

that soil ; and many people will attempt to grow a third crop—of grain—and thus rob the soil of its vitality. Whether you cultivate or not, after trees come into bearing you must feed, and you must subsoil sufficient to allow the manures to penetrate the soil. If you allow the top sod to become consolidated you must adopt some measures to allow the manure to penetrate it. Never cultivate your orchard after midsummer ; and the manuring must be done before. Follow nature as closely as possible—and nature provides a top-dressing under the soil of the trees in the fall of the year ; and then when the rains have percolated and worked that manure into the soil I carry on cultivation there very lightly. I planted in the first place in a nice friable soil, underdrained so that the roots would strike deeper than they otherwise might, so that I have the roots pretty well out of the control of the plow in cultivating—though I use a cultivator in cultivating. I would stop a little before mid-summer so as to allow the growth of the season to thoroughly ripen before winter comes in.

APPLE SCAB.

The topic was then introduced for discussion : "What causes the apple scab? Can it be prevented?"

The SECRETARY : This is a case illustrating the great value of science in horticulture or any other branch of agriculture. Not long ago a great many of us engaged in apple-growing in Ontario were inclined to give up growing apples on account of the apple scab ; but now we know that it is a little fungus, and that it lives not only on the fruit but also on the leaves ; that it is propagated by little spores that correspond to seeds, and that they lie upon the apple or upon the leaf, and very soon begin to germinate and produce these little spots. You will have observed these spots on the leaves, not knowing that they were on the apple. You will also have observed that the foliage on the trees ripens and drops much earlier than it should. It is all caused by the apple scab, which causes it to weaken and mature and grow out of shape and fall, and so takes away from the vitality of the tree, causes the apples to grow mis-shaped and small and worthless for market. We find that the apple scab can be treated. I would suggest that every fruit grower in the room make up his mind to apply fungicide for the apple scab. Let him apply it before the foliage appears at all. Try first: sulphate of copper—a pound to twenty five gallons of water ; apply it so that every part is covered, any time before the foliage is expanded ; you might almost say in the winter, but anyway in the early spring. Then try ammoniacal carbonate of copper as soon as the bloom appears :—carbonate of copper, five ounces ; ammonia, three pints ; water, forty-five gallons. I think if we would faithfully try this experiment next spring we would have something to talk about a year from now.

Prof. CRAIG : A year ago the Department at Ottawa issued a bulletin giving instructions for the manufacture of this carbonate. It is somewhat expensive when bought from the druggists, and this prevents its general use. This bulletin will be sent to any one who writes to the Horticultural Department, Ottawa.

Mr. W. S. TURNER (Cornwall) :—I received a bulletin from Mr. Craig, and acted on it, and found considerable benefit from spraying. I had finer fruit than ever before, with the exception of one tree, which shows the necessity of planting thirty or forty feet apart, one Wallbridge tree interlaced with a Ben Davis. The spot was worse in that part than in any part of my orchard, showing that interlacing tends to make the disease worse.

The PRESIDENT : I would like to vouch for Mr. Turner's fruit. I have several jars of it put up for the World's Fair—very superior in every respect.

Mr. FISHER : Has the presence of a windbreak anything to do with freedom from scab?

The SECRETARY : I cannot see any connection between windbreak and scab.

Mr. FISHER : A windbreak would be injurious rather than beneficial.

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