

Injector Nozzles for Use With Carbon Disulfid in Ant Extermination.—
“On page 126 of the May number of THE BULLETIN, under Question 4, relating to exterminating ants in putting greens, I note that in your answer you recommend the use of carbon disulfid injected into the ant hole. I note also that one of your correspondents has suggested the use of a rubber bulb syringe with a rubber nozzle. It occurred to me that you might be interested in my experience with hard rubber injectors of this type. Several years ago, in connection with a series of experiments being carried on by the New Hampshire Experiment Station, we had occasion to use hard rubber injectors in connection with carbon disulfid, and found that after using the injector with carbon disulfid for a short time the material softened the hard rubber and made this type of injector decidedly unsatisfactory for the purpose. We then used a brass injector, such as is used for injecting heavy automobile oil into transmissions, and found this to be a very effective instrument. It is possible that the carbon disulfid might not have quite the same effect on soft rubber injectors, but our experience certainly showed that it had a very bad effect on the hard rubber type of injector.”—*C. H. Hadley, Director, Bureau of Plant Industry, Harrisburg, Pa.*

Treatment of Nursery Rows of Creeping Bent That Produce Seed Stalks

By R. A. Oakley

Many reports have been received recently to the effect that creeping bent in nursery rows is sending up seed stalks. This condition seems to be more or less common in nurseries planted last fall as well as in nurseries planted in the spring of 1923.

The seed habits of creeping bent are not thoroughly understood. Seasonal conditions seem to exert a very marked influence on them, and cultural methods also seem to exert some influence. Apparently it is not known just what is the normal course of development in creeping bent in the matter of producing seed. This point should be studied carefully, as it is likely to prove of considerable importance in relation to vegetative planting. But just at this time there is a practical situation to meet. What treatment should be given a nursery to bring about the best growth of stolons in case of the formation of seed stalks? There are few data upon which to base recommendations. At Arlington, in the summer of 1923, nursery rows of the “Acme” strain of velvet bent planted with fresh stolons the previous September produced seed stalks abundantly. With a view to getting information on the treatment that should be given nursery rows in this condition, the seed stalks were cut on part of the rows when the heads or panicles were well formed. On the remaining part the seed stalks were allowed to grow to maturity. The part of the rows from which the seed stalks were cut early produced a much better growth of stolons than the part left uncut. This, of course, is only one piece of experience, and that with velvet bent, but it is backed by the general principles of plant culture, and if cutting the stalks is beneficial in the case of velvet bent it is likely to be beneficial in the case of creeping bent. Surely no harm can be done by cutting the stalks high enough to avoid cutting the stolons. This may be done with a scythe or sickle, or, in the case of a large nursery, with a side-bar mower.

As has been indicated, there is much still to learn regarding the life history of creeping bent—that is, just what is its normal behavior from the time the runners are planted to the time the original plants produced from them pass out of existence through old age. Some grasses produce two kinds of stems, one that makes heads normally and one that does not make heads normally. Timothy is such a grass. But in timothy it is known that certain methods of culture tend to increase the proportion of stems that produce seed heads, while on the other hand certain other methods tend to discourage seed production, or to produce an abnormally large proportion of stems without heads. They may do so in creeping bent planted in nursery rows. This is merely a suggestion that may be taken for what it is worth. One thing is sure. Seed stalks are of little, if any, value for planting of greens. While presumably they will do no harm if mixed with the stolons at the time of planting they can not be counted upon to do any good. Furthermore, while they are developing in the nursery rows the growth of the stolons seems to be at a standstill. This is really the important feature to be considered.

Damage to Turf from the Army Worm

A report has been received from the Ottawa (Illinois) Country Club indicating the spread of the army worm on their course. As there is at the present time an outbreak of the army worm in Illinois, occasioning damage to lawns, it is doubtless to the interest of golf-clubs to be on the lookout for the presence of this insect on their courses and to be prepared for control measures in case such are found necessary. A description of the insect and its habits, and a discussion of control measures, are contained in Farmers' Bulletin 731, United States Department of Agriculture, from which the following quotations and illustration are taken.

“The fully developed parent of the army worm is a moth or ‘miller’ measuring about $1\frac{1}{2}$ inches across the expanded wings. It is brownish-gray in color, having a single small white spot near the center of the front pair of wings, the hind wings being somewhat darker along the hind edges. Although these parents of the worm sometimes are very numerous, they fly only at night and are therefore often entirely overlooked by the farmer. The stage of the insect most familiar to him is the full-grown, striped, nearly naked caterpillar, usually discovered in the act of devouring his crops and in most cases after having already destroyed the greater portion of the infested crop.”

“The army worm injures crops in but one way, and that is by eating away all the tender portions of the leaves, the immature seed, and sprouts, and when numerous it may even devour the plants down to the very ground. The more important and by far the most conspicuous injury is always inflicted by the nearly full-grown caterpillar, whose greed and capacity for food are almost unbelievable. The pupa takes no food. The moth subsists principally upon the nectar gathered from flowers. The army worm feeds by preference upon grasses, both wild and cultivated.”

“The army worm, like many other common insect pests, has four forms or stages, as follows: First, the parent moths or millers, which seek out rankly growing grass or grasslike grains, such as millet, upon which they lay their eggs. From these eggs hatch the little caterpillars or ‘worms,’ which feed and grow rapidly. When full grown they shed