

until it becomes uniformly creamy. One-third gallon of this mixture is diluted with 2 gallons of water, and sprayed thoroughly and with force.

A fourth insect which calls for attention here in the pine leaf-scale (*Chionaspis pinifoliae* Fitch), which sometimes infests the needles of white pine. This insect is a small white comma-shaped body usually found in quantities extending along the needles. Although small, the insects are rather conspicuous, the white scales imparting a grayish cast to the pine foliage. They are hardly to be considered a serious menace to the life of the pines, but may contribute materially to their poor appearance, causing the needles to become faded to yellowish.

Under the whitish scale a soft-bodied sucking insect is found which sucks juices from the needles by means of its long thread-like beak. The insect overwinters in the egg stage, the eggs hatching in the spring, the time of hatching varying with the locality and advance of the season. The young scale-insects crawl about until they find a suitable place, which is usually the new needles, where they settle and insert their beaks and commence to feed and prepare for the development of their protective covering, the scale. There may be two or three generations during a year, depending on the locality and the season.

The pine leaf-scale is often controlled by natural enemies, such as ladybird beetles, although it occasionally becomes sufficiently numerous to affect the vitality of the tree, when artificial control measures should be adopted. Spraying with a kerosene emulsion prepared and diluted as directed for the pine bark-louse will be found effective if resorted to when the young scales or crawlers are appearing. A careful watch of infested trees, using a hand lens on the scales and young needles, will enable one to determine the presence of the young scales or crawlers with greater assurance than will a reliance on their time of appearance above indicated; it can, however, be stated that in the vicinity of Washington, D. C., the first generation usually hatches from the eggs about the middle of May.

Some English Books on Golf Course Construction and Turf Upkeep.

SOME ESSAYS ON GOLF ARCHITECTURE. By Colt and Alison. Charles Scribner's Sons, New York, N. Y.

THE BOOK OF THE LINKS. By Sutton. W. H. Smith & Son, Stamford Street, S. E. 1, London, England.

GOLF ARCHITECTURE. By Mackenzie. Simpkins, Marshall, Hamilton, Kent & Co., 4 Stationers' Hall Court, E. C. 4, London, England.

THE LAYING OUT AND UPKEEP OF GOLF COURSES AND PUTTING GREENS. By Sutton. Simpkins, Marshall, Hamilton, Kent & Co., 4 Stationers' Hall Court, E. C. 4, London England.

LAWNS, LINKS, AND SPORTSFIELDS. By Macdonald. 1923. Charles Scribner's Sons, New York, N. Y.

(It is suggested that the purchasing of these books may be facilitated by ordering them through your local bookstore.)

New Member Clubs of the Green Section.—Champlain Country Club, St. Albans, Vt.; Coronado Country Club, Coronado Beach, Calif.; St. Charles Country Club, Winnipeg, Manitoba; Kokocache Club, Dover, Mass.; Chetremont Country Club, Cherry Tree, Pa.; Centre Hills Country Club, State College, Pa.; Grantwood Golf Club, Cleveland Ohio; Southwood Golf

Club, Winnipeg, Manitoba; Monroe Golf Club, Pittsford, N. Y.; O-te-sa-ga Golf Course, Cooperstown, N. Y.; Weston Golf Club, Weston, Mass.

Getting Service Out of Fairway Mowers.—I have read quite a number of articles in *THE BULLETIN* about fairway mowing units not being built heavy enough for tractor work. Last year we used five * * * mowing units with our fairway tractor, and by having the man who operates the machine clean the grass and dirt out of the gears each day as he finished cutting, we ran the whole season without breakage. We ran our machine about 5 miles an hour. We have quite a number of outcropping ledges on our course which are just about level with the surface of the fairway; these are ideal machine-breakers if the operator does not use his head.—*W. R. Hurd, 2d, United Shoe Machinery Athletic Association, Beverly, Mass.*

How the Green Section Helps the Golf Clubs

Address by George Low, Baltusrol Golf Club, before the annual meeting of the Green Section, January 5, 1924.

MR. CHAIRMAN AND GENTLEMEN.—When I got a letter from Dr. Piper asking if I would care to read a paper on this subject at the annual meeting, I felt at first highly complimented. On second thought, however, it did not seem to be such a compliment after all, for I honestly believe he picked on me as a sort of handy man around a golf course who had been sadly in need of the advice of men who have made a lifetime, scientific, and practical study of soils and grasses.

I venture to say that most of our greenkeepers are foreign born. With the equitable climates of Great Britain and Ireland they don't have to know very much about soils and grasses, but with our hot summers, severe winters, grubs, crab grass, and brown-patch, it's a hard job. Now are we not most fortunate in having the Department of Agriculture at Washington as our advisors and cooperators in our host of troubles which arrive about August? If you are in trouble and require advice, one of the experts at Washington will try his best to visit you (although it did take them a long time to visit me at Baltusrol). This country is only scratched with golf courses, and we need more of those experts to cover the ground.

Now, Mr. Greenkeeper, notwithstanding the large amount of investigational work that these men at Washington are doing, there will always be left something on your own dung-hill on which you can exercise your own genius; and if you do discover anything worth while, broadcast it through *THE BULLETIN* for the benefit of the rest of us. Remember this: the Green Section is not too proud to receive advice. It is working for you all the time, saving the club's money by broadcasting the results of its experiments. It even indicates the qualifications which the chairman of a green committee ought to possess. Is not that helping the greenkeeper? What could be more satisfactory than your and the chairman's knowing that at the end of the week the work on the course is being conducted intelligently? Will it not be nice if next August just before the qualifying round you find that after all your hard work grooming your course for a tournament none of your greens are attacked by brown-patch?