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.

Grass Seed
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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

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 Chikaming 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, Obio

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.

Quite a lot of small brown patch. I used Calo-Clor with good results.

3.-Yes.

4.—I think over-feeding does, but not overwatering.

5.—I have not seen any greens dried out for lack of water.



GREENKEEPING-TODAY and TOMORROW

By PROFESSOR LAWRENCE S. DICKINSON

Assistant Professor of Horticulture, Massachusetts State College; Professor in charge of Greenkeepers' School, Massachusetts State College; Honorary Member of the National Association of Greenkeepers of America.

CHAPTER VIII—UNDERSTANDING AND INTERPRETATION OF COSTS

Headlines: "In a Canadian Lumber Camp 1% of the men marry 50% of the women." "Scandalous!" says the Miss Jones, age 49 years. "Immoral!" says the Rev. I. M. Pious. "Let's go!" says brother Bill. "What's the matter with the men?" asks sister Kate.

What is your understanding and interpretation of the statement? The degree of your morals is directly in proportion to your understanding. The truth is that there were one hundred men and two women in the camp. One man married one woman. What's wrong in that? Nothing, but your wild interpretation. When the facts are understood, there is nothing scandalous or irregular.

Let us consider facts from the cost records of an 18-hole golf course financially worried by the business depression, and governed by a board of directors having a majority in favor of "improving the social facilities."

The item under discussion is the cost of maintenance of the putting greens. Secretary reads from the greenkeeper's report, "Greens maintenance—labor \$2,405—37% of total labor." "Too much!" shouts A. Cook. "Can't spend that much!" "Graft!" roars the professor (ancient history). The majority of the board agree that the greens' labor should be cut.

The matter nearly goes to vote when H. E. Thinkwell has courage enough to express his interpretation and understanding of the item. He explains as follows: "Two thousand four hundred and five dollars is the entire labor bill (excluding supervision) for greens maintenance for the *entire*

year. Thirty-seven percent of the total is the average labor apportionment to greens." Here is where many committees and even greenkeepers stop in their analysis. The committee still think the item is large and the greenkeeper is unable to explain why it appears large.

ANALYZING GREENS LABOR COST

"T HERE are 18 greens. \$2,405 ÷ 18 = \$133.61, equals labor expenditure on one green for one season." It is still large to the committee for they won't be convinced, yet they begin to feel uncertain of their ground.

"The active playing season is from April 15 to October 15 inclusive, or 184 days. During that period there are 26 Sundays on which the men do not work. The total number of working days is therefore 158. $$133.61 \div 158 = 84.5c$, equals labor expenditure per green, per working day." The committee has become serious, and the "Social Billies" have nothing to say.

Thinkwell goes on, "The average size of the greens is 7000 square feet, $84.5c \div 7 = 12.1c$ equals daily labor cost to maintain 1000 square feet of our beautiful putting greens. The laborers receive 50c per hour. Therefore 12.1c represents practically 15 minutes of time. All of that 15 minutes is not spent on the green. A part of the time is consumed in travel from green to green and elsewhere on work directly chargeable to greens maintenance. But suppose all the time was spent on the green (1 hour and 45 minutes per day). After completing the routine of work of polling and mowing there is not much time left for other work. The green has to

be top-dressed occasionally, also fertilized; these operations require a total of several hours' time."

Thinkwell concludes by saying, "In my opinion the labor item for greens, \$2,405 or 84.5c per green per day, or 1 hour and 45 minutes time per green per day is not excessive, in fact it is quite remarkable that the greens are in such fine condition." Thinkwell interpreted the item with understanding.

Just think what could have happened without the full understanding of the item. The committee would have probably cut the item to \$2,000 (round figures) or about 20%.

WAGE CUTS DO NOT LOWER COSTS

Many courses have reduced the laborers' wage from fifty cents to forty-five cents per hour, a 10% cut. The actual expenditure for any one labor item may be less; but unless the laborers work as fast as before the cut, and no operations are omitted, the efficiency of the work will be found to have been lowered. It will require as much time as before the cut to do any given job. There would undoubtedly be a loss in efficiency.

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The Ohio Humus Products Co. London, Ohio A 10% cut in the labor appropriation could be effected by a reduction of the force from ten men to nine men. The payroll would be reduced, but let's see how it would work out using the figures cited in the first part of this article.

