



Intensive Fruit Cultivation

Pear Orchard of Mr. Jas. E. Johnson, Simcoe, with strawberry plants between the trees

insects, bees are of the greatest importance in this work. Thoroughly fertilized blossoms produce larger and better shaped fruits.

As bees are quite a study in themselves, if the fruit grower does not understand their care, it might be more satisfactory to get some beekeeper to place a few hives in the orchard. Bees

will travel two or three miles from the hive in good weather, but their greatest benefit is obtained in wet, cold and cloudy weather, when it is probable that they will not venture far from the hive.

In this district, wherever bees are kept they have good crops of well shaped apples and heavy yields of alsike clover seed.

Fertilizers for Fruit Growers

Prof. R. Harcourt, O. A. C., Guelph, Ont.

Regarding the influence of fertilizers on quality and flavor of fruit, experiments seem to show that an abundance of phosphoric acid and potash in the food and plant is extremely important, and that, on the other hand, where nitrogen is somewhat deficient the effect on the quality is scarcely perceptible. Considerable work has been done in determining the influence of the several ingredients, that is, the nitrogen, potash and phosphoric acid on the size of individual fruits. With core and stone fruits the experiments are not far enough advanced to warrant definite conclusions, but with berries a greater number of results have been obtained, and these appear to indicate that the lack of phosphoric acid did not materially decrease the size of the berries, as compared with those grown where a complete mixture of fertilizers was used, but when potash was not supplied the berries were small, and where nitrogen was left out they were still small.

There is very little definite data to show that color in the fruit is influenced by the nature of the fertilizers used. It is supposed by many that the use of potash and phosphoric acid will influence the

color, and it is quite probable that they do, but I fancy that the influence of these may be very easily overshadowed by the effects of excessive quantities of nitrogen in the soil. It is quite possible, and even probable, that too late in the season there is apt to be so much leaf growth that the fruit is too much shaded, and the leaf and stem growth once strongly started is not easily checked, and as a result we have fruit lacking in color and often really lacking in maturity. It seems likely that if cultivation was stopped early in the season, and cover crops sown, that better results would be got. The cover crop will use up a great part of the moisture and thus check growth and cause ripening of the fruit.

If this be true, cultivation in the orchard cannot be stopped at any set time from year to year, or in one orchard as compared with another. The time to cease cultivation is dependent upon condition of the growth, which will be influenced by the nature of the weather and the richness of the soil in plant food.

It is our intention this coming year to place a number of experiments which we hope to continue for a series of years. We wish to see what effect fertilizers will

have on the fruits and also to study the influence of fertilizers and other factors on the color of fruit. I shall be very glad to co-operate with anyone who wishes to take up this matter seriously, in order that we may get the experiment started on some really good basis. It is useless to start experiments on orchard fruits unless they are to be continued over a number of years, so that the full effects of the fertilizers on the trees and fruit can be definitely studied.

Spray Injury

In many instances the omission of the spraying just before the blossoms opened permitted the scab on the pedicles to cause a serious dropping of the young forming fruit, resulting in a poor set and consequently in a light crop. This early fungous infection of the young fruit and pedicles was, we believe, the main cause of the generally light crop of apples throughout western New York last season. This early infection also occurs on the leaves and is responsible for many mysterious cases of lime-sulphur injury. Infection of apple leaves by the scab fungus previous to application is one of the most common causes of spray injury. The injury caused by the fungus admits the spray material to the inner tissues of the leaf more readily. Probably insect injuries also play an important part in spray injury.—Prof. E. Wallace, Cornell University.

Treatment of Evergreen Plants

Wm. Hunt, O. A. C., Guelph

As early in the spring as possible, the plants should be placed outside in the day time on warm days. Avoid putting them out on cold windy days, or placing them in a too sunny position at any time. Often they could be set outside early in May in the day time, and lifted in at night, or covered up if the weather should be frosty. This would shorten the time in their undesirable winter quarters.

About the end of May the plants could be placed where they are to stay for the summer. A too sunny position is not advisable; they should never be exposed to the hot mid-day sun—very little sun is best for them.

Spring or early summer, immediately after the flowering season, is the best time to repot these plants. An application of some kind of fertilizer during the summer will often obviate the necessity for repotting, thus helping to keep the size of the pot or tub reduced.

A liquid solution made from one part cow or sheep manure in ten or twelve parts of water and allowed to stand twenty-four hours and sufficient given to about moisten half the soil, and applied every week or ten days will be beneficial. The fertilizer should be applied when the