

there is a dark brown spot. The thorax is the same colour as the front wings, the abdomen being paler and of a rust-red shade particularly along the back.

*Habits and life-history.* The habits of this cutworm are similar to those of the Glassy Cutworm. It usually lives about one or two inches below the surface of the ground feeding on the roots and cutting off the lower portion of the stems of oats, wheat, corn, etc. Fields of spring grain in western Ontario have been frequently injured and in some instances the crops were so badly attacked that it was necessary to replough the fields and sow to peas, or use the land for other purposes. Besides grasses, the species is also known to attack cabbage, turnip, spinach, lettuce and other garden vegetables, as well as the young shoots of roses, currants, etc. These cutworms are mostly prevalent in May and June. We have reared the moths in eastern Ontario in the latter end of June. The pupa is of the same size and colour as that of the Glassy Cutworm. Some years the moths are extremely numerous and are on the wing in June, July and August. When they are abundant they have the annoying habit of flying into houses, getting into lamps, etc., and soiling curtains and clothes. In Canada, the species is widespread, being found from the Atlantic to the Pacific coast.

#### THE CLOVER CUTWORM, *Mamestra trifolii* Esp.

*Appearance.* This caterpillar varies considerably in colour, some specimens being distinctly green, or greenish-yellow, others quite dark above, owing to brownish or blackish mottlings. Down the back is a pale yellowish central line. Between this and a broad pinkish band along the middle of the side is a broken stripe of yellow, more or less edged above with black. The pinkish coloured band is bordered above and below with white or pale yellow. The spiracles, or breathing pores are each surrounded by a blackish patch. The under surface of the body is greenish-gray with pale yellowish spots and streaks. The head is pale-yellowish, or pale-greenish, with white mottlings. When mature, this cutworm is about two inches in length.

The fore-wings of the moth are of a yellowish-brown colour marked with gray and dark brown. The cross lines are distinct, the outer one being whitish and, in the centre, forming the letter W. Outside of this line the wings are dark. The round and kidney-shaped marks are distinct, the latter being mostly dark. The hind wings are pale to a little beyond the middle, then dusky. The thorax and abdomen are of the same general colour as the fore wings. With the wings spread the moth measures about one and a half inches in width.

*Habits and life-history.* This insect is a common species and the larvæ have on several occasions, inflicted serious damage in Canada. In some years in Ontario, this cutworm has attracted considerable attention during August, from its ravages particularly in pea fields. Specimens of the remains of vines sent to the Division showed that much of the outside fleshy covering of the pea pods had been gnawed away by the caterpillars, as well as all the leaves and green portion of the stems. Clover is also attacked, as well as mangels, turnips, cabbages, lettuce, spinach and other vegetables. In years of abundance, when food becomes scarce, this cutworm assumes the marching habit characteristic of the true Army-worm.

The insect occurs across the breadth of the Dominion. In Ontario, we have collected the moths from late in May, until autumn; so, most probably, the species is at least double-brooded. In one breeding experiment the larva became full-grown and buried itself in the earth on August 26 and the moth did not emerge until June 8 of the following year.