\$2,405 = 37% of a \$6,500 labor payroll. 10% reduction = \$650.00 or a payroll of \$5,850. "The greens must be kept as well as before the reduction," says the committee. To be normal 37% of \$5,850 or \$2,164.50 should be spent on the greens. By the same process of figuring as before, the item can be reduced to $1\frac{1}{4}$ hours per green per day. (Wages remaining the same). If $1\frac{3}{4}$ hours per green per day was considered a minimum in the first case, it certainly should be in this, as the men will *not* work any faster.

To make the required $1\frac{3}{4}$ hours per green per day, $\frac{1}{2}$ hour for each green must be stolen from other operations about the course. 18 times $\frac{1}{2}$ = 9 or *nine hours is stolen* each day from other parts of the course to satisfy the green requirements. Many courses have made the mistake of reducing the force 10% rather than reducing the wages 10%.

GREENKEEPER FREQUENTLY UN JUSTLY CRITICIZED

A GREENKEEPER is frequently unjustly criticized because of variations in costs, for example. In 1930 a course spent for labor in mowing fairways, \$302.40 (60 acres). The greenkeeper's report for month ending August 31, 1931, happened to show a labor expenditure for fairway mowing of \$298.50. Same areas with the month of September and possibly a part of October to go.

The finance committee interpreted the reason for the high expenditure to poor management. The chairman interpreted it as excellent management for he understood and realized that 1930 was a dry year and the fairways were mowed only 28 times at a labor cost of 16c per acre per mowing. This year because of excessive rains the fairways have been cut 33 times at a labor cost of 13.1c per acre per mowing, or a total saving of \$2.00 per mowing. Understanding and interpretation does make a difference. Good management was the sole reason for this saving.

Golf course costs, as other costs, are dependent upon two general types of cost. One, transitory costs; those that are variable and uncontrollable. For example, current wage rate, market price of fertilizers, seeds and equipment. The only control the greenkeeper has over such costs is to shop around and watch for bargains. Obviously the fluctuation in the price of materials increases or decreases the cost to the club.

The other cost can be termed stationary. This cost is controlled by the greenkeeper because it refers to the *method* of carrying on the work. If a greenkeeper reduces the cost of any operation by changing the method, or obtains equally as good results from a change in the fertilizer program, he has reduced the stationary cost for such operations. Such reduction of course reduces the total cost.

Frequently, in studying cost reports the writer has been able to detect lower stationary costs, and at the same time find an increase in the total because the transitory costs had gone up. Such understanding and interpretation gives full value, or blame if necessary, to the greenkeeper or person responsible for the lower or higher stationary cost.

COSTS MUST BE INTERPRETED IN UNITS

Costs must be interpreted and understood in terms of recognizable units such as, per operation per acre, for fairways and operation per 1000 square feet for greens. The bookkeeping, receiving money and paying bills, belongs to the "office" of the club, but the cost-keeping of the golf course belongs to the greenkeeper who should be in absolute authority over the distribution of the various items, and no bills should be paid (and I mean not sneaked over) from his budget without his approval. I heard recently that one of the courses in Ohio where the books are kept in the club office and the cost of the golf shop and caddy service is charged against the greenkeeper's budget.

Personally, I think the greenkeeper should keep the cost records so that he can keep constantly in touch with them. If he did, much misunderstanding and many wrong interpretations would be avoided, and unjust criticism of the management of the golf course proper would be eliminated.

Next month—Chapter IX—Efficiency Studies.

Rhode Island Greenkeepers Feast

First annual clam bake held at Duby's Grove, August 17

Photo by Carroll-Raymond



First row (left to right)-

William Monaban, Agawam Hunt Club, Providence, R. I.; William Renney, Professional, Massasoit C. C., Warwick, R. I.; Doc Barney, Wampanoag Golf Club, West Hartford, Conn.; Larry Dobbins, Wampanoag Golf Club, West Hartford, Conn.; John Neiello, Meshanticut Golf Club, Meshanticut, R. I.; Edward Lobr; D. Fuller, Winnesuket Golf Club. Woonsocket, R. I.; John Berciczw, Cumberland Golf Club, Woonsocket, R. I. Directly in front of first row-Woodworth Bradley, Secretary, Rhode Island Greenkeeper's Club. Second row—M. Travers, Pawtucket Golf Club, Pawtucket, R. I.; L. DiLuccio, West Shore Golf Club, Warwick, R. I.; J. DiLuccio, Massasoit Country Club, Warwick, R. I.; Ray

