

is actually without a mouth at all. In its perfect state, as I hold it in my hands, it has no mouth at all. It has no means of taking nourishment. The nourishment it needed to support this large body was taken in while it was a caterpillar. The eggs are laid on various trees, amongst others, oaks and maples. In the caterpillar state it lives for a few weeks, and consumes all the food it requires. It then spins a silken cocoon and remains in a torpid state as a chrysalis, until the next June, when it emerges in its perfect state, as a beautiful moth. The only object of its existence now is to find a mate and lay its eggs so as to prepare for a future generation. As I have said, this moth has no mouth, and therefore the methods used to catch some insects, such as the moths of cutworms, which may be attracted in large numbers at night by molasses spread on boards, would be of no use. It is necessary, in seeking for remedies, to know something of the life history of the insects causing the damage. This sometimes takes a considerable amount of time and needs steady application. By following the advice of Economic Entomologists, farmers and others are saved a considerable portion of their produce every year; for the life histories of many of the insects which are most injurious are already studied out, and to-day I believe it is not too much to say that any farmer who will apply to the Experimental Farm for information concerning insect injuries, can get, simply for the asking for it, advice which will save him much loss; and this with regard to almost any insects to which he may refer. In this bulletin which I have issued there are 36 insects treated, and these include all the worst pests which have been referred to me since I came to the farm at Ottawa. I restricted myself to these so that I might keep the bulletin small. I think it covers most of the kinds from which the farmer need apprehend serious annoyance or injury. In the first part are given general statements with regard to the different kinds of injuries and the nature of the insects causing them, the different kinds of remedies and the way to apply them; also, mention is made of some of the best kinds of spraying apparatus. The end in view in publishing the bulletin was to give farmers a simple and easy source of reference, and I believe it is so written that any farmer in the country will understand every word of it.

Economic
value of en-
tomology to
farmers.

In regard to the injuries done by insects, I have already laid before this Committee, Mr. Chairman, a general statement as to the amount of the injuries, but it may not be amiss to read you a short paragraph from *Insect Life*, a magazine issued by the United States Department of Entomology. And, by the way, I may state that that Department has now come to be recognized as of such importance that it is necessary to publish this magazine every month. It is read by thousands of people all over the world. It is distributed in very large numbers amongst the farmers who apply for information concerning injurious insects, so that the officers in charge adopt this means of answering their correspondents and making the results of their experiments known to all interested. In this issue we find an answer to some one who writes to the U. S. Entomologist asking for facts regarding the money value of the crops annually destroyed by insects.

We find that in the year 1854 the wheat midge destroyed, in the State of New York, no less than \$15,000,000 worth of wheat. In 1867, in the State of Illinois, the chinch bug destroyed \$73,000,000 worth. For hundreds of miles the crops were swept away by this terrible pest.

Enormous
losses by
insects.

By Mr. Trow:

Q. Do you mean that the whole crop of Illinois was swept off for hundreds of miles?—A. Yes, sir. Nearly the whole crop of the State