

QUESTION DRAWER.

Experiment Station Bulletin, concerning the habits of this insect, and the best methods of destroying it.

Its life history is briefly as follows :—
The eggs (Fig. 1103, *a* natural size and

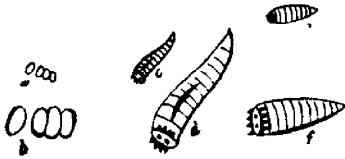


FIG. 1103.—*a*, eggs of onion maggot, natural size ; *b*, eggs enlarged ; *c*, larva of natural size ; *d*, larva enlarged ; *e*, puparium of natural size ; *f*, puparium enlarged

b enlarged) which are laid on the leaves near the ground, are white, smooth, somewhat oval in outline and about one twenty-fifth of an inch long. Usually not more than half a dozen are laid on a single plant, and they hatch in about a week from the time they are laid. The young larva, as soon as hatched, burrows downward within the sheath, leaving a streak of a pale green color to indicate its path, and making its way

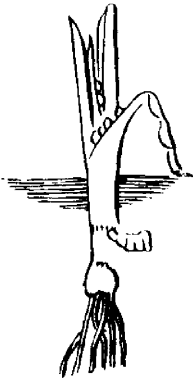


FIG. 1104. — Showing the eggs and the larva at work on the onion plant.

into the root (Fig. 1104) devours all except the outer skin. When the bulb of the plant has begun to form, several of the larva may be found feeding in company in it, and after it has been consumed they desert it for another, and still others in succession. The larvæ reach full growth in about two weeks, when they appear as shown in Fig. 1103, *c*, natural size, *d*, enlarged. The smaller end, which is the head, is armed with a pair of black, hook-like jaws. The opposite end is cut off ob-

liquely, and there is a pair of small, brown tubercles near the middle, and eight tooth-like projections around the edge.

The larva usually leaves the onion and transforms to pupæ in the ground outside. The puparium is shown of the natural size at *e* and enlarged at *f*. It does not differ very much in form from the larva, but the skin has hardened and changed to a chestnut brown color, within which the true pupa is contained. They remain in the pupa state about two weeks in the summer, when the perfect flies (Fig. 1105) emerge ; after pairing, the female deposits her eggs for another generation. The winter is passed in the pupa state, and the flies emerge in the early part of June, or about the time the young onions are sufficiently grown to furnish food for the young maggots.

The following preventives and remedies have been suggested :—

Instead of sowing onion seed in rows, where the young seedlings grow in contact, or nearly so, giving every facility for passing from one to another, they should be grown in hills, so that the larvæ cannot make their way from one hill to the other.

Scattering dry unleached wood ashes over the beds as soon as the plants are up, while they are yet wet with dew, and continuing this as often as once a week through the month of June, is said to prevent the deposit of eggs on the plants.

Planting the onions in a new place as remote as possible from where they were grown the previous year, has been found useful, as the flies are not supposed to migrate very far.

Pulverized gas-lime scattered along between the rows has been found useful in keeping the flies away.