Arnold, Potownut Golf Club, East Greenwich, R. I.; Charlie Mullaney, Meshanticut Golf Club, Meshanticut, R. I.; Withington Stewart, Agawan Hunt Club, Providence, R. I.; L. Hay, Vice-President, R. I. Greenkeepers' Club; Bob Hayes, Pelbam Country Club, Pelham Manor, New York; F. Fuller, Highland Country Club, Attleboro, Mass.; F. Jones, Miantonomy Country Club, Watch Hill, R. I.; Henri Mailo, Montaup Country Club, Portsmouth, R. I. Top row-J. Hall, Gloucester Country Club, Greenville, R. I.; F. Robinson, Comstock Country Club, Cranston, R. I.; Caddy; F. Coppoge, Elmwood Golf Club, Providence, R. I.; J. Simmonetti, What Cheer Country Club, Pawtucket, R. I.; B. Bertilini, Pawtucket Golf Club, Pawtucket, R. I.

Canadian News

By J. H. EVANS, Golf Editor, Toronto Globe

FTER months of discussion and considerable deliberation, the expected step toward the development of something akin to a green section in the Royal Canadian Golf association has taken place under the auspices of the government of the Dominion of Canada.

The step was the establishment of a plot for experiments in the culture of grasses in general use on golf courses. The plot was laid out on the Royal York golf course on account of its proximity to the majority of the courses in Toronto. Greenkeepers and course superintendents in other spots of the Province of Ontario who wish to follow the experiments will be expected to make the necessary trip to the Royal York course.

During the January meeting of the Royal Canadian Golf Association, the association's secretary, B. L. Anderson, announced that the association had been able to persuade the government to assist golf through the location of plots for experimental purposes in Toronto, Montreal and Winnipeg. These plots were to be laid out and maintained by the government when the association selected the courses on which they would be established.

Late in August, the Government sent an expert from its Federal Department of Agriculture to lay the plot out in Toronto. All strains of bent grasses, all fescues were sown by seed and stolon—all told 72 varieties. More than 10,000 square feet of ground was used for the purpose. In October the greenkeepers of Toronto and clubs of the Province will go to the course to study the result of the first effort of the Royal Canadian Golf association.

Although greenkeepers were not consulted by the association or the government when the work suggested by the government was undertaken, they adopted a liberal view toward the effort to do something for golf in the Dominion and express the hope that something may come from it.

For six years, the greenkeeper through his organization has done more to place the care of the course on a scientific basis than anyone else. His accomplishments have been the blending of the practical and the scientific, such as was brought to him on occasions by members of the staffs of agricultural colleges and government departments. The Royal Canadian Golf association on its part has attempted on an elaborate scale and through literature from its office to develop a green section with brief success and now it hopes to benefit by its mistakes. The results of the experiments will be embodied in leaflets which will go to club secretaries and thence to the officials and employees in charge of the courses.

The first leaflet was to have appeared in the spring to be followed by another bulletin in the summer. Their non-appearance evoked some interest. The explanation

is now forthcoming with the statement that there could be no bulletin until a plot had been established and the result of experiments could be reported for the benefit of clubs and their officials.

While the majority of course superintendents in the larger centres may gather little from these bulletins, it is expected that the greenkeeper in the smaller cities and in the towns of the Dominion may derive a great deal from them.

The Government will experiment with fertilizer. At the same time, the clubs have before them the offer of one nationally-known company which is willing to con-

duct experiments in the manufacture of fertilizer as suggested by course superintendents and greenkeepers

and then place the result on the course.

Thus the clubs and their employees may derive benefit which comes from competition between the Government and private enterprise which is out for business, frankly admitting it desires every cent of business to be secured from golf clubs.

The reports from greenkeepers through eastern Canada is that the month of September will provide many problems unless there happens to be a sudden change in climatic conditions. The courses suffered severely in July, but recovered somewhat during August. Now the drought of late August and early September, along with heat, has burned them again.

As much water is being used on the courses now as during the excessively hot weather of midsummer. Clubs in Toronto without access to natural supplies of water were compelled to pay several hundred dollars monthly to municipalities for water which under normal conditions would have been a nominal amount.

Philadelphia News

By M. E. FARNHAM, Secretary, P. A. G. C. S.

REGULAR monthly meeting of the Philadelphia Association of Golf Course Superintendents was held Monday, August 31, at the Rolling Green Golf Club, Media, Pa. There were 36 members and guests present.

