to each one thousand square feet of turf and had very good results from this treatment, although on one green we had to make a second application.

The rest of the greens had a treatment of arsenate of lead in the month of May. This was applied for chickweed and I think this was the reason that the worms did not affect them.

In regards to brown patch, we had an attack of large brown patch about the 28th of June. We used a spray of corrosive sublimate—three ounces to one thousand square feet. This stopped the fungus for a time but we had two more attacks at intervals of about three weeks. We applied the same treatment each time and did not suffer any serious results from it, but we had a case of sun scald. The grass seemed to die out in quite large areas around the outside of the greens. We had to patch some of them.

Later I noticed that the roots of the bent seemed to be nearly all dead. The grass did not seem to respond to applications of fertilizer and browned up very badly wherever the cups were placed. The greens were very fast on account of this and did not hold pitch shots well. We disced them with a spiked disc, going over them three or four times and topdressed with sharp sand mixed with our regular topdressing about one-third sand. As a result our greens are back to normal now.

We use Milorganite and sulphate of ammonia for our greens, applying very light doses during July and August. Just enough to keep them from going off color as this is a public course and naturally our play is very heavy during these months. We have to apply some fertilizer to keep the grass from getting worn out.

We use about five pounds of Milorganite and two pounds of sulphate at three-week intervals during this period.

Over-watering or over-feeding may have a bad effect on greens in some cases, but I think the weather conditions have a great deal to do with it. We have used the same methods for four years and have had very little trouble with fungus diseases.

In 1930 we had no trouble at all. Our greens were in perfect condition all year. In 1928-29 we had but very little trouble either, so it would seem that the weather or some other factor influences the fungus quite materially.

## Season Caused Gray Hairs

By BERT BARROWS, *Greenkeeper*

*Kenosha Country Club, Kenosha, Wisconsin*

**W**ITHOUT a doubt this season has caused greenkeepers of this country plenty of grey hairs. I know my best friend, Mr. F. T. Neff, Green committee chairman, and myself received our share.

As to your questions on webworm and turf problems, I am answering them as follows:

Our greens were affected more or less with the webworm. We applied five pounds of arsenate of lead to one thousand square feet, using the barrel, following with a light topdressing using no organic fertilizer, but good soil and one part sharp sand. In case the green was damaged we use a small part of Milorganite for quick recovery.

We had no sun scald this summer as the greens were watered all night sometimes up to ten A. M., just removing sprinklers long enough to mow, cutting every day.

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**A. N. PECKHAM - - - Kingston, Rhode Island**

In regard to a green being overfed, no doubt that will hasten brown patch during the hot, muggy nights such as we had this season. Small brown patch has been the most troublesome this year, appearing after each warm rain and sultry nights. We tried every so-called brown patch remedy but found Calomel to be the best and quickest for complete recovery. Where clubs are able to use it every two weeks, using three ounces to fifty gallons of water per thousand square feet, it will keep brown patch in check.

During the summer months (the hottest) we treated our greens with a very little topdressing using no organic fertilizer, applying a light dressing of good soil and one part sharp sand. If greens were run down at night add small amount of good compost.

Referring to your last question of various diseases on greens that have been dried out and lack water—we have a practice putting green that has been neglected, so to speak, being topdressed twice a year, watered twice a week and cut three times a week. There is very little brown patch, but it was the hardest hit with the sod webworm.



**W**HETHER YOU ADVOCATE THE USE OF ORGANIC FERTILIZERS IN THE SPRING OR FALL, THE FACT REMAINS THAT EACH SEASON SEES A BIG INCREASE IN THE NUMBER OF GREENKEEPERS WHO FEED DRICONURE IN THE FALL AND WHO USE GPM PEAT MOSS IN COMPOSTING AND TOP DRESSING GREENS.

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## Scald Hits Cincinnati

By TAYLOR BOYD, *Greenkeeper*

*Kenwood Country Club, Inc., Cincinnati, Ohio*

**I** WILL try to answer the five questions to the best of my knowledge.

1. My turf was very lightly infected—not seriously and I used one to two pounds of arsenate of lead per one thousand square feet every ten days and did not wet down but very, very lightly. Apparently, I completely stopped the webworms. Total damage was not noticeable.

