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FEBRUARY 22, 1906

## THE FARMER'S ADVOCATE.

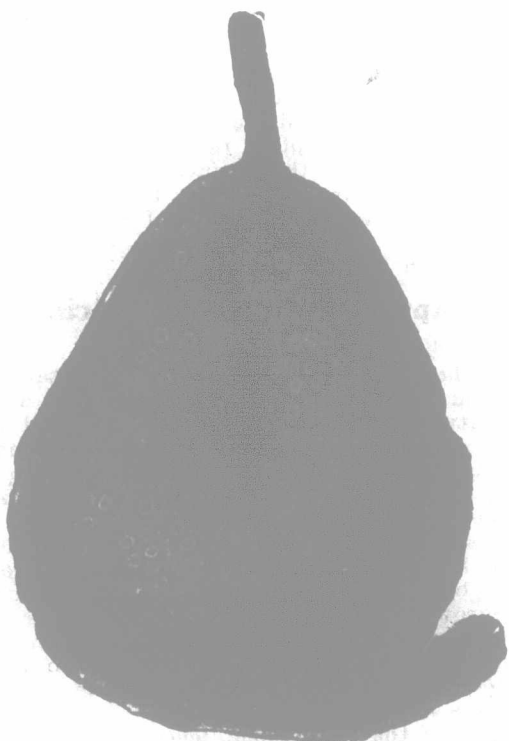
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### San Jose Scale.

Mr. G. Butler, Dawn Township, Lambton Co., Ont., writes as follows: "I enclose a small piece of limb taken from one of my apple trees. It is spreading, and looks as though in time it might kill the orchard."

The specimen proved to be San Jose scale. In answer to enquiry as to how it had probably got into his orchard, Mr. Butler wrote that he is not sure of the circumstances, but he suspects it was introduced on some young stock bought nine years ago, and which was alleged to be the product of a Rochester nursery. A San Jose scale inspector went through the neighborhood some years ago, examined a few trees in his orchard and pronounced them clean at that time.

This infestation is practically a newly-discovered one, and as there may be others here and there throughout the Province which are not yet recognized, we advise orchard owners not to depend



San Jose Scale, showing the scale, somewhat magnified, on a pear.

wholly upon any former inspection, but to examine their trees themselves, and if they find any scurfy incrustation that can be scraped off the bark, to proceed with the cleaning up of their trees as though they were treating them for San Jose scale. If not that species, it may be one of the other injurious kinds. The treatment cleans off fungi as well as insects.

The test of remedial treatment made by the special committee of the Fruit-growers' Association in orchards around St. Catharines, seemed to prove that, (1) the lime-sulphur, (2) the lime-sulphur-soda, (3) the McBain carbolic-acid, and, (4) the crude-petroleum treatments are each and all efficacious. At a meeting of the Association, where the report of the committee was presented by Prof. Harcourt, the opinion was expressed, and apparently accepted, that of these four remedies,



Section of limb showing San Jose Scale, natural size.

the lime-sulphur wash, made by boiling with steam, is the best for growers of extensive orchards, while the lime-sulphur-soda is the most suitable for the grower of small orchards.

The lime-sulphur wash was sold at St. Catharines for 90 cents per barrel, the McBain carbolic-acid wash at \$2.50 per barrel. The difference in the results of the two treatments did not justify the greater cost of the latter remedy.

Prof. Harcourt warned the members against carelessness in preparing the lime-sulphur-soda

washes. The lime should be freshly burned, quick-slaking lime. Select the large pieces. Use at first only a little water, just enough to start the slaking, and then increase it gradually, to avoid "drowning the lime."

The proportion of ingredients varies a little at the different stations. The Geneva, N. Y., formula for the lime-sulphur-soda mixture is 30 pounds of lime, 15 pounds of flowers of sulphur, 4 to 6 pounds of caustic soda, in one barrel of water, say 40 gallons. Put the lime in the barrel; add a little water at first. Make the sulphur into a paste with hot water, and gradually add it to the lime while it is slaking, and thoroughly mix. Then add the caustic soda, stirring vigorously all the time, and water enough to keep it from boiling over. When the bubbling ceases, add hot water to make the total up to forty gallons. If hot water is used to slake the lime and throughout, 4 or 5 pounds of caustic soda may be found sufficient.

The lime-sulphur formula is 12 pounds of lime, 12 pounds powdered sulphur, and 40 gallons of water. Slake the lime as before, add the sulphur by dusting it on as the lime is slaking. Stir well, and boil in iron pots (or in wood by steam) for at least an hour. Strain through sacking, and apply to the trees hot.

The McBain carbolic-acid mixture may be found the most suitable for a grower with a few trees.

Mr. J. F. Smith, Glanford, at the conference referred to, advised spraying with lime and sulphur, whether the scale is present or not. It will prove the ounce of prevention against scale, and it will pay as a fungicide.

### Pruning Bush Fruits.

By L. Woolverton, Grimsby, Ont.