During the afternoon quite a number contested for the monthly prizes which are played for on a Kickers' Handicap basis. John R. Wiley, Penn C. C., won first money. R. C. Lane, Bala Golf Club; Joseph Kelly, Old York Road C. C.; J. V. Comito, Huntingdon Valley C. C.; and E. Steiniger, Pine Valley G. C., were tied for the remaining two places.

The Rolling Green G. C. is one of those which has been afflicted with Virginia Bent. During the past season a number of greens have been sodded with Metropolitan Bent. They also have Washington Bent on one of the greens in the woods, and the 15th was sodded last fall

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Our friend, Joseph Ryan, is to be congratulated on the excellent results of his past year's work and especially on that Velvet green. I understand Joe raised the sod for this green, from turf which he obtained from Joe Valentine, by planting small pieces of the Velvet 2 to 3 inches apart, and that the sod was only about a year old when used.

After dinner at the club house we held a meeting during the evening. Dr. A. L. Patrick of the Pennsylvania State College was the guest of the day. Dr. Patrick showed us, by lantern slides, some pictures of, and charts summarizing results at the Rothampstead Experiment Station in England. The striking point brought out by the summaries Dr. Patrick has made, is the similarity of the results at Rothampstead and State College.

Dr. Patrick also raised the question as to what aspects of turf work it may be desired to consider at the time of the Conference at State College in February, 1932. The aim is to take up questions which have the most universal interest. The suggestion was made that anyone having ideas along this line communicate with the Committee

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(of which Joe Valentine is the head) before they meet with the College authorities probably some time in October.

New French River Course

By E. H. BANKS

Tra meeting held at French River Bungalow Camp, French River, Ontario, Canada, on August 3, E. F. Seagram, Waterloo, was elected President of the newlyformed French River Golf and Country Club. William Bricker, Waterloo, was chosen as vice-president, and Jack G. Strathdee, manager, of this C. P. R. Bungalow Camp, secretary-treasurer.

These appointees will also act as directors, in addition to R. W. Scott, E. H. Banks and F. Marsh Richardson, all of Toronto. Mr. Seagram will be chairman of directors. The course is considered one of the trickiest nine-hole courses in Eastern Canada.

Built four years ago by Mr. Strathdee, at the instigation of Mr. Seagram, it is in fine shape and a most popular adjunct to this well-known Ontario bungalow camp. At present slightly on the short side, arrangements have been made to lengthen several of the holes. Applications will also be made in due course for affiliation with the Royal Canadian Golf Association.



Mrs. E. F. Seagram, wife of the president of the French River Golf and Country Club, putting on the seventh green. Note the wonderful view of the bay in the background.

Cleveland News

THE past season has surely been a busy one for the greenkeepers of the Cleveland District Association.

In addition to the extra work and continued watchful care required on their own courses, this season, the boys found time to visit the following courses for meetings and inspection of said courses: Portage C. C., Oberlin C. C., Youngstown C. C., Bunker Hill Golf Course, Westwood C. C., Orchard Hills C. C., Manakiki C. C., and Madison Lake Golflands.

Dr. Robert Salter of the State Experimental Station, Wooster, Ohio, addressed the Manakiki meeting, on the subject of soils and chemical fertilizers.

The open discussion, which followed his very interesting and instructive talk, was heartily entered into and through the two mediums, many valuable points were brought out.

On Monday, Sept. 28, the boys will "strut their stuff" over the course of the Canterbury C. C. to determine the champion golfer of the Cleveland District Association of Greenkeepers.

The wind-up of the outdoor season falls on the 12th day of October and will be held at Braeburn Golf course near Akron.

And some wind-up it will be. The annual meeting, which includes the election of officers, a clam bake and other special stunts will rule the day.

* * * A FRATERNAL SPIRIT

During the night, in the height of the season, Frank Ermer, President of our local association and greenkeeper at Ridgewood Golf course, lost by fire his work shop and all contents.

Through the cooperative spirit of his fellow green-keepers, Frank was able not only to gather together sufficient equipment to carry on the following morning, as per schedule, but was able to leave his course at ten a. m. that same morning to attend a conference on the sod webworm at Wooster, Ohio.

The members of our local association are surely deserving of commendation for the spirit of helpfulness, which prevails, and Frank is deserving of a word of praise for his ability as a greenkeeper and organizer.