2. Out of thirty-six greens I had large patch on thirty greens. I used only one-half to one and one-half pounds of sulphate of ammonia per thousand square feet as a fertilizer with the mercury and at times not that.

3. I do omit entirely using organic fertilizers during the summer months.

4. I do not think over-feeding and over-watering are the causes of fungus—nor do they hasten it—but I have found that either or both cause a weak, water growth that might cause grass to be more easily damaged by any of the many turf troubles.

I think more damage has been done in the Cincinnati district this year by too much water followed by scald due to such very hot weather. Brown patch has done its share, of course, but so has water, rain and hot sun.

5. Yes, I have where a high nitrogen fertilizer was used—but not just a disease. I have some trouble on high parts of greens because I gave my fall feeding a few days too early and then came rain into the hot weather we have had the past eight days.

## Wyandot Had Its Troubles

By LAWRENCE HUBER, *Greenkeeper*  
Wyandot Golf Club, Worthington, Ohio

**I** WILL try and answer your questions received in today's mail to be published in our magazine.

1.—Our turf, both greens and fairways, were hit hard with the webworm. The greens were hit the hardest. My first remedy to rid the greens of them consisted of 1/9 ounce of strychnine alkaloid to 5 pounds sugar mixed in a bucket of sand and broadcast over the green.

I got fine results from this treatment but found that it wasn't strong enough to get all of the worms so finally decided that it was too dangerous to players handling wet balls on the greens if it were made stronger so quit the strychnine and went to arsenate of lead. Personally I don't think I got very good results from the arsenate of lead treatment and as you all know it certainly does not do the soil any good especially in hot weather.

Our greens were weak enough from brown patch, and the worms and applying the arsenate treatment sickened them all the more. At the present time they are fine due to better weather conditions and the abundance of compost I applied trying to bring them back during the webworm siege.

2. I had both the large and small brown patch and have had practically all season. I had more large patch than small. I use one-third corrosive sublimate and two-thirds calomel mixture as a preventative once a week for brown patch, but it didn't prevent the large patch at all this summer. I used 3 ounces of this mixture to a bucket of sand, put on in the evening and did not water in until the following morning. I do think it helped to check some small brown patch.

3. I use light applications of compost all season.

In each bucket of sand that I have the mercury in, once a week for brown patch, I use four or five pounds of fertilizer such as 8-5-3 or 10-6-4 or 4-12-4. I alternate using the different fertilizers each time.

4. I think over-feeding with high nitrogenous fertilizers during hot weather hastens large brown patch, but don't think it does the small. As to over-watering, I have found that on the lower levels of the greens that are always damp the longest, we have the least small brown patch. On the other hand the large brown patch seems to be worse in these damp places.

5. I notice that greens that are dried out on the high contours take the small brown patch much quicker when they are dry than they do when wet. This is true where the greens are out in the open and have plenty of air and sunlight. I don't think that any of us aereate our greens enough and I think the spiker should be used more often.

Being a man-killer of a job in hot weather prompted me to build a power spiker and since using it once a week on my greens they have improved 100%. I think spiking has more effect in the top two or three inches of the soil than using these scratching rakes that are on the market. I am anxious to read others' troubles in the coming bulletin and that this is satisfactory to you.

## Semesan Checks Brown Patch

By RAY R. SPRINGER, *Greenkeeper*

Maub-Nab-Tee-See Country Club, Rockford, Ill.

**F**OLLOWING are my answers to Colonel Morley's questionnaire.

1. My greens were not infested with webworm so did not have to apply treatment.

2. I had only one attack of small brown patch this season which was on three greens. I applied Semesan immediately which checked it. Then applied, after one week, ammonium sulphate at the rate of two and one-half pounds per 1000 square feet and top-dressed with compost.

On those greens that were not attacked I did not apply any mercury compound, but gave them a top-dressing of compost every 4 to 6 weeks, depending on weather conditions. Compost consisted of black loam, barnyard manure and sand. I treated with sulphate 2 to 3 weeks after the composting,

varying the amount from two and one-half to four pounds per 1000 square feet, depending on weather conditions.

3. Will refer you to answer No. 2 which I think covers this question. However, I will say that I lighten my topdressing and sulphate treatment during the summer months.

4. I think over-feeding and over-watering hastens fungus diseases. During periods of fungus diseases I lighten all of my treatments and watering.

