

the grain is kept in constant motion by the wind. Grain is commonly more infested by them during the *second* than the first year, *when grown upon the same ground in succession*, and it suffers more in the vicinity of old fields, than in places more remote. They prey on the wheat in the milky state, and cease their ravages when the grain becomes hard. They do not burrow in the kernels but live on the pollen, and soft matter of the grain, which they probably extract from the base of the germs. It appears from various statements, that very early and very late wheat escapes with comparatively little injury; the amount of which, in other cases, depends upon the condition of the grain at the time when the maggots are hatched. When the maggots begin their depredations soon after the blossoming of the grain, they do the greatest injury; for the kernels never fill out at all. When attacked in a more advanced state the grains present a shrivelled appearance. The hulls of the shrunk grain will always be found split open on the convex side, so as to expose the embryo.

Towards the end of July and the beginning of August, the full grown maggots leave off eating, and become sluggish and torpid, preparatory to moulting their skins, which takes place in the following manner. The body of the maggot gradually shrinks in length within its skin, and becomes more flattened and less pointed. The torpid state lasts only a few days, after which the insect casts off its skin, leaving the latter entire, except a little rent in one end of it. The cast skins are exceedingly thin and colourless, and, through a microscope are seen to be marked with eleven transverse lines. Numbers of the skins may be found in the wheat ears immediately after the moulting process is completed. Sometimes the maggots descend from the plants and moult on the surface of the ground, where they leave their cast skins. Late broods are sometimes harvested with the grain, and carried into the barn without having moulted.



Kernel of Wheat, the chaff pulled down to show the maggots in their usual situation.



A MATURE MAGGOT.—Highly Magnified.

After shedding its skin the maggot recovers its activity, writhing about, but taking no food. It is shorter, somewhat flattened, and more obtuse than before, and is of a deep yellow colour, with an oblong greenish spot in the middle of the body. Within two or three days after moulting, the maggots either descend of their own accord, or are shaken out of the ears by the wind, and fall to the ground. They do not let themselves down by threads, for they are not able to spin. Nearly all of them disappear before the middle of August, and they are rarely found in the grain at the time of harvest. In an account of the damage done by these insects in Vermont, in the summer of 1833, it is stated, that, after a shower of rain, they have been seen in such countless numbers on the beards of wheat, as to give the whole field the colour of the insect. Mr. E. Wood, of Winthrop, Maine, makes the following remarks: "This day, 9th August, a warm rain is falling, and a neighbour of mine has brought me a head of wheat which has become loaded with worms. They are crawling out from the husk or chaff of the grain, and were on the beards, and he says he saw great numbers of them on the ground." From this it appears that the descent of the insects is facilitated by falling rain and heavy dews.

Having reached the ground, the maggots soon burrow under the surface, some