ROUND TABLE CONFERENCE

On Aug. 7 a number of the members of the C. D. A. of G. journeyed to Wooster C. C. where round table discussions, presided over by Dr. Hauser of the State Experimental Station, Wooster, were conducted. The topic of discussion was the new "play boy," the sod webworm.

Those who participated in the meeting in addition to Dr. Hauser and several greenkeepers were Drs. Noble and McClure and Prof. Parks.

Much valuable information was gained as to the results obtained from the several methods of combating this pest used in both the Wooster and Columbus districts.

PROFIT AND LOSS

If Jake Nickoloff continues to demonstrate his championship qualifications at a dinner table, the Stewards profit and loss statement is certainly going to look sick.

More power to you, Jake. We would much prefer to see said statement, rather than you, in the above mentioned condition.

JUST A LITTLE OFF COLOR

With peacock likeliness, diminutive Robert Zink of Shaker Heights C. C. proudly strutted up with what he thought was a record eight on a three-par hole. But—lo! and behold! This mark of distinction was soon shattered when C. F. Miller of Orchard Hills C. C. turned in a fourteen.

A SURPRISE PARTY

Mr. Bert Sheldin, greenkeeper at The Country Club, sprang a little surprise on the boys, who attended the meeting at his club.

At the business meeting, which followed nine holes of morning play and a very delightful lunch, Bert announced that he and Joe Mitchell, the Club pro, were going to donate an all-metal club to the winner of the afternoon's play, with the understanding that the handicap to be used would be based on the morning's card.

Some of the contestants are of the opinion that the winner, Percy Bolitho, the red-headed greenkeeper from Portage C. C., had been previously informed as to the requirements for his morning's score of 52 gave him a handicap of 12.

We are not sure whether it was the "tip-off" or lunch that enabled Percy to turn in an afternoon's score of 40, which gave him a net of 28. But we all agree that he deserved the prize.

Pacific Coast Gossip

By ARTHUR LANGTON

NOTHER of the greenkeeper's myriad enemies has been found, or possibly scented, by Greenkeeper William Thompson of the Mountain Meadows club of Pomona, California.

"Bill" must keep his green sprayed with lead arsenate, not because the worms and grubs themselves are damaging his greens, but because a local army of skunks in search of them will ruin a green over-night if the animals find the hunting good. Fortunately for the players, but not for the night irrigation gang, the skunk is usually only a nocturnal prowler.

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It may or may not be because of the skunks that Thompson has been the least bothered by brown patch of any of the greenkeepers in the Pacific Southwest. At any rate only two new greens which have not yet been put in play were in the least affected. More to the point perhaps is the fact that his course is situated on a high, breezy plateau and also that he has been careful in his choice of fertilizers.

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The head of the department of forestry at Washington State College suggests that the eradication of poison oak and poison ivy is entirely feasible though rarely attempted. He stated that the important thing to remember is that the plants arise from underground creeping stems which are widely spread a few inches under the ground and from which new plants do or may arise at short intervals. If the eradication work is to be a complete success these underground stems must be removed entirely. The professor recommends digging by hand, plowing followed by clean cultivation, or smothering by tar paper held in close contact with the soil as methods of eradication.

He cautions, however, that those taking part in this work should be immune from infection by the plants. Now all greenkeepers have to do to get this pest out of their rough is to find a few martyrs willing to determine whether or not they are immune.

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The wholesale destruction of rodents by greenkeepers and others has been blamed for the scourge of grass-hoppers which have infected some parts of the country. There may be some tiny justification for this accusation but a glance into the records will show that there were plagues of grasshoppers in many districts before they had been touched by rodent traps or poison.

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Golf courses in Los Angeles which rely upon the city water supply, piped for hundreds of miles from Owens Lake, are up in arms just at present because a motion has come up before the city council to put them on the domestic water rate. If carried this will mean that those HUBBARD NURSERIES N.Kingsville, O.

A fine stand of

genuine Washington strain of Bent Extra rich in nodes.



clubs using metropolitan water will have their regular monthly bills of \$700 and thereabouts more than doubled. Wilshire, Hillcrest, California, and Los Angeles are some of the country clubs involved.

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Kenneth MacLean, formerly greenkeeper at the Del Mar, California, club has just returned from a visit to his native Scotland. He reports that conditions economic and otherwise on "Old Country" courses are very favorable.