5. I have not observed the various diseases on greens that have been dried out for lack of water, but that have received plenty of air.

Am happy to say that I have had no trouble with my greens this season with the exception of the one attack of small brown patch on three greens as I mentioned above, which happened on July 18th, but which recovered very quickly after treatment.

This is an 18-hole course and has had heavy play for a private club, but my greens have stood up in fine shape. We have had a very dry and hard season this year as every greenkeeper knows, so I am very thankful for conditions on my course.

## Brown Patch At Ann Arbor

By WM. SLACK, *Greenkeeper*

*University of Michigan Golf Course,  
Ann Arbor, Michigan*

**I**N REPLY to your questionnaire, I hereby submit the following answers:

1. Did not have webworm.

2. Had both small and large brown patch. On May 12th had small brown patch very bad on three greens. Used corrosive sublimate with excellent results, then gave light topdressing without fertilizer and had no trouble with said three greens since. For large brown patch I used Semesan and Nu-Green.

3. I use no organic fertilizer after June. Perhaps over-feeding or over-watering hastens brown patch but as I do neither and get disease just the same it is hard to say with any certainty whether it does or not.

5. No, not on this course.

**Note—Greenkeepers are Requested to Send in Letters for Publication Next Month.**

## Birds Kill Webworms

By JOS. WILLIAMSON, *Greenkeeper*  
*Scioto Country Club, Columbus, Ohio*



JOS. WILLIAMSON

**T**HE sod webworm made its appearance on several Scioto greens this summer, but the birds were able to combat this pest and did not find it necessary to use chemicals of any kind to eliminate them, the birds kept them well under control.

2. Our greens were affected at intervals with small brown patch and especially No. 2, a new green, had a severe attack of the large patch. I depended solely upon Calo-Clor as a preventative with good results and used a 10-6-4 fertilizer in small quantity, well watered in.

3. I do not use organic fertilizers during the summer.

4. Over-feeding and over-watering are the fatal mistakes of many greenkeepers and cause most of the troubles, especially does it hasten fungus growth.

5. No, but I have seen a deal of scald and sunburn this summer and thinning out of the grasses on greens owing to the many rains during July and August. The root system being close to the surface the grasses were unable to stand the many hot, scorching days of the past few weeks.

## Brown Patch At Hartford

By J. O. CAMPBELL, *Golf Course Superintendent*  
*Wethersfield Country Club, Hartford, Conn.*

**W**E HAVE had no webworms so far and I have heard of none in the Hartford district.

I have had brown patch and plenty of it, but have been able to check it, before it had damaged my greens to any great extent, although some greens in this district were completely destroyed. I used Semesan and some Nu-Green applied at the rate of one-half pound to 1000 feet, every three days until there were no signs of the fungus.

When the weather was hot and humid, I watched very closely and on the slightest indication of the

disease, I gave the greens an application. I have been unable to find a chemical to prevent the growth.

I composted about every 15 days, using both organic and inorganic fertilizers lightly, and spiked the greens frequently. I have always used organic fertilizers during the summer and have never found that they caused either large or small brown patch.

Watering has an effect on brown patch. Too much water during the hot weather has a tendency to produce the disease, but allowing one's greens to get too dry is just as bad. So, during the brown patch season, I give lots of attention to watering, practically all of my watering being done at night.

I have observed various diseases on greens that have been dried out, the principal one being brown patch. I believe it is caused under these circumstances by a weakened condition of the grass, either by over-fertilization (too much sulphate of ammonia, acid phosphate, etc.) or by the lack of fertilizer.

It will be interesting to read of the conditions on other courses in different parts of the country and compare my methods with other greenkeepers. Most of our trouble here is brown patch.

## Poor Drainage Hurt Aurora

By SPENCER MEISTER, *Greenkeeper*

*Aurora Country Club, Aurora, Ill.*

WITH reference to your inquiry of September 8th, I wish to quote the following: Our golf course started to suffer with the extreme heat and humidity of the latter part of June. Immediately we got busy with fungicides.

I used corrosive sublimate and Semesan with

equally good results which were effective throughout with the exception of some spots on our 7 and 14 greens, which places were poorly drained and where these greens were water-logged is where the serious damage was done.

