

ford examples of plants largely dependent upon the wind for the transport of the pollen to the pistil.

2. *By artificial means* Man can effect the same result by simply taking the pollen and placing it upon the pistil. This has enabled him to cross-breed and hybridise to such an extent that he has developed innumerable varieties of plants of great economic value, as is exemplified in our beautiful flowers and luscious fruits.

3. *By birds*, which to some extent aid in carrying pollen from plant to plant, especially such as the humming birds.

4. *By insects* This probably is by far the most common method in nature, and may be viewed as the chief use of insects.

Plants fertilised by insects present an attractive appearance, are rich in perfume, and above all supply nectar to the insects which frequent them. It can be readily seen how insects moving about in a flower will become loaded with the dust-like pollen, and in passing to other flowers aid much in transferring the pollen from one plant to another, and thus bring about a cross-fertilisation, or in other words, cross-breeding, which seems essential to the production of vigorous and fertile plants as it does in animal life.

Among insects which aid largely in this interesting process no class is more useful than bees. Where imperfect fertilisation has taken place fruit is incompletely developed in size and form, so that the quantity and quality are affected. Careful investigation has shown that the fruitfulness of many plants is largely influenced by bees and such insects as search for the nectar and pollen of flowers.

Although many flowers have both stamens and pistils in the same flower, still scientific observation has shown that even in these cross-fertilisation is favored by the structure of the flower. From observations made it is claimed that orchards with beehives in them have been more fruitful than those without hives. In some cases bees have been given access to greenhouses so that the flowers might be fertilised and thus develop more and better fruit under such conditions. Flowers have been covered so as to prevent insects reaching them, but light and air admitted. Side by side were others to which bees had access. An examination of the seed showed those of the former to be weak in vitality, those of the latter strong. In many instances it has been observed where fruit trees were covered with bloom and poor results followed, that the weather at the time of bloom was cloudy, wet and cold and thus unfavorable to bees working among the flowers.

Scientific investigation indicates more and more that bees are important factors in the production of fruit and thus become co-workers with fruit-growers.

JOHN L. GROSGEAN.

Amongst the successful yet comparatively unknown bee-keepers are many from whom important information may be gained, men, who have been successful and men well known and esteemed in their own locality. To the subject of this article the above is applicable.



John L. Grosgean of the Township of Hamilton, County of Northumberland, was born on August 15th, 1840. He is of French descent his parents leaving their native home in sunny France in the year 1836 and settled in Cobourg, Ontario, the same year. In 1851 his father rented the Massey homestead, Mr. H. A. Massey going into the manufacture of farm implements. In a few years a portion of the farm was bought by Mr. Grosgean. Here young John lived working on the farm in summer and attending school in winter until manhood. In 1870 he married a lady of Irish descent. Mr. Grosgean, followed the noble pursuit of agriculture and owns a farm of 127 acres bordering on the shore of Lake Ontario, 4 miles east of Cobourg. In 1887 Mr. Gros-