

generally when weeded make a very nice seed bed for bent to take hold when mixed with compost.

While the greenkeeper will always have something to scratch his head over I hope that his troubles will be less in 1933. I trust that you will find some helpful information in this.

## Steubenville Had Webworms

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**O**URS is a 9-hole public course, mostly on a hill-top, with tees for a background on most of the greens. The greens are Cocos bent with good surface drainage, but no under-drainage.

We have had very little trouble with brown patch this season, but had plenty of trouble with large brown patch the previous season of 1931. Used Calo-Clor early in June when we had our first attack of large brown patch and continued to use same about every three weeks, about 1½ ounces to a thousand square feet. Discontinued this tri-weekly application after August 12 and had a light attack of large brown patch Labor Day on four of our greens.

Our greatest trouble this season was webworms and next crab grass. Tried the kerosene emulsion treatment for the webworm, mixing it in an electric washing machine. Had some success applying from a fifty-gallon drum through a one-inch open hose, letting the open end of the hose rest on the green and moving it slowly across a five or six-foot swath so as to flood the green a little.

Discontinued this method as our laborers are all social service workers and are a different crew nearly every day. Some were careless and applied too heavily in spots leaving scars which took a long time to recuperate in the hot weather. Since then we used a small spike roller with sixty finishing nails for spikes. As their burrows are not difficult to see before the greens are cut we lifted out a number using an ice pick to turn back the burrow or hole.

We had four crops of webworms this season. I believe the third was the worst or most numerous. This latter method would be rather slow. The cad-dies took an interest in getting the worms for a time and used to count them to see who got the most. The webworms seem sensitive to fertilizer

and during watering in of fertilizer quite a number crawl on the surface.

Tried painting the clover this spring with sulphate of ammonia, about a small double handful to a quart of water (do not give the weight as our scales were stolen). The clover died and the scars were soon covered with grass which naturally left dark green spots for a time. This is not practical in hot weather as the grass does not come in very fast. Used about eighty pounds of ground limestone to the green, four thousand square feet this spring.

Fertilized with complete fertilizer once a month during April, May, and June about 8-12-3 mix—sulphate, phosphorus and potash. Used about three pounds sulphate to one thousand square feet. Used no fertilizer during July and August.

Our greens were thick, the color good and the grass was fine of texture. They stood the wear well and did not look worn out around the cup after heavy Sunday play. We had some clover and quite a lot of crab grass this season.

The fertilizing program had something to do with the weeds. A little too much PH and K, but our grass was not mushy or weak as with too much N. Used no arsenate of lead this season for financial reasons. Could see no need as we did not have June beetle in the greens. Used arsenate of lead in 1931 and did not have much crab grass—it may be partly a control for crab grass.

Left the cuttings on the green most of the time this season, using a pole to brush them in when needed. Think it does more good than harm. When you throw away the cuttings you throw away fertilizer, topdressing and some protection from the sun.

Did not topdress so frequently this season, but used the roller more often—both spike and smooth roller. This was partly because I had no method of sterilizing the topdressing. All topdressing should be sterilized against weeds. Used Sorbex peat moss in the topdressing this spring. Was not very successful as we had a heavy rain after topdressing and the peat moss floated to the surface and did not look so good on the greens so dumped what I had left in the soil bed and turned it under.

It has been dry in the Pittsburgh district for the past three months. The clubs that do not have some system of watering fairways have their courses burned up and the ones that do have enormous water bills.