I can best explain the damage which occurred, when I mention that No. 7 was affected to the extent only of having to wait 45 days for these affected parts to grow in, which on No. 14 it was necessary to lift and replace about 20 square feet of turf where the large brown patch in the poorly drained area would have taken too long to recuperate and grow back in.

We continued playing these greens, however, and they were better than any temporary green we could have provided as far as a putting surface was concerned.

I did not use any organic fertilizers in any top-dressing after this trouble and as a matter of fact, I let up for a couple of weeks after this hot spell on any fertilizing plan and also cut down on the water applied, thinking that the fertilizer was adding too much added heat to the soil and that the water was adding to that almost steaming condition which existed.

Whether or not this helped me and if so to what degree I am at a loss to say. While I did not have any further attacks of brown patch (I used preventative measures of mercury compound meanwhile) it left my greens with an unhealthy color. The grass did not grow so fast and became thinner and then I decided I must feed the greens and get water on them as I felt the starving of them was bad from a golfing standpoint, appearance of color, lack of ability to hold a ball and also too fast a putting surface.

About a week after using fertilizers and water I also got some favorable weather and the greens showed a marked improvement and at this writing they are in excellent condition.

I was not troubled with webworms. Had a few so-called large cutworms but noticed no damage from them.

I also noticed no damage on what bent we had on fairways which were not watered or fertilized except the natural burnt appearance and this all left after the last couple of rains which restored their color. The bent referred to on fairways is on one of the lowest places on the course and probably gets a little air as any area.



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## Humber Valley Fortunate

By JOHN AUSTIN, *Greenkeeper*

*Humber Valley Golf Club, Humber Bay, Ont.*

**W**E ARE about to the end of another trying season, which all greenkeepers will be glad to see through. It has been an extra hot season with occasional heavy rains which did more harm than good for the greenkeeper.

I, myself, have been very fortunate, having suffered very little from disease to the greens. The method I have adopted is top-dressing my greens each month with an application of 30 pounds organic fertilizer and 6 pounds sulphate of ammonia per 1000 square feet with one-quarter yard compost, composed of one-third top soil, one-third sand, and one-third rotted manure or mushroom soil.

I have four greens which were badly scalded during July. The method I used on these greens was letting them dry out for five days; then I gave them a light application of sulphate of ammonia at rate of 5 pounds per 1000 square feet and watered them. I continued this for a period of three weeks at intervals of four days between each application. At the end of three weeks these greens were fully recovered from the scalds.

I do all my watering of greens in the morning between the hours of 7 and 10. This I do because we get heavy play during the day.

I think excessive watering will hasten the fungus diseases because it conduces rapid growth and weak tissues and also affects the bacterial activity which leaves the roots in a weakened condition and subject to disease.

## Bucyrus Was Hit Hard

By LLOYD ADAMS, *Greenkeeper*

*Bucyrus Country Club, Bucyrus, Ohio*

**I** WILL try and answer your questions as well as I can. Our greens became infested with webworm around the 15th of June. I treated with arsenate of lead, but not until late in July. We did not know what it was at first. I used 5 pounds to 1000 square feet, mixed with dirt—5 pounds to a bushel of ground, then watered in well and got good results.

In a week I could not find a worm. But have seen a few in the last two weeks, but don't think



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they are doing any damage. Our turf was affected with what I thought was small brown patch. I used Calo-Clor with good results.

I think our greens at one time were as bad as any I have heard of. They are all back now, but Nos. 3, 5 and 6, which were the last ones to go bad. However, they are slowly getting better.

I sulphated, 3 pounds to 1000 square feet, yet I think the hot weather is slowing them up a little now. But my worst greens are as good now as they ever were.

We never have used any other fertilizer but ammonium sulphate and I think that has been a little of our trouble this hot season. I believe over-feeding our greens has a lot to do with fungus diseases and the only time fungus shows up is when we get a big rain and hot, humid weather.

We have had more rainfall in our section than any place near around which makes me think too much water has a lot to do with it. Our greens seem to get hit as bad on dry spots as well as a wet green.

This is the first year we ever had any trouble and have had plenty to make up. I put in a new green June 10th, this year, but it came slower than any

green we put in. It was not hit with brown patch, but as soon as I gave it a treatment of Calo-Clor it has done better.

