

land, in charge of the Entomological Laboratory at Lethbridge, Alta., who is studying this insect and its control, found the first pupa on July 11. By the middle of August all the specimens had pupated in the field, the pupal period varying from twenty-eight to thirty-four days. In late August and during the first half of September the moths were on the wing. In the same year, I visited southern Alberta and found the cutworms fairly numerous in fields of spring wheat, fall wheat, and oats. On May 6, larvae in some fields were in numbers from 3 to 11 per square foot, and on this date were mostly from one-quarter to one-half inch long. In the field, on two occasions, Mr. Strickland found the eggs in the soil the first time on September 17, when seventy-seven eggs were found. These were mostly attached to each other in groups of from two to eighteen. The second finding was on December 3, when a group of three only was taken from frozen ground. The eggs hatched in a heated laboratory, and adult moths were reared. The eggs undoubtedly, under normal conditions, would not have hatched until the following spring.

#### LITTLE KNOWN CUTWORMS.

In addition to the cutworms already mentioned, there are several which occur in the western provinces, and which some years have done considerable damage to various kinds of crops.

In the provinces of Saskatchewan and Alberta the caterpillars of *Chorizagrotis auxiliaris* Grt., *C. introferens* Grt., and *C. agrestis* Grt. have attacked many kinds of succulent plants. In British Columbia, the caterpillars of *Euxoa excellens* Grt. have, on several occasions, appeared in very large numbers in market gardens, and those of *Dargida procinctus* Grt. have also injured crops in the same province. In Manitoba, the larvae of *Euxoa personata* Morr. and *Feltia venerabilis* Wlk. have destroyed plants in vegetable gardens, and, in 1914, the latter species was also found injuring oats. In the same province the cutworm of *Euxoa declarata* Wlk. has occasionally appeared in destructive numbers; in one year (1893) a field of 30 acres of wheat was completely ruined; vegetables and barley have also been attacked.