

THE HESSIAN FLY AND THE MIDGE.

[The following brief but comprehensive article (which we find in the *Rural New Yorker*), by Professor Dewey, embraces a very succinct account of these insects. As the subject is one of great interest to thousands of our readers, we give the article the prominence to which it is entitled.]

Both these insects have attracted much interest for a few weeks past, as they are voracious destroyers of wheat. Much effort has been necessary to ascertain satisfactorily the history of these depredators on one great necessary of life. It seems to be proved that they are old and well-known insects of Europe, and have the same character there and here.

The Hessian Fly was introduced into our country in 1776, by the Hessian troops who were landed on Long Island. In a few years their depredations on wheat fields were obvious, and have been well known since, till the insect has spread far and wide over the land. The Hessian Fly lays its eggs near the root of the wheat in the autumn, and the maggot, which soon is hatched, takes its residence just above the lower joint of the stalk, causing it to enlarge and yield its nutritious juice to the animal. Though the stalk grows in the spring, it is sickly, becomes weak and wrinkles down, and bears no fruit. In due time the maggot becomes a chrysalis, like a flax-seed, and changes into a fly, whose body is about one tenth of an inch long, and whose wings expand about a fourth of an inch. So small and insignificant is the animal, which is produced in such multitudes as to blast the harvest hopes of the husbandman entirely, and expose him to the desolation of a famine. Several destroyers of the maggot are provided by a kind Providence, by which the creature is destroyed, and the field of wheat is left uninjured. It is said that two crops of this insect are produced in a year.

The Hessian Fly belongs to the order *Diptera*, or two-winged, and has the very musical and expressive name of *Cecidomyia destructor*—the *destructive gall-fly*. The common name, Hessian Fly, is its accepted designation.

The *Midge*, or Wheat Gnat, is another insect, destructive to wheat. It has the name of *Cecidomyia tritici*, meaning *gall-fly of wheat*. This also is a small insect, about the size of the Hessian Fly, and often appears in great numbers on the heads of wheat. Its object there is to lay its eggs at and upon the young seed or wheat. These they soon hatch into a maggot, which devours the seed and cuts off the crop. In due time, the maggot becomes transformed into a yellow chrysalis, falls to the ground and lies until the next season, and then the shell is burst, and the midge or gall-gnat flies forth to its work of propagation. The destruction falls directly on the seed in the head of wheat, and the yellow chrysalis or pupa is to be seen at and before harvesting in the wheat heads. The maggot is not able to eat through the hard covering of the wheat seed, and cannot attack ripe wheat; and hence its destructive power operates before the milk changes into a solid form.

The Midge is often called the "Weevil," but this is an improper meaning. The weevil belongs to another family of insects, of beetle kind, and is able to eat ripe and hard grains. The "rice-weevil" is one of the kind, named *Calandra oryzae*, which eats the ripened and hard rice, and also devours "stored" Indian corn. It is said that a similar weevil has been found to eat the hard seed of wheat; but too little is known of it or its ravages to be of importance now. At any rate, these are very different from the Midge now in the heads of wheat. It is desirable to use as definite names in common language as is possible. Hence the names above. To call one the wheat fly, marks no difference, for both are flies or gnats, and both destroy wheat. The Hessian Fly might be named "Wheat-stalk Fly," and the Midge "Wheat-head Fly," to designate an important fact and difference.

GREEN FOOD FOR FEEDING.—On the feeding of cattle which has been so much discussed of late, Mr. Lawrence of Cirencester has an article in the *Journal of the English Agricultural Society*. He says:—When I commenced feeding bullocks, some years ago, I depended mainly on the experience of others, and was in the habit of noting down the allowances of the different kinds of food recommended in the agricultural periodicals, and otherwise, by men of reputed authority in such matters. The quantity of roots usually recommended I have observed to be from 1 to 1½ cwt. per diem, and for large bullocks even up to 2 cwt., and that without admixture. Now, what is the object we propose to accomplish? It may be assumed for our present purpose we are dealing with animals at maturity in point of growth, that the skeleton is fully developed, and that we have only to accumulate flesh and fat. It must ever be borne in mind that it is not the quantity of food put in the stomach of the animal which accomplishes the object in view, but that which is thoroughly digested and assimilated by the healthy action of the viscera. The setting before a bullock half a cwt. of neat roots the first thing in the morning, some hours afterwards its allowance of more solid and nutritious food, and repeating the feed of roots in the evening, appeared to me an irrational proceeding; and, on the other hand, that a due mixture of the solid and fluid foods would probably aid the proper digestion of each. I resolved therefore to diminish the quantity of roots which I had generally heard recommended one half viz. from 70 lbs. to 80 lbs. per diem, according to the size of the animal, and to give a portion of these with each feed, as intimately incorporated as might be practicable with the more solid food. With this view I obtained Moody's cutter, which cuts the roots into thin ribands: these we turn over amongst the chaff, so that the animals cannot avoid eating them together. I observed that the animals under the change to which I have adverted threw faster, and were kept equally clean with one third less litter, by weight than we had found necessary on the former mode of feeding.

YELLOW BIRDS AND THE WEEVIL.—The *Binghamton Republican* says that a farmer in that vicinity, who supposed that yellow birds destroy the wheat, commenced shooting them, and out of curiosity opened the crop of one of them. He found that, instead of eating the wheat, the birds destroy the weevil. He discovered as many as two hundred weevil in the crop, and but four grains of wheat, which had the weevil in them.