

apples and make as tasty and firm a pack as desired. The only exception to this is when necessity requires all or part of the last one, two or three layers to be placed on their edges in order to obtain just the proper height of apples to secure the desired pressure by the bottoms. I have found that lads of good ability, from twelve to sixteen years of age, acquire quite quickly the skill for placing the apples properly in these two packs, and for simplicity, solidity, and freedom from bruising this diagonal pack seems, upon the whole, most desirable. If the edges of the lining paper where they meet over the face layer of the apples are figured or fringed, it enhances the appearance of the pack when the cover is removed, especially if the apples are not wrapped. We also like a corrugated pulp head just next the cover to assist as a cushion and keep out dust when two-piece heads are used. The lining paper must be plaited where it turns from the cover to the sides in order to prevent tearing when the cover bends to the pressure of putting on the bottoms. This plait of about one-half or three-quarters of an inch is rapidly made by putting a number of sheets together and turning all at once.

The stem clippers are indispensable for the face layers. Tissue paper made for the purpose, with one side glazed, has proved best for wrapping and a small circle of letters in the middle of the square, giving the name of the packer, adds somewhat to the style of the pack.

PACKING

It pays to pack from tables rather than from boxes or baskets, and the canvassed top packing tables, which allow four packers to stand at the four sides, are thoroughly satisfactory. With two tables, one for the "Fancy" grade and one for "No. 1," we have found just enough variation in sizes of apples to fill boxes properly. The numbers two and three grades are put, of course, in barrels as they go from the grading tables. The only additional expense incurred, as far as the packing into boxes goes, is simply the mechanical arrangement of the apples in the boxes by light help, which with us is not more than two or three cents per box.

Where apples are very carefully thinned on the trees the grading table may not be so necessary, and there is no question whatever about the wisdom and economy of this careful summer sorting to lessen autumn work, dispense with low grades, and conserve vitality of trees.

I go over the pear trees three times in the season and cut out any limbs that show evidence of blight. By this careful attention I find that I can keep it in control.—W. H. Gibson, Newcastle, Ont.

Fall Campaign Against Insects and Fungus Diseases

Prof. W. Lochhead, Macdonald College, Quebec

WHILE many fruit growers and gardeners wage relentless warfare against insects and fungous diseases during the spring and summer months, an armistice is proclaimed in early fall, and practically nothing is done until the following spring. Experience, the best of teachers, bears out the fact that such a practice is unwise; moreover, a knowledge of the life histories of the pests tells us that many of

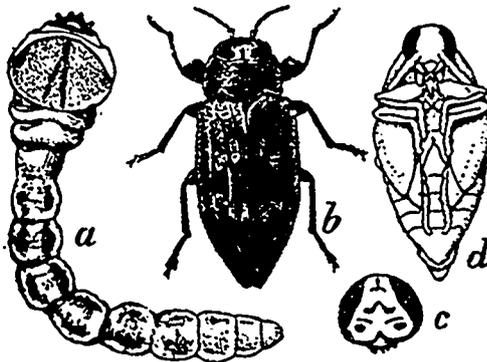
Many young apple trees suffer from the work of the Buffalo Treehopper (*Ceresa bubalus*), which lays its eggs in punctures made in the ends of the twigs, causing them to weaken and fall. If the punctured twigs are pruned out and burned in the fall the eggs will be destroyed.

One of the most injurious pests of apple and plum orchards is the Plum Curculio (*Conotrachelus nenuphar*). It hibernates as an adult under loose bark, among leaves on the ground, and in other protected places. Experience has shown that clean culture in the fall has a decidedly beneficial effect. The unnecessary rubbish that has lain on the ground during the summer, and the leaves that are known to shelter large numbers of insect pests are gathered and burned.

The fall is a good time to get after the borers that affect apple and peach trees. Their presence can usually be detected by discolored bark, frass, or exudations of gum, and the larvæ can be cut out by a knife, or killed by the insertion of a stiff wire into the tunnels. In addition in recent years orchard trees have suffered much from girdling by field mice. To prevent such injury, wire netting two to three feet wide, is cut into suitable lengths, and fastened loosely about the base of the trunks of the trees. The netting should be thrust well into the soil so that the mice cannot readily burrow under it.

BURN THE TREES

The Shothole Borer (*Scolytus rugosus*) is also an injurious pest in many varieties of orchard trees. Badly infested trees should be cut and burned, for they are sources of infestation to other trees. With regard to forms such as



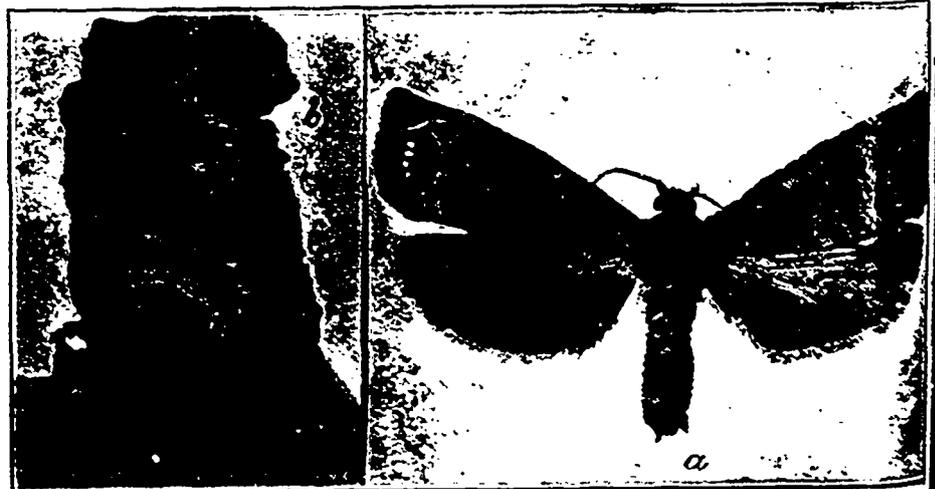
Flat Headed Apple Tree Borer

A. larva; b. adult; c. front of head; d. pupa, all enlarged

them can be controlled to better advantage in the fall than at any other time.

IN THE ORCHARD

In some localities the Fall Cankerworm (*Alsophila pometaria*) is troublesome. These moths, as their name indicates, emerge in late fall and lay their clusters of eggs in the forks of the smaller branches. Inasmuch as the female moth is wingless the deposition of the eggs and the subsequent destruction of the leaves by the worms can be prevented by banding the trees with tanglefoot in early October, before the moths emerge.



Stages in the Life of the Codling Moth

The Codling Moth is one of the worst enemies of the fruit grower. Illustration a shows the cocoon as they are found on the under side of loose bark or in rubbish in the orchard. Illustration b is shown the pupa is a