

The SECRETARY : Even before the foliage appears it is recommended to use the sulphate of copper strong—even as strong as one pound to twenty gallons of water—so that there would not be any left to attack the tree.

Dr. BEADLE : The question is : Suppose the leaves are open, then we spray ; does that render those leaves proof against the growing of these fungus spores upon that leaf ?

Mr. CASTON : Yes, that is what I was trying to get at.

Dr. BEADLE : The answer is this : if one application has spread itself over the leaf, and has not been washed off by a subsequent rain, it will ; but if rain comes and washes off one application, we have to renew the application so as to have the spores killed. I think our scientists tell us that these spores germinate ; they make these spots on the leaf ; they go to seed ; these spores—or seeds, as I call them—drop upon the soil, are washed into the soil by the showers ; get upon the tubers of potatoes, for instances, and there they find the conditions for growing.

Prof. CRAIG : My understanding is that the disease grows down through the stalk of the potato, and passes up through the tuber to the stalk.

Dr. BEADLE : Do they take root in the stalk and keep growing downwards until they reach the tuber, or is it that they take root in the stalk and keep multiplying, and so going down ?

Prof. CRAIG : Keep multiplying, and so going down.

Mr. D. ALLAN (Galt) : I apply a little alum in the water—I have been doing it for 25 years—for fixing the poison on the leaf. I mix it with a little warm water. I put about the same amount of alum as hellebore—an ounce to a pail of water. The hellebore thus applied will stay on my currant bushes all the season.

Mr. HEAD : Does alum affect the leaf ?

Mr. D. ALLAN : It may give it a little light color.

Mr. HEAD : You don't think it interferes with its functional capacity in any way ?

Mr. D. ALLAN : It never troubled it, to my mind.

Mr. BEALL (Lindsay) : I use a little flour paste instead of alum, which I feared might rot the leaves.

The PRESIDENT : We would like to hear any remarks from Mr. James, Deputy Minister of Agriculture.

Mr. JAMES : I have nothing to add to what has been said. I would emphasize what has been mentioned with reference to where these fungi come from. Mr. Caston said that they are present everywhere. That is so, with a modification ; but the place in particular where they are is on the tree itself and in its immediate neighborhood—upon the old wood from last year's growth ; and hence an early application of the solution upon the tree itself will remove the principal source from which next year's crop of fungus material is going to be derived from.

Mr. TURNER : I think our worthy Secretary made the best point yet, when he advocated early spraying. When the opening bud first appears it is in its most receptive condition. It is very tender ; and I think the fungicides used at that time in a mild form, and repeated after that, will answer every purpose. I would advocate a strong solution to be used before the opening bud.

Mr. GOTT (Arkona) : We should be careful where and how we plant those trees. I don't think the plum is adapted to all soils. We should reserve our heavy soils for plums. We should plant them in long thin rows. In a close, tight block the fungus will grow in spite of all efforts. The inside of a block will always be more affected than the outside—just exactly the same principle as the peach. The plum diseases can be remedied very largely by other agencies outside of the plum. To make the plum orchard a piggery—to make it a fowl yard, to be used for poultry—these will have a beneficial effect on the growth of the plums.

Mr. JAMES : What was the principal cause of the plum failure this year ?

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