

Ontario Agricultural College and Experimental Farm.

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THE HESSIAN FLY IN ONTARIO.

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The Hessian-fly is not a new pest in Canada. A search among the records shows that it was present in 1805, 1816, 1846 1857, and from 1877-1884. In the early fifties, along with the wheat midge, it caused an almost complete failure of the wheat crop in Ontario and Quebec. In 1856, the Government offered prizes of £40, £25, and £15 for the best essays on "The Origin, Nature, and Habits, and the History of the Progress from Time to Time, and the Causes of the Progress of the Weevil, Hessian Fly, Midge, and such Other Insects as have made Ravages on the Wheat Crops in Canada, and on Such Diseases as the Wheat Crops have been subjected to, and on the Best Means of evading or guarding against them." The first-prize essay, prepared by Prof. Hinde, of Toronto, was printed by the Government, and largely distributed in the country sections. The ravages of the Hessian Fly about 1878 were felt over the larger portion of the Province of Ontario, and in some sections the growing of wheat was discontinued for two or three years.

The recent outbreak dates from 1899. In that year, the south-western counties suffered to some extent; but the amount of damage done in each of the past two seasons far exceeds that in 1899. All counties south of the main-line of the Grand Trunk Railway running from Toronto to Sarnia are badly infested. Over this large area, the infestation is greatest in the counties bordering on Lake Erie and in the valley of the Thames, where the fall wheat is almost a total failure.

The Hessian Fly is generally supposed to have been introduced into America by the Hessian soldiers during the Revolutionary War. There is no trace of its presence on this continent prior to 1778, when it was noticed at New York. It may be safely inferred that as its food plants, wheat, barley, and rye were introduced from the East, the native home of the Hessian Fly was also in the East, probably Western Asia. At present the Fly is widely distributed through North America and Europe.

LOSSES BY THE HESSIAN FLY IN ONTARIO.

The average production of wheat in Ontario during the past five years has exceeded 25,000,000 bushels per year, with a value not less than \$16,000,000. On the supposition that the infested area ordinarily produces one-fifth of the total yield of wheat in the Province, and that the ravages of the Hessian Fly during 1901 in the same area have destroyed fully two-thirds of the average crop, then it must be conceded that the actual money lost exceeds \$2,000,000. To this loss must be added the loss of barley and rye crops caused by the same pest. This is no small amount; for the average production of these crops in Ontario during the last five years has not been much below a total of 20,000,000 bushels, worth in round numbers \$10,000,000. It is probable, then, that the total loss caused by the Hessian Fly in the Province of Ontario in 1901 will not fall below \$2,500,000.