

during the month of April on an average 12·65 per cent. of total solids, with no less than 3·70 per cent. of fat. With the cessation of this supply of artificial food in May the composition of the milk changed, so that the average amount of total solids was only 12·58 per cent., containing 3·39 per cent. of fat. The influence of food upon the composition of a cow's milk is strikingly illustrated by these figures, for I cannot conceive how the high proportion of fat in the milk during the month of April can be explained except by the fact that the cows were then receiving a liberal allowance of artificial food. The subsequent falling off in quality was not entirely due to the influence of food, but partly to the increase in the number of cows, more especially of heifers. From the end of May the composition of the milk gradually improved, as it invariably does, and the milk at Haselbury was richer than that yielded at the Cheese School during the previous three years.

(To be continued).

## The Garden and Orchard.

(CONDUCTED BY MR. GEO. MOORE).

### INSECTS INJURIOUS TO FRUIT TREES

(Continued, from the British Board of Agriculture leaflets).

There are several moths whose females are wingless, and they are often the most troublesome, crawling up the stems of apple trees in the autumn and early spring, and depositing their eggs in the cracks of the bark of the twigs and

THE WINTER MOTH.  
(*Cheimatobia brumata*).



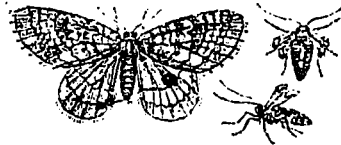
Winter Moth Caterpillar.

branches. From these eggs caterpillars are hatched in the early summer which eat the leaves

and blossoms, and when the conditions are favourable to their development, cause much injury to the crop; indeed, if they were allowed to commit their depredation year after year, they would kill the tree by the destruction of its foliage.

Amongst the moths, none are so destructive as the one we illustrate, the Winter Moth, and the Great Winter Moth.

Fig 1.



Male Moth winged; Female Moth, wingless.  
Natural size.

In the beginning of October these moths come from chrysalids in the ground under and near the apple trees that were infested with caterpillars in the preceding spring and the wingless females crawl up the trees to lay their eggs. These eggs are placed in small groups in the chinks of the rind of the small shoots; they are of a pale green colour, changing to red. One female lays 150 to 200 eggs and fastens them to the branch with a sticky substance.

The Great Winter Moth lays a greater number of larger eggs which she sticks to the bark, sometimes in groups and sometimes in straight lines.

These caterpillars are hatched from these eggs just at the time the buds begin to burst. They are so small that it is difficult to see them when young, but when full grown are about  $\frac{3}{4}$  of an inch long. They move from place to place by making loops with their bodies. They glue the leaves together to form a shelter, and then consume them when the circumstances are favorable. When they are fully fed, or if the supply fails, they let themselves down by silken threads and bury themselves in the ground.

The moths appear in the mild weather of autumn and early winter, having emerged from the chrysalis, to which the caterpillar had been changed.

The worst seasons for caterpillars to cause injury are cold ones. When growth is slow, and sometimes, if not checked or prevented, they have been known to strip off all the leaves, leaving the tree as bare as in winter.