250 to 450 years, and if some of the larger fragmentary circles are included there seems good reason to believe that they are over 600 years in age.

Fairy rings are detrimental on greens and lawns, and their eradication is a matter of considerable importance. They not only cause bare spots or patches, but irregular growth and unequal color. Since the value of a lawn is dependent largely upon the uniform appearance of the turf, the presence of even small areas influenced by fairy rings destroys the effect of the whole. Usually these dead areas are easily reseeded, but no permanent recovery can be secured in this way, since the mycelium moves on to new grass and the following year the appearance is as bad as before. The best method is to soak the ground thoroughly with sulphate of copper or Bordeaux mixture within the ring and a little beyond. This, if thoroughly done, will kill the fungus.

The Use of Arsenite of Soda in the Extermination of Chickweed

C. E. WITMER, GREENVILLE (PA.) COUNTRY CLUB

Green committees have many trials and discouragements; and I want to say that THE BULLETIN is simplifying these troubles for us. We have confidence in the messages it brings, as they are actual experiences, not theories.

Not having a grass garden to resort to for inserts, we were up against the proposition of either entirely reconstructing a new green which had become infested with chickweed to the extent of about one-fourth, or else taking a chance on some radical method of exterminating the pest. On page 126 of the 1921 volume of THE BULLETIN we noticed Mr. Alan D. Wilson's article on the use of arsenite of soda for the purpose and decided to follow the procedure which Mr. Wilson recommended. We are glad to report that our experiment proved successful. Following Mr. Wilson's directions, we dissolved 1 pound of arsenite of soda (C. P.) in 10 gallons of water, and applied this over the entire surface of about 4,000 square feet with a spraying outfit costing $8 and which the greenkeeper carried strapped to his back and operated by hand. The initial results seemed to be very disastrous, for after three days the entire green turned a dead brown color, and, to the skeptical, apparently the entire surface was destroyed. A close inspection, however, disclosed the fact that it was only the blades of the grass which were injured, and the roots were not destroyed. In ten days' time, and after two or three mowings, the grass returned to its original green color. The chickweed was dead, root and stock, and there has been no evidence of its return. We scarified the bare spots and reseeded them heavily, applying the usual spring top-dressing to the green from our mulch pile.

This application of arsenite of soda was made on April 15, and by May 26 the green looked better than ever before. The course was opened May 3, since which time the green which we thus treated has been in constant play, and there has been no variation in its putting surface, in contrast with the other greens, which nevertheless our fans say are fine. The expense of the treatment was negligible, as the arsenite of soda cost but 60 cents, and less than two hours' time was necessary for its application.

The turf on our green is red fescue, with some German bent, resulting from last fall's reseeding.

The only further suggestion we have to make is that it would be better if the application were made quite early in the spring so that the burned grass would have a chance to recover before the arrival of players. We are preparing to repeat the experiment about September 1, on another green infested with chickweed, as we believe we will then get quicker results from the reseeding. With spring seeding, in our latitude, we can not expect the seed to germinate before May 1.

It might be of interest to note, in this connection, that we did not observe that any other weeds, nor any coarse grasses, were killed by the chemical. I would state also that our application was made on a bright, clear day, which was followed by a spell of similar weather, a condition undoubtedly favorable for the action of the chemical, which otherwise might have been hindered in its effectiveness by the falling of rain.

Brown-Patch

LYMAN CARRIER

Brown-patch made its appearance here at Washington on May 27, and about the same time we had reports of it from Toledo, Chicago, and St. Louis. Greenkeepers should be on the alert to recognize these brown spots when they first appear, and apply the remedy—Bordeaux mixture.

As soon as we discovered the trouble, we got out the gun and dusted the entire grass garden except where we expect to experiment with different methods of treatment for this disease. At the time of this writing (June 2) there has been no additional spread of the affected spots and no evidence of new points of infection.

It is surprising how easy it is to apply this powder when one has the proper equipment with which to do the work. With either the dust gun or the wheelbarrow duster the time required to treat a green need not exceed five minutes, and the expense for materials is negligible. Bordeaux powder costs us in one hundred-pound lots 10 cents a pound, and when applied with a dust gun, one pound appears to be ample for an average-sized green. There does not seem to be much choice between the dust gun and the wheelbarrow duster for applying the powder. It might be said that the wheelbarrow duster applies the powder more evenly, and the dust gun more thoroughly. Such a statement needs explaining. The wheelbarrow duster drops the dust directly onto the turf in an even manner, and as the hopper is twelve feet long, it covers a wide area. The dust gun, with the aid of a gentle breeze, will cover a still wider strip but the powder is deposited in a heavier layer near the operator than it is a few feet away. This, however, is not a serious fault so long as there is a sufficient covering of the dust at all points to prevent the fungus from getting in its deadly work. There is a tendency for the wheelbarrow duster to drop the powder in little pellets, which is not so desirable as having a complete dust covering all over the blades of grass. In dusting orchards, small fruits, or fields of cotton, it has been found satisfactory to blow a cloud of dust into the air and let it settle where it will on the foliage.

We believe it is best to dust when there is dew on the grass or immediately after watering. Under such conditions the powder sticks to the leaves better than it does if everything is dry.