

Banding apple trees is a profitable work. With spraying combined, we have frequently reduced the wormy apples to ten per cent. Another advantage to be derived, and one which is very liable to be overlooked by the grower, is the encouragement into his orchard of beneficial insects. Very often we have found while examining the bands, numbers of larvæ of the ladybug beetles, ichneumon and brachonid flies, feeding on the codling worms.

## Thinning and Summer Pruning

W. J. L. Hamilton, Salt Springs, B. C.

Although it is frequently regarded as one of the minor operations of the orchard and sadly neglected, a great deal of the success of the commercial orchard depends on the proper thinning of the fruit. It should be understood that it is seed production rather than fruit production which saps the vitality of the trees: consequently, as trees are disposed to overbear, exhaustion ensues, and a year is needed in which to recuperate. This is the reason why most trees only bear a good crop every second year.

If, however, thinning is performed judiciously, the tree freed from the labor of so much seed production, turns its attention to perfecting the fruit left on it: hence they are larger, more perfect, more vigorous, and consequently more resistant to disease; in other words, more No. 1 fruit is produced and fewer culls. Sun and air, also, obtain full access, and a better color is obtained, which, in this day of the red apple, means better prices.

When fruit, particularly apples and pears, touch one another, the spray cannot find access; besides which, at the point of contact the skin is thinner, and insects which feed on the fruit find easy access, generally spoiling both the fruit where they touch.

If the simple rule is observed to thin all fruits so that, when matured, no two fruits shall touch one another, the tree will not be exhausted by the over production of seed, and so will bear well every year. The crop also will be heavier, since the individual specimens will be much larger, besides almost all of them being perfect specimens, and in consequence, of the highest market value. This good fruit can be obtained only where intelligent spraying is conscientiously carried out in conjunction with the pruning and thinning.

### SUMMER PRUNING

Another point often imperfectly understood is the importance of summer pruning. In the winter we prune to shape the tree, and for wood production, generally cutting back about one-third of the year's growth, whereas in summer we

prune with the object, in the apple orchard, of producing fruit bearing spurs. These spurs are really abortive branches, that is, branches whose growth has been checked.

If then, in summer, we pinch back with the finger and thumb, all branches whilst they are still green and tender, upon



A Sample of the Signs That Called Attention to the Work

This shows a portion of Mr. Osborne's orchard at Dunedin. Note its sadly neglected condition. It is typical of hundreds of other orchards in this district.

which we want fruit spurs to form, at about the fourth leaf of the young growth we will find that the end bud left will grow strongly, as it receives most of the sap, and tries to take the place of the original twig which has been shortened; at the same time the other three buds left on the shoot will also start to grow, but, since the end one is taking most of the sap, these are starved and dwarfed, forming fruit spurs.

If these points are properly attended to, and the land is cultivated "with brains," the crop can hardly fail to be a good one, given reasonable weather. In cultivating, never, if possible, use a plow, which tears up and breaks the surface roots, leaving projecting ends, and weakening the tree. Always disk the orchard; use a disk with side draft to cultivate close to the stems, without bringing the team too close. If the disk does not cultivate deep enough, weight it. Commence to cultivate just as growth starts, and keep on until you want growth to stop, or, in other words, when the tree has made all the wood it can ripen before frost.

Also rake up and burn all leaves and rubbish, as these are the winter nesting place of insect pests and many fungous diseases.

Burn or otherwise destroy all the fruit you thin out. Remember, that a few fruit trees, properly attended to, will pay, whereas a number of neglected ones are an expense and an eyesore.

## Use of Lye as a Spray

I am perplexed regarding spraying. I noticed in the Gillett Lye pamphlet that they claim it is a sufficient spray for all purposes. What strength of lye would you use in spraying, after apple blossoms fall? Do you think 2 lbs. with 5 lbs. lime to 50 gals. of water sufficient strength? In the pamphlet they claim it will destroy aphids

and canker worm. Will it kill bark louse bug?—H. W. C. C. Windsor, N. S.

We have never used Gillett's Lye during the summer as a summer spray. We have found it very effective and useful as a winter and spring treatment for bark lice, and for cleaning up the branches of trees. We should not spray for apple trees in foliage, unless it were very much diluted; the amount of dilution I am not prepared to say at present. For winter and spring treatment one pound to two gallons of water is about right, and does good work.—Prof. W. Lochhead, Macdonald College, Quebec.

In our experience, the best treatment of Oyster Shell Scale is a lime wash when the trees are dormant. The lime-sulphur wash is also good. These, we believe, give better results than Gillett's Lye, which has not been found satisfactory here in controlling Oyster Shell Scale.—W. T. Macoun, C.E.F., Ottawa.

The strength of spray should depend very much upon the age and species of the tree. It would be well to experiment a little, starting with a weak solution and gradually making it stronger until the proper strength for the work required is ascertained.

Lands which yield good crops of wheat and corn may be expected to be good apple lands, if other conditions are right.