Oklahoma News

By MERLE ZWEIFEL

WITH the completion of the new nine-hole layout at Lincoln Park which is expected in the near future, Oklahoma City will have ten golf courses. The Lincoln Park links operates on a fee basis as does Green Hills, Rancho Beach, Shepherd's Lake, Capitol Hill, Edgemere, and also the Six Lakes club, a newly completed golf links northwest of the city. The Lincoln Park nine is rapidly nearing completion according to Tom Gillock, greenkeeper and will probably be ready for play sometime in September.

This will give Lincoln Park thirty-six holes of Bermuda greens and will somewhat relieve the congestion which has caused Art Jackson, the manager no small amount of worry during recent years. The Park course has been considered one of the most scenic links in the state of Oklahoma and always a true test of golf.

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About two years ago several recognized grass authorities seriously advised against planting bent grass in Central Oklahoma. It was their belief that bent grass could not stand the hot summers of Oklahoma and would be just a costly experiment to any club that should aspire to bent greens.

However, two well-known greenkeepers at Oklahoma City have completely dispelled this theory and have

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proved that bent can thrive as well in Oklahoma as in any northern state. They are Charlie Hankins of the Nichols Hills Golf and Country Club (formerly the O. C. Club) and Grover Zweifel, veteran greenkeeper of the Lakeside Golf and Country Club. The Nichols Hills course has been carefully nursed along under the guiding hand of Greenkeeper Hankins and today they have one of the finest twenty-seven-hole courses in the West. This course will probably be the scene of the Oklahoma Open Tournament in September.

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It seems as though Grover Zweifel has set a record in the construction and planting of eighteen bent greens at the Lakeside Golf and Country Club. Construction was started on these greens about August 15, 1930. Six greens were completely rebuilt and eighteen of them were sown to Cocoos bent grass and four months later they were ready for play—the actual construction of rebuilding and replanting these greens being only \$612.00 (cost of grass seed not included).

If all reports are true Henry Robertson, newly-crowned amateur champion of Oklahoma, will join the ever increasing number of greenkeepers in Oklahoma and accept the position as Pro-Greenkeeper in the western part of the state. Robertson, a former caddy and keeper of the greens at Lincoln Park, walked away with the state Amateur championship in a sensational finish by eliminating Keefe Carter, E. J. Rogers, and other favorites and upset the dopesters who had Carter picked as the probable winner.

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One of the first and most interesting turf demonstrations ever witnessed in Oklahoma was held recently at the Tulsa Country Club, Tulsa, Okla. A large number of prominent Oklahoma greenkeepers and turf experts from all sections of the State were present. The demonstration was given by the United States Golf Association (Green Section) for the benefit of Oklahoma greenkeepers who are interested in the construction and maintenance of fine grass greens in Oklahoma. After the lecture all greenkeepers were invited to the club house where luncheon was served and immensely enjoyed by all present.

Minnesota Gossip

By H. E. STODOLA

THE monthly meeting of the Minnesota Greenkeepers' Association was held at the Red Wing golf course, eighty miles from the Twin Cities. A bus was chartered and sixteen members made the trip. Upon arrival the course was inspected and everyone was favorably impressed.

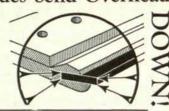
Red Wing is a 9-hole course, right in the city limits. It is quickly accessible and after the day's work much

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golf is played. It is very hilly and no one lacks exercise after a game. The greens are of Washington bent and very good. The grass is fine, upright and maintains a healthy color.

Bill Sauer, the capable greenkeepr, is very much of a naturalist and his work shows it. He believes in a plan of complete fertilizing, but stays on the under side and never feeds his greens too much. Consequently he has very little disease and has to visit wealthier courses with overfed greens to see how brown patch acts.

* * *

Some of the members played and Joe Benson, greenkeeper from Alexandria, found his putting touch and was sinking them from all angles.

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The Red Wing club is certainly a fine host. They served a delightful luncheon and Scottish refreshments. We were even treated with a half-hour shower which is a rare and welcome sight in these parts. We stayed around until dark so it is easy to see it was a good meeting.

The next meeting will be at Superior club, Minneapolis, where Leonard Bloomquist is the guiding genius.

SHAWANO, WIS.

The Shawano Lake Golf Club has announced the opening of its new course. Henry Kuehn in charge.

HUTCHINSON, KANS.

The Carey Lake Golf Club will install new greens, according to Ross Wilson.

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