

THE GREATER WHEAT STEM MAGGOT.

There are other important insects which attack cereals and first of these is the greater wheat-stem maggot, (*Meromyza americana* Fitch). When wheat is attacked the resulting condition is frequently called 'silver top,' or 'dead heads.' This is due to a small insect, a small slender green maggot, about one quarter of an inch long which will usually be found inside the mature stalk, just above the top joint. It feeds inside the stem, a point which should be remembered, because in the case of these insects which attack cereals, some of them feed inside and some outside the stalk, for example, the hessian fly feeds inside the leaf sheath and outside the stalk. As to the fly, I have a specimen of it which I will pass around, also specimens of wheat stems which have been attacked. The fly itself is a small greenish white fly, with three small stripes on its back. In Canada there are three broods of this fly in the year, and in order to make it intelligible and graphic for you, I have made a diagram of its annual life history. On the left hand side I have put the months, beginning with June and ending with May. You will see the different broods and the particular crop on which the insects lay their eggs:

ANNUAL HISTORY OF GREATER WHEAT-STEM MAGGOT (*Meromyza americana*, Fitch.)

| — | 1st Brood. | 2nd Brood. | 3rd Brood. |
|----------------|---|--|--|
| June..... | Flies lay eggs in root shoots of spring sown grain. | | |
| July..... | Maggots → Pupæ | Flies (1st Brood) lay eggs on Volunteer crop of fall wheat and barley. | |
| August..... | | | |
| September..... | | Maggots → Pupæ | Flies (2nd Brood) deposit their eggs on Fall Wheat and wild grasses. |
| October..... | <u>Chief Injury</u> | | |
| November..... | | | Maggots which pass the winter in the wheat and grasses, and change to pupæ in May of the following year. |
| December..... | | | |
| January..... | | | |
| February..... | | | |
| March..... | | | |
| April..... | | | |
| May..... | | | Pupæ. |

NOTE.—Strictly speaking the 'brood' should begin with the egg stage, but the flies of the previous brood have been included to conveniently show the nature of the crop on which the eggs are deposited.

This insect usually passes the winter as a maggot in the fall wheat or wild grasses, and after the winter these change into pupae which emerge in June. The flies then lay their eggs in the root shoots of the spring sown grain and in July the maggots change into pupae. The flies of this summer brood usually emerge in August. The flies of the summer brood lay their eggs chiefly on the volunteer crop. That is an important point to remember in devising control measures. The eggs are laid on the volunteer crop, either of fall wheat or barley. The flies of the second brood emerge in September and they deposit their eggs shortly afterwards. This is also an important fact to remember. The maggots which come from these eggs pass the winter in that