Forty years ago, when a beginning was made of growing small fruits in Ontario for market, the notions about pruning them were very crude. The writer well remembers his early experience, when a boy, trying to cultivate with a horse his father's half-acre plantation of Lawton blackberry bushes. They had no pruning whatever; the great long branches, armed with stout prickles, reaching well across from row to row, many of them from 6 to 8 feet in length. Neither horse nor man could pass through between these rows



Fig. I.—Blackberry bushes—one trained and one neglected.

without many severe scratches, notwithstanding the space was eight feet wide. An attempt was made to control the sprawling canes by a trellis of two parallel wires to hold them upright, but without much success.

### THE BLACKBERRY.

The practical lessons of these forty years of blackberry-growing has taught him many useful lessons, and among other things, that the simplest way of controlling these spiny bushes and of making them approachable, both for horse and hand cultivation, and for gathering the fruit, is by careful pruning during the growing season. The canes should have their tops pinched off at two or three feet in height from the ground. This will cause them to throw out numerous lateral branches, which should themselves be shortened in somewhat before fruiting time. In this way, stocky, upright bushes will result, easily approachable and easily cared for. Figure 1, from Thomas' American Fruit Culturist will illustrate the difference between a short, bushy cane that has been topped in early summer, and a sprawling, unapproachable one that has been neglected.

During the second summer these canes will fruit, while new ones grow up to take their place; and, in early spring, the thrifty fruit-



Fig. II.

grower will cut out all these old canes close to the ground. For this work a pair of tree-pruning

shears is useful, but the best tool for quick work is a small, sharp hook, which a blacksmith might make from an old file, and attach to an old hoe handle.

### THE RASPBERRY.

In the case of the raspberry, we have learned to avoid two extremes in pruning—too little and too much. Once many growers allowed their Cuthberts to grow as they pleased; but later, the pruning craze came over them, and they have been shearing them down to about two feet from the ground, with hedge shears, all of a height, until the rows resemble well-kept hedges; but in no way do they seem intended for fruit-bearing. The close shearing cuts off too many fruit buds, and leaves those remaining so close as to choke each other.

Now, the writer's experience leads him to con-

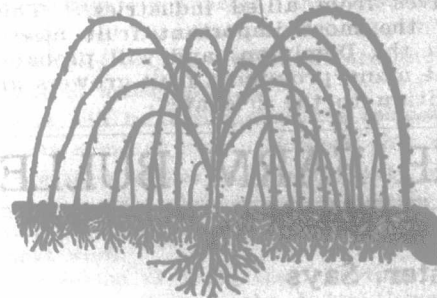


Fig. III.

clude that there is a golden mean, and that, while it may be a quicker method to cut all canes down to a uniform height with the pruning shears, more and better fruit will be secured by using the grape-pruning shears, and cutting the canes to various heights, just according to the strength of each. Some weak-growing canes should be cut down to perhaps eighteen inches, others two feet, others thirty inches to three feet, and some strong, stout canes should be allowed to fruit up to four or five feet, or possibly not cut at all.

The time for this work is in the early spring, for then it will be evident if any tender tips are winter-killed. A mistake has been made by some in cutting back the raspberry canes in summer time, with the idea of encouraging laterals, as advised for the blackberry; but this only results in producing a great number of slender, willowy growths, which have small, poorly-developed fruit buds. The raspberry canes should take their natural, upright growth all through the summer, and in the spring the pruner will find numerous well-developed fruit buds up the stalk, and he should judiciously cut off the weaker ones at the top, leaving as many as the cane ought to carry.

The fruiting canes die off at the end of the season, and in the southern sections may be removed in the fall, if time is then less valuable, or during winter, if snow does not prevent; but

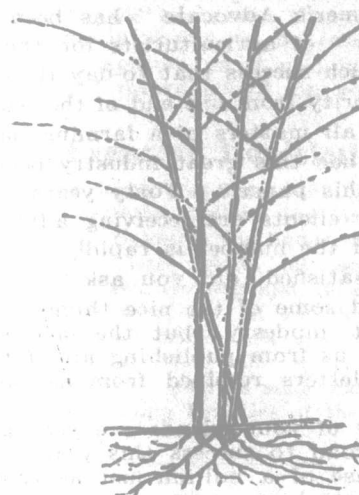


Fig. IV.

at the north these old bushy canes serve to collect the snow, and thus aid in winter protection. In such case, it is well to let them stand until spring.

In cold sections it is still more necessary to emphasize the importance of permitting raspberry canes to grow without summer shortening-back, because of the need of winter protection. The long canes can be bent over in the fall, and weighted on the tips, so that the snow will cover and protect them.

### THE BLACKCAP.

Although the blackcap is a raspberry, as well as those referred to under the preceding heads, the habit of growth is distinct, and needs a different method of pruning. Instead of propagating itself by suckers, as do the other raspberries, the blackcap roots from the tips of the growing canes, which grow long and slender, bend over, and take root in the cultivated ground.

Figure 2 shows a blackcap bush in the growing season, the tips making their way toward the ground for self propagation. If this is an object, the grower will encourage these tips to take root as soon as they approach the ground by throwing upon each a spadeful of fine earth, and firming it