

BULLETIN LXXXI.

BEES IN RELATION TO FRUIT.

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An Act passed by the Ontario Legislature last session, referring to the prevention of spraying fruit trees while in bloom, has led to considerable discussion among fruit-growers and bee keepers. The former feel that they should be permitted to spray whenever they desire, claiming that bees are not killed from visiting sprayed trees in search of nectar and that this cry of alarm raised by bee-keepers is unfounded. Further, many are under the impression that bees injure ripe fruit, and that it is questionable whether bees are as useful in the fertilisation of flowers as is claimed for them by their admirers.

The bee-keepers, on the other hand, maintain that bees are important in the fertilisation of flowers and thus become necessary to fruit production; that they do not injure fruit and that they are killed where trees are sprayed while in bloom. They go so far as to say that honey is affected where bees have been poisoned by Paris green.

In this somewhat confused state of affairs a bulletin bearing upon bees in relation to fruit should be of interest and practical benefit when the following Act (*passed April, 1892*) is about to be enforced:

1. No person in spraying or sprinkling fruit trees during the period within which such trees are in full bloom shall use or cause to be used any mixture containing Paris green or any other poisonous substance injurious to bees.

2. Any person contravening the provisions of this Act, shall on summary conviction thereof before a justice of the peace, be subject to a penalty of not less than \$1.00 or more than \$5.00 with or without costs of prosecution, and in case of a fine or a fine and costs being awarded, and of the same not being upon conviction forthwith paid, the justice may commit the offender to the common gaol, there to be imprisoned for any term not exceeding thirty days unless the fine and costs are sooner paid.

3. This Act shall not come into force until the first day of January, 1893.

BEES IN RELATION TO FERTILISATION. During the process of fertilisation the contents of the pollen grains become mingled with those of the ovules, after which the latter develop into seeds. This takes place somewhat as follows: The dust-like substance (pollen) on the ends of the stamens falls upon the top of the pistil. The outer coat of the pollen grain bursts and the inner pushes out in the form of a tube, which forces its way from the top of the pistil down through it until it reaches the ovary (the lower and enlarged part of the pistil) where the ovules are located. In the meantime a minute structure (germinal vesicle) has formed in the ovule. This point is