

# THE APPLE BUD-MOTHS AND THEIR CONTROL IN NOVA SCOTIA.

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## SUMMARY.

The bud-moths are probably the cause of more loss in the apple orchards in Nova Scotia than all of the other insect enemies combined. Four different species have been found destructive to the apple in the Annapolis Valley, N.S. The life-histories and injuries inflicted by the four species are similar, in general. All are small winged moths which fly during June and July and deposit their eggs on the leaves of the apple. Three of the four species injure the apple in the fall by occasionally attaching the leaf on which they are feeding to the fruit, and under the attached leaf eating through the skin of the apple, marring the surface, and injuring the appearance and keeping qualities.

All species pass the winter as partly grown larvæ under bits of bark or in crevices about the fruit spurs. In the spring the larvæ emerge from their hibernating quarters as the buds swell, and eat into the opening buds where they feed on the expanding flowers thus affecting the set of the fruit.

It is estimated that the bud-moths reduce the crop in unsprayed or poorly sprayed apple orchards in Nova Scotia about 30 per cent. About 75 per cent of the bud-moths can be destroyed and the crops increased about 22.5 per cent by two thorough applications of poisoned spray applied before the blossoms open, with a nozzle throwing a coarse driving spray.

Open planting and thorough pruning help in the control of the bud-moths by allowing the wind to blow away and destroy many of the adults when they are on the wing in June and July.

## INTRODUCTION.

The following are the four most common and injurious species of bud-moths in Nova Scotia:—

The Eye-spotted Bud-moth *Tmetocera ocellana* D. & S. This insect, of European origin, now occurs throughout America wherever apple trees are found. It is the most important from an economic standpoint of the bud-moths herein treated.

The Oblique-banded Leaf Roller *Cacoecia rosaceana* Harris. This species which has a large number of native food plants has found in the apple a very much favoured food. It is found throughout Nova Scotia and does a small amount of injury to apple trees in all sections almost every year.

The Lesser Bud-moth *Recurvaria nanella* Hb. Like the eye-spotted bud-moth, this is also of European origin and of comparatively recent introduction into North America. It has already spread over the eastern half of the continent as far west as Michigan, and in 1915 was discovered for the first time in Canada, having been reported both from the provinces of Ontario and Nova Scotia. Specimens were reared by us from apple in 1913, at Bridgetown, N.S., but they were not identified at that time as