



Prospects for a Bumper Apple Crop in an Essex County, Ont. Orchard

Many varieties of raspberries will do well in one locality, and produce small stunted plants and crumy berries when grown not more than a mile away. As an instance of these I might name the London, though there are many others with this fault that are sold at high prices.

Factors in Fruit Growing

Prof. H. A. Surface

Avoid injury from insects by knowing those that are most liable to appear, and watching for them or their work. For their suppression, follow the teachings of the most modern entomologists. In all cases, for economy of production, practice the methods of prevention rather than of remedy. Spray for insects once when dormant, with strong lime-sulphur; for the apple aphid make this application immediately after leaf buds burst; also use an arsenate with the fungicide for each of the subsequent sprayings.

THINNING PRACTICE

Modern horticulture so emphatically demands that the operation of thinning be practiced that especial attention must be directed to this process as a means of (a) increasing the size of fruit, (b) obtaining uniformity of size, (c) eliminating defective fruits, (d) equalizing the distribution of the load, and in consequence opening the top uniformly without breaking the branches, (e) giving uniformity of color, and (f) above all else, preventing exhaustive production this year, thus making it possible to set fruit buds for next year's crop, resulting in annual rather than biennial crops.

Fallen or bruised fruits are prevented by growing them on very low headed trees, which properly brace themselves with their branches; also by picking before they are dead ripe. Injury from

falling is avoided by a good mulch under the trees.

The bruising of fruit by harvesting must be avoided by careful handling from start to finish. Any person who cannot handle fancy fruit more carefully than eggs should grow only Ben Davis apples and Kleffer pears. The grain bag over the shoulder is still too often used for picking. Pick in baskets or picking buckets. Do not press, bruise, or rub fruits. Handle just as little as possible,

and keep the "bloom" on apples and plums particularly, as this is one of the elements in the quality we wish to produce.

Finally, to obtain the highest degree in quality let the fruit mature on the trees. Fruits picked green do not develop with their best flavor or color. This is why, in every region, fancy "home-grown fruits" are preferred by consumers to those grown elsewhere and picked unripe to stand shipping.

Thinning the Apple Orchard*

J. M. Robinson, Kentville, N.S.

THINNING should always go hand in hand with spraying. The following table shows results obtained from twenty of the most careful sprayers in ten companies of the United Fruit Companies of Nova Scotia, giving the per cent. of number threes obtained. The percentage of poor fruit could have been greatly reduced by thinning, as can be seen by the figures taken from thinned apples from very large trees at Kingsport. This is not necessarily a correct comparison but is given to show that the per cent. of number threes can be cut down by thinning:

	1912 %	1913 %
No. 3	No. 3	No. 3
Gravenstein, 20 best sprayers	36	35
Blenheim, 20 best sprayers	15	28
King, 20 best sprayers	22	36
Ribston, 20 best sprayers	25	32
Gravenstein, thinned (1913)		19
Blenheim, thinned (1913)		12
Ribston, thinned (1913)		16

These figures show that even though thorough spraying is done we often have fifteen per cent. or more of scabby and defective fruit on the trees. Often too a great many varieties set so full that it is impossible to get a high percentage of number one fruit and consequently the percentage of number threes is high, which generally gives poor markets. In each of these cases it will pay the grower well to thin.

In paying visits to a number of orchards last season I was very much impressed by this fact. Blenheim and Ribston bore heavily generally and though free from scab would not give good satisfaction in packing on account of the great number of small and poorly colored specimens. If from twenty to thirty per cent. of these apples had been removed a surprising difference would have resulted in the grade obtained.

Again, the percentage of number three and cull grade is often nearly proportional to the percentage of scabby and defective fruit on the trees, and by thin-

*Extract from an address delivered before the members of the Nova Scotia Fruit Growers' Association.

ning off sometimes fifteen to twenty per cent of this part of our crop the grade will be raised greatly and the yield not materially decreased. The expense of thinning moreover is not great and the work is easily done. In Kingsport last season large trees bearing eight to ten barrels, were thinned in three quarters to one hour each, or at a cost of approximately two cents a barrel, calculating labor at twenty cents an hour. The extra expense in grading unthinned fruit easily offsets this and the gain in grade is from thirty-five cents to fifty cents a barrel tree run.

I consider thinning of great importance as it aids greatly in appearance, which is our weakest feature in fruit growing in the Annapolis Valley. Greater profits for money expended may also be had from thinning than from any other orchard operation.

What they Cost.—It often happens that when we continually hear of the ravages of certain insect pests, that we suddenly realize the enormous amount of damage they are doing, and immediately adopt measures to render their attack less and less in the future. When we hear in cold figures what the annual loss in orchards amounts to every year, it makes us "sit up and think." In the year 1904, Mr. C. L. Marlatt, of the U. S. Bureau of Entomology, went very carefully into the question of what our insects cost us, and he estimated that the annual loss due to fruit insect pests amounted to the enormous sum of \$27,000,000. That is, twenty per cent. of all fruit crops grown in the Republic to the south of us is annually destroyed by injurious insects. Some years the percentage in some districts will be as high as forty per cent.—Arthur Gibson, Chief Asst. Entomologist, C.E.F., Ottawa.

Basic slag, which is a cheap form in which to apply phosphoric acid, can be used to advantage in large quantities by crops which are gross feeders. If the soil is rich in vegetable matter or acid, the acids will help to dissolve the insoluble forms of phosphoric acid and make them available for the plant.