

The WITNESS.—In Ontario it appears twice in the year, that is, there are two broods.

Mr. STEWART.—It had broken down the wheat close to the ground ; the grain was good enough, but the stem was broken down.

The WITNESS.—Well, it may perhaps have been pretty good, but as a matter of fact it was, I imagine, a good deal reduced in weight. The sudden appearance of the Hessian Fly in Manitoba two years ago was very remarkable, because it had never occurred there before. As is well known, only spring wheat is grown in Manitoba ; this fact limits very much the possibility of this insect becoming firmly established there and increasing. Further to the south, as in Ontario, where fall wheat is grown, there are two broods or occurrences of the Hessian Fly in the year, one in the spring and the other in the autumn. Where there are fresh fall wheat plants for the females to lay their eggs upon, the young maggots have food ; but, as there is no fall wheat grown in Manitoba, the female flies die without doing any harm. We do not know any native or cultivated grass that this insect can feed upon, although these have been looked for most carefully in districts where it is common. Wheat, barley, and rarely rye, are the only plants in this country upon which the maggots are known to feed.

An interesting provision of nature often seen with an insect which has normally two broods in a year, is that there are always a certain number of the first brood that go over the winter without emerging, so that, although the insect may nominally have two broods, there is only one brood of some of the individuals ; that is, some of those that should appear late in the year, do not do so until the next spring. This, of course, has the effect of carrying the insect over some difficulties, and the remarkable feature of the Hessian Fly's first appearance in Manitoba was that it appeared all at once, in enormous numbers, over the whole country. I noted its injurious occurrence in Minnesota in my annual report of the year before. The conditions in Minnesota are very similar to those which prevail in Manitoba, and I anticipated that we might see something of it. It probably did occur to some extent in 1899, but was not so bad as in Minnesota, and was overlooked. Everybody noticed it in 1900, on account of the extent of its injuries. Fortunately it disappeared as suddenly as it came, and there was no report of loss from the Hessian Fly last year, in Manitoba.

*By Mr. Robinson (Elgin):*

Q. You thought it would go away ?

A. Well, I hoped that that might be the case, because it had never done harm there before. From what I have been able to learn, I do not think that we shall be bothered with it this year to the same extent in Ontario as we were last.

Q. Some farmers did not even get seed, or even sow last fall.

A. That is always one of the chief troubles when there is a special outbreak of any pest ; there is such a small margin of profit for the farmers in their work that under such circumstances they cultivate a much smaller area of a crop which has been injured, or will not sow at all the next season. That is particularly the case with the next insect I want to speak of, which is doing great harm in Canada to-day.

#### THE PEA WEEVIL.

*By the Chairman:*

Q. That is the pea bug ?

A. Yes, that is the common name for it. More farmers are now saying that they will not sow peas again on account of the Pea Weevil, than has ever happened before in my experience. The remedy is so simple that there is in my opinion no need for this step, and there is no excuse for farmers not taking better precautions against loss from this pest.