## Rock Island Fares Well

By JOHN HILL, *Greenkeeper*

*Rock Island Arsenal Golf Club, Rock Island, Ill.*

1. We had no webworms or worms of any kind. All the other courses around this part of the country had more or less cutworms.
2. I had hardly any large or small brown patch, using Calo-Clor as a preventative. I also think this takes care of the worms in your greens. I mixed my fertilizer with my topdressing, then watered it in.
3. Used very little of any kind of fertilizer during the months of June, July and August.
4. Over-feeding, I think, forces your grass more and forms a rank growth which hastens fungus diseases. I think over-watering will have the same effect.
5. No, I have been lucky in respect to diseases.

## No Trouble At Gulfport

By FRANK JONES, *Greenkeeper*

*Gulfport, Mississippi*

REPLYING to your questionnaire, this golf course has been closed since May 1st. We have carpet and Bermuda grass fairways and Bermuda greens. Have kept fairways and greens mowed regularly and have not used any fertilizer or watered any during the summer.

The course is in very good condition. No webworm or disease of any kind has been visible. Will

sow greens to Italian Rye starting October 15th. During the winter months we have a fungus disease and brown patch on greens, although I had beautiful greens last season. Will give you more information on turf disease here during the open season.

## Nu-Green Used At Winnipeg

By JOHN THOMSON, *Greenkeeper*

*Kildonan Park Municipal Golf Course*

*Winnipeg, Manitoba*

IN ANSWER to your questionnaire to hand, I am sending you this short account of the methods adopted by us this season.

This season we have had plenty of troubles, such as frost, wind and drought. About the third week in June our greens were in fine shape, when the weather turned very hot indeed for Manitoba and big brown patch struck us badly on greens Nos. 4, 7, 9 and 12.

These greens are all along the Red river and are sheltered by trees. We used Nu-Green in the specified amounts and found it very satisfactory. We used this treatment twice in 10 days and brown patch left us for the time being.

Our methods for fertilizing greens are as follows: From the first of spring until the second week in July, 25 pounds of sulphate of ammonia to 1000 square feet. Then from the middle of July until the end of September 100 pounds of tankage to a green of 6,000 square feet surface.

I have never seen any green over-fed on Kildonan Park Golf course, but I do believe that over-feeding and over-watering with excessive heat prevailing, hastens fungus diseases.

## My Poa Annua Went Out

By FRED LARRENCE, *Greenkeeper*

*Deal Golf Club, Deal, N. J.*

IN REGARD to your letter of September 8, I have had trouble and plenty of it, but it was due to my Poa Annua going out on me and hot weather and showers. I had four greens go out over night and I went to forking and using lime. I preserved three greens and with soil and Cocoos bent got a good catch. I also sanded well using as much as ten tons to the green.

Answering your detailed questionnaire, I had no webworm but some leaf spot. I use no fertilizer, but



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I did use Semesan on the greens. As to what hastens fungus diseases, I do not believe that over-feeding does, but I do think that over-watering is a mistake. I have not observed any diseases on greens that have been dried out for lack of water.

As to the criticism about topdressing in summer you would think I was committing a crime, but my chairman has seen his mistake and says, "Fred, we listen to no one next year."

I think if all of us use a little lime this year we will be better off as we have seen great changes since I used it on my course. I have topdressed three times in one month, using one-third sand and two-thirds loam and am going to keep it up.

I have one member who wanted to get a new greenkeeper, but it blew over. He has come around and said he was sorry for what he said. Here's hoping that 1932 will be better.

## Calo-Green Used At Columbus

By RAY SCHURTZ, *Greenkeeper*  
Worthington, Ohio

WE HAD plenty of web-borers (through the chairman of Green here). We used arsenate of lead but not with best results. I believe it did more harm than good to the greens, that is in that certain time of season.

2. We had much of both kinds of brown patch but always cleared it in short time with Calo-Green.

3. No, we used fertilizer but not so much.

4. I believe that over-feeding and over-watering hasten fungi diseases in different kinds of weather.

5. Yes, we had dollar brown patch more severe on the most elevated places on our greens where they had dried out most.

I hope the above will help a little in solving some of the difficulties which we have been through this season.

