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in this section of the country how quick they were to "skin" the people and sold it for good bent. They certainly got fooled.

Now is the time to rip it out and put in some better quality bent. I have a lot of Poa annua in them, and I still have a few and I think just as much of them as some of the bent greens. My chairman certainly thinks they are better than the bent. I have four of the Washington bent and they have stood up fine and always look good, but I got this bent from our old friend Piper, from Washington, D. C. He was at the Minikahda Club twice and I had quite a talk with him and nobody else could sell me any bent, with the exception of one green which we changed over and I did not have enough at the time so I took his advice and put in enough for one green, which I should not have done as it isn't worth anything. Some day I am going to rip it out and put in some real strain.

We have a nursery of old strain which I picked up on the course, which is called Minikahda strain. It is wonderful—I have watched it for the past fifteen years and have found that it never turns in either cold or dry weather.

There is quite a bunch of greenkeepers in this section of the country—I imagine about twenty-two. We certainly have had a lot of fun. I happen to be the president of our little group. Last summer we took two days off and visited the courses in the small towns around here and gave them a helping hand wherever we could. Then we went to Duluth, had a nice dinner and played a good game of golf, in fact, we had a wonderful time. We are planning on meeting the next time in my tool house, which is modern in all respects and we certainly are looking forward to another good time.

Ice On Greens At Chicago

By John MacGregor

Greenkeeper, Chicago Golf Club, Chicago

THE end of the Golf season and golf course maintenance has come to a close for another year. We all like to elaborate on the bright spots but, want to forget or ignore the troubles and adverse conditions with which we had to contend during the season just passed.

Personally I have had my share of both. The past winter was a severe one for golf courses in Northern Illinois.

I believe every green in the Chicago district was covered with from two to three inches of ice which remained for more than two months; this meant they were sealed, and the grass naturally suffered for lack of air.

The grass on my greens go into the winter with never less than an inch of growth on them, usually more. I find under normal conditions when ice forms on the green the blades of grass can be seen showing through the ice, during the day. When the sun shines the ice melts a little around the blades and in a short time the ice has a honey-combed effect, thus giving a circulation of air to the grass and preventing winter kill.

My greens being about 80% "poa annua" came out of the winter with practically all of the poa annua killed out; only on high spots did it escape. The spring was cold and late with hoar frosts every night until the end of May. It was nearly June before any growth started so that it was hard to convince anyone that the greens would recover and come back in good shape without tearing them up and re-seeding. But we succeeded and the greens were better this year than they ever have been. I could do nothing but wait until the growth started; when it did I commenced feeding gradually and in three weeks they were fine.

It was discouraging to the members during the early spring and uncomfortable for me, but knowing I was right my heart felt lighter. I found during the season that where the grass had been killed, brown patch did not appear; this leads me to believe brown patch fungi is not in the soil but on the grass blades.

The second top-dressing the greens received was the second week in June. Incorporated in this dressing were the three necessary elements of plant food, namely, nitrogen, phosphorous and potash, at the rate of ten lbs. per 1,000 sq. ft. Later, after the nitrogen in the fertilizer had been exhausted, light applications of Ammonium Sulphate were used at the rate of one lb. to 1,000 sq. ft. every two weeks. This was enough to keep the grass in good color, and not cause it to form a too rapid growth. Turf fed in this way, I find, is healthy, and, if attacked by disease is able to more quickly recover, and again the danger of disease is lessened.

Grass Like a Human

GRASS is much like a human; a person in good health is very seldom attacked by disease, but let the same person be fed irregularly and with improper food, sickness is pretty sure to be the result. It therefore stands to reason, grass which is cut every day requires to be fed regularly and intelligently. The last feeding should be done about the last week in August in the same manner as recommended for June. It is not necessary to apply nitrogen during the fall weather nor early Spring as the rains supply sufficient to keep the grass in a healthy condition.

The season of 1929 in Northern Illinois was more favorable for turf maintenance than is usually the case. There were spasmodic cases of brown patch, but I believe over-stimulation may have been the cause of a majority of the cases; in other words too much nitrogen.

I hope greenkeepers will not take lime too seriously but go slow and use good judgment in applying it. There is no doubt about its being beneficial if properly applied and sometimes it is necessary.

This year crab grass was not so plentiful with me. I believe the reason for this was that



I sprayed the worst infested fairways with copperas and found no crab grass where the treatment had been applied. I understand that around Chicago district, crab grass was unusually plentiful, also clover. The summer was unusually dry which necessitated a long period of watering.

The fall weather has not been favorable for new seeding as early cold weather retarded growth. While the top growth has been retarded however the root action is very good; this should carry the young grass through the winter providing a winter like the last is not in store for us.

Summing up, the greenkeepers have had an easier season than they have had in several years, that is, from a maintenance standpoint.

Disease Starts in the Fall

By GUSTAVE HANSEN Greenkeeper, Greenville Country Club Greenville, Michigan

COMPLYING with our estimable president, John Morley's request, I shall try to sum up briefly my experience with diseased turf, also as much other "bunkum" relating to course maintenance as my experience allows me to draw a safe and sane conclusion on, and my time and ambition will permit, assuming that my readers will take the word bunkum for whatever they please as I find no such word in the dictionary.

Disease makes its appearance about this time of year, which is October 22, every year more or less in the form of circular, semi-circular, or slightly irregular areas about one foot or more in diameter, the affected circle usually about three to five inches in width with the remaining center of given area escaping uninjured. It