

therefore, that the Army Cutworm is a pest that we shall have to fight annually, even though it appeared this year in such large numbers that it constituted a serious menace to grain fields in Alberta. It is liable, however, to occur at any time in sufficiently large numbers to warrant the adoption of efficient control measures.

DESCRIPTION OF THE STAGES.

Eggs. (Fig. 1.)

These are nearly globular, but are a little flattened dorso-ventrally. Diameter, 0.6 mm. Colour, white, when first hatched, highly refractive ventrally though dull dorsally. As they mature they become slate-grey. Surface, almost smooth, though with a very fine dorsal etching consisting of a few fine lines, the course of which can be defined with certainty only with the aid of transmitted light, after the egg is hatched. From the micropyle, about fifteen short, well-defined



Fig. 1.—Army Cutworm eggs. 80 times natural size. (Original.)

lines radiate to a raised erenulate circle, about 0.06 mm. in diameter. Beyond this the lines are very faint and they disappear entirely towards the equatorial region of the egg. They may consist of almost straight radial lines, fifteen to twenty in number, connected by a few transverse lines, or the lines may be sufficiently irregular to form a network. In most cases there is a moderately well-defined secondary ring around the micropyle. Two of the extreme types are illustrated. The eggs of a single moth may vary from one type almost to the other.

LARVÆ.

When first hatched these are 1.5 mm. long, light cream coloured, and with a shiny, black, head. In this and the second stage there are two pairs of prolegs only, besides the anal pair. Each subsequent stage is darker than the preceding one, until the third stage is passed, after which the larvæ segregate into about three fairly well-defined varieties.

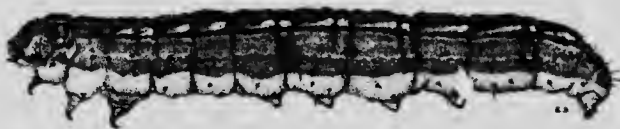


Fig. 2.—Full grown Army Cutworm. Twice natural size. (Original.)

Most of them are darkest in colour when about half grown, at which time the dorsum usually has some dull maroon-red coloration while with the exception of the indefinite white median line the remainder of the body is dark greenish-black.

The typical mature larva (fig. 2) is much lighter in colour. Its average length is about $1\frac{1}{2}$ inches, when it is in a naturally extended position, though a few specimens may be a little over 2 inches long.