## Ostrom Follows Nature

By E. T. OSTROM, *Greenkeeper*  
Hillside Golf Course, Hillside, Illinois

IN RESPONSE to your questionnaire which I received concerning the difficulties of the foregoing season I answer the following:

At no time did I have webworm.

I am a user of common fertilizers.

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I am certain over-feeding or over-watering does hasten fungus disease.

My greens have always had plenty of water and I have had no experience with diseases on dry greens.

I never have had a case of brown patch during my 16 years' experience as a greenkeeper. I believe my success lies in that I follow nature as closely as possible.

## Muncie Had Webworms

By A. M. ESTERLINE, *Greenkeeper*

*Delaware Country Club, Muncie, Indiana*  
I WILL answer your questionnaire as well as I can.

1.—Yes, I had webworms on all of my greens. We used arsenate of lead on the greens at the rate of eight pounds to one thousand square feet. We got rid of the worms but they came back and we gave them the same treatment again.

2.—Yes, our turf was affected with both large and small brown patch. We used mercury and fertilized with Naco afterward, just as soon as we could get it on the greens.

3.—We did not use much fertilizer as we do in

the spring or fall but we had to use more this year than we ever did before; the season was harder as you know.

4.—Well I cannot answer that question; it may on some greens while on others it does not. Our Number 11 green has had the same treatment as the others and we have had no brown patch on it

since it was built four years ago. We have never paid a dime treating it while the others have cost plenty every year.

5.—Well as to that I cannot say for our greens have not a tile in any of them at present but we will tile this fall and winter. I know they need air.

## Answers to Questionnaire (See page 6)

By MAJOR JOHN J. HAFF, *Supt.*  
*Blind Brook Club, Port Chester, N. Y.*

- 1.—No.
- 2.—Yes. Checked by Calo-Clor applied with a power sprayer.
- 3.—Yes.
- 4.—Both over-feeding and over-watering hastens fungus diseases.
- 5.—No such diseases have appeared up-to-date.

By A. BULLER, *Greenkeeper*  
*Cbikaming Country Club, Lakeside, Michigan*

- 1.—Yes, very bad. Used Semesan and arsenate of lead, but had to re-seed afterward. Weather still very hot and dry.

- 2.—No, not until this month and very light, using same as above.
- 3.—Absolutely.
- 4.—A great deal.
- 5.—No.

By PAUL B. WHITNEY, *Greenkeeper*  
*Queens Valley Golf Club, Forest Hills, N. Y.*

- 1.—No.
- 2.—Yes, Semesan used with good results.
- 3.—No. Spring and fall.
- 4.—Yes.

By HENRY PROVENCE, *Greenkeeper*  
*Firestone Country Club, Akron, Ohio*

- 1.—No.
- 2.—Yes, small brown patch on four greens. I used Semesan on them. I also tested my soils and they showed very sour, so I gave each of the four greens one hundred pounds of limestone and they came along fine.
- 3.—No.
- 4.—That I cannot say as we water eighteen every other night and it proves O. K. for us. As for feeding we topdress and fertilize every month there-

fore I could not say how much over-feeding and over-watering hastens the diseases.

5.—No.

By A. W. KROLL, *Greenkeeper*  
*East Aurora Country Club, East Aurora, N. Y.*

- 1.—No.
- 2.—Large brown patch. I used mercury, two teaspoonfuls to three gallons of water.
- 3.—Yes.
- 4.—Yes, over-feeding.
- 5.—No.

By TOM BOYD, *Greenkeeper*  
*Fox Hills Golf Club, Stapleton, L. I.*

- 1.—No.
- 2.—Nu-Green.
- 3.—No.
- 4.—Yes.
- 5.—No.

By ANDREW WELSH, *Greenkeeper*  
*Schwartz Creek Park Golf Course, Flint, Michigan*

- 1.—No.
- 2.—Yes, large brown patch, very severe. Used Nu-Green.
- 3.—Yes.
- 4.—I think over-feeding does.
- 5.—Not on our course, but some in Michigan district.

By WILLIAM TOBIN, *Greenkeeper*  
*Laconia, New Hampshire*

- 1.—No.
- 2.—Quite a lot of small brown patch. I used Calo-Clor with good results.
- 3.—Yes.
- 4.—I think over-feeding does, but not over-watering.
- 5.—I have not seen any greens dried out for lack of water.