

next spring. During May and June the first brood of flies appears, and the eggs are laid on the young stems of the wheat plant. These in due time hatch to the green transparent maggots which produce the characteristic appearance of the attack described above, i.e. the withered and bleached ear, which has gained for it one of its local names, "Silver-top." This was the insect referred to in my last report as the "Joint worm," under which name it is probably better known in Canada than any other. The perfect flies of the second brood appear in the beginning of July. There was a gap in the life-history of this insect until quite lately, when Prof. Webster discovered that the gap between July and the time when the eggs were laid in autumn, was filled up by a brood which passed through its transformations in volunteer wheat; this brood probably also lives in some of our native or cultivated grasses. This is an important discovery, for if it be true that the fly will deposit at once in volunteer wheat, it suggests a trap which may be set by preparing beforehand near infested fields a strip of wheat to which the July brood will be attracted to lay their eggs, and which may then be ploughed in.

The perfect insect is a pretty little active yellowish fly about one-fifth of an inch in length with three dark stripes extending right down its back. It has a habit of resting with the fore part of its body very much raised up.

From the reports which I have received during the past two years I fear that this insect is decidedly increasing. Besides the operations of the July brood, which are easily recognized, I am convinced that much of the injury to fall wheat laid to the charge of the Hessian-fly, is in reality done by the autumn brood of this species. It is reported chiefly from Ontario, from Tuckersmith, Huron, by Mr. John Burgess, from Pembroke by Mr. A. T. White, and especially from the district around Ottawa. A severe attack is also reported by Mr. D. James, of Thornhill, York County, who says "It is working in the variety of wheat known as 'goose' spring wheat. In my fields it is three or four times worse than last year; at a rough estimate about every thirtieth head is affected."

OATS.

Oats as a rule have suffered little from insects. One attack of the grain *Aphis, Siphonophora avenæ, Fab.*, was reported by Mr. D. James, of Thornhill: "There is an *Aphis* which is attacking my oats pretty badly in some places. They cluster around the stems of the head of oats, taking the substance that the grain should have."

In Vancouver Island Mr. Henry King tells of a serious attack of Wireworms by which he lost a whole field of oats, and from Manitoba it is reported that late oats were injured by grubs.

BARLEY.

Where reported on is stated to be free from all insect attacks, but a few cases of smut have occurred.

PEAS.

This crop still remains virtually exempt from the attacks of the Pea Weevil, (*Bruchus pisi, L.*) but in some districts it was very seriously affected by the drought. In the County of Prince Edward, where peas are now largely grown for seed, there was much anxiety owing to a sudden failure in the pea crop. There were various theories ripe at the time to account for the failure, and at the request of Dr. J. M. Platt, M.P. for Picton, I was instructed to visit the locality and investigate the trouble.

Upon arriving at Picton, Dr. J. M. Platt kindly gave me every opportunity for examining the pea fields and discussing the matter with the growers. The condition