

being given up altogether. I believe that farmers must bestir themselves and take steps to check the operations of this insect by using the remedies suggested by Entomologists or it will assume the proportions of a widespread calamity.

This, like many others of our most injurious insects, is not a native of Canada; but was imported from Europe, and was probably a native of France. It was first noticed as injurious to wheat crops in England a little over one hundred years ago.

In the Philosophical Transactions of the Royal Society of England for 1772 Mr. C. Gullet gives a description of its injuries to wheat in England. It also feeds upon several wild grasses and it seems probable that its introduction into Canada was in hay used for packing—for it is difficult to understand how it could have come with wheat.

The wheat midge is also known under other names—"The Red Maggot" or "The Orange Maggot," "The Fly," "The Weevil." The first two of these names explain themselves and are given on account of the colour of the larvæ or maggots. The "Weevil" is a very inappropriate name, because the word "Weevil" properly belongs to the snout-beetles, different insects altogether. The Granary Weevils (*Calanda oryzae* and *C. granaria*) are the only insect which attack wheat to which the name weevil should be applied. These only attack stored grain and are never found in growing plants. The habit of giving the wrong names to insects gives much trouble and is frequently the cause of the wrong remedies being applied.

The life-history of the Wheat Midge as at present understood is briefly as follows: During the warm evenings of June when the wheat is just coming into blossom, clouds of tiny midges (Fig. 46) with black eyes and yellow bodies may be seen flying over the wheat-fields, or will be found in the room when the lamps are lighted and the windows left open. These are the parents of the "Red Maggot of the Wheat." The body of the female is prolonged into a long slender tube which can be extended and drawn in at pleasure. With this tube, which is called an ovipositor, she pushes her minute eggs (Fig. 47) down between



Fig. 46.



Fig. 47.

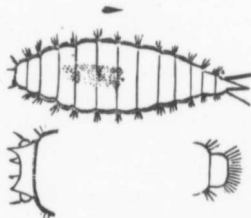


Fig. 48.

the scales of the florets of the spike of wheat. In a little over a week these tiny eggs hatch into transparent yellowish grubs which darken in colour as they grow older until they acquire the reddish orange colour, from which they take their names, the Red or Orange Maggot of the Wheat. As soon as the little maggots hatch they at once attack the young forming grain. Gnawing through the skin they suck out the juice of the "berry," close against which they lie, and prevent it from filling out properly and giving it the shrivelled appearance known amongst millers as "fly-struck."

When full grown the maggots (Fig. 48) either work their way up between the scales of chaff and drop to the ground, where they pass the winter, or they remain in the ears of wheat and are harvested with them. Those that fall to the ground penetrate about an inch beneath the surface where they spin a small cocoon of exceeding thinness, inside which