



A Prolific Bearing Tree on the Farm of Robert Newcombe, Belcher Street, King's County, N.S.

problem and not until the farmer accepts the road passing through his farm as a part of his farm will the problem be solved." But some farmers are so crowded with other work and others so carelessly indifferent that the work of those who would clean up is largely lost through the negligence of others.

If I were allowed to make a suggestion, I would say: Let the Government appoint competent men who would do the work thoroughly. Where careless farmers or others neglect the work on their own trees, let the Government agent do the work at the expense of the occupant.

Controlling the Plum Curculio

Arthur Gibson, Chief Asst. Entomologist, C.E.F. Ottawa

THIS well-known enemy of the plum and apple has a special fondness for the fruit of the apple, both in the adult as well as in the larval state. The adult beetles hibernate beneath rubbish and dead leaves on the ground, or even under the rough bark of trees. In size the beetle is a little less than a quarter of an inch in length and in color is brown and rough, with black and greyish markings.

In early spring, about the time the buds are bursting, the beetles leave their winter quarters and soon seek nearby fruit trees which later they attack, and in the fruit of which they lay their eggs. Soon after the blossoms fall, sometimes within two or three days, injury by the Plum Curculio is detected. The females lay their eggs mostly in June, but egg-laying is continued throughout July and into August. The eggs hatch in about four or five days, and the young grubs at once begin to burrow through the fruit. Several grubs may occur within a single apple; in fact, as many as eleven have been found within one specimen. In such

cases, of course, practically the whole inside of the fruit is eaten.

LENGTH OF ACTIVE LIFE

From the time the eggs are laid until the time the grubs are mature and leave the fruit to pupate in the ground, a period from about three weeks to a month or so is passed as a pupa, in the earth a short distance below the surface. In late July and in August and September the beetles emerge from the pupa, and from the time of their appearance until they seek winter quarters for hibernation, eating is their chief occupation.

It is during this period that the important damage is done by the adult beetles in feeding. In spring the punctures made by the beetles feeding are usually small, and in the growth of the apple do not later, as a rule, show to any marked extent, but in the late summer and autumn months the punctures are large, and several may be present in the same apple. After these punctures have been made by the beetles, the whole is rendered larger by evaporation and the skin and flesh become dis-

colored, the whole, of course, rendering the fruit unfit for the market. Besides the plum and apple, cherry, pear and apricot are also attacked by the Plum Curculio.

In the control of this insect there are three chief recommendations to make, namely: First, spraying the trees to destroy the adult beetles, clean cultivation and the getting rid of all rubbish; second, the careful gathering up and destruction of all fallen fruit; third, clean cultivation.

Where spraying with the poisoned Bordeaux mixture is regularly practiced, using as a poison about three pounds of arsenate of lead to every forty gallons of mixture, a very large percentage of the beetles will be destroyed. The spraying immediately after the blossoms fall is very important, as this will catch many of the insects at a time when the females are about to begin ovipositing. The gathering up as much as possible of all fallen fruit particularly in the earlier part of the season and destroying the same, will of course, also destroy large numbers of the larvae within the fruit. If it is impossible to destroy the fruit either by boiling or by burying it in a deep hole and covering with earth, it might be spread out in an open space so that the direct rays of the sun would reach the apples. The grubs are very delicate and experiments have shown that when direct sunlight falls upon the young fruit the contained grubs are killed.

DESTROY ALL RUBBISH

All weeds or other useless vegetation and rubbish should be removed and in orchards where surface cultivation is practiced, especially during July, large numbers of the pupae will be disturbed by being exposed to weather conditions, birds and other enemies. With regard to such cleaning up it is important that all useless growth near fences and along road sides be removed as well as all wild plums and other useless nearby fruit trees.

When buying nursery stock, the grower should stipulate the class of stock desired, and should expressly intimate that if stock is not satisfactory it will not be paid for. Orders should be sent in early and stock should be delivered early. Stock which arrives late and proves unsatisfactory is very often planted by men who would rather take chances and say nothing than to refuse the stock and wait another year in order to secure better trees. On receipt from the nursery, trees should be inspected at once. If at all dried out they should be heeled in immediately, and if seriously dried out the entire tree should be buried in the ground, but even then recovery is not always certain.—Prof. W. Crow, O.A.C., Guelph, Ont.