

The SECRETARY: Would you tell us any results of irrigation in the fruit itself—in its size or quality?

Mr. GRAHAM: Yes, even the Ben Davis. The water there is running the year round. At that end where the creek has been running all the year the apples were nearly a half larger than at the other end of the rows. The Spitz-enbergs were loaded much heavier near the creek than they were last year.

Mr. BEALL: Do you cultivate your ground through the growing season?

Mr. GRAHAM: No, I keep hogs in it, and when the water is in it it softens it, and they do quite a bit of cultivation. The fruit business is an important one in our district. It is estimated that at Thornbury some \$80,000 has been paid out during the season for fruit.

Mr. CASTON: There was one important point in Mr. Graham's paper, about the individuality of trees. I was very much interested in Prof. Sears' article. The question is, what effect it will have on the fruit by taking scions from a fruit that has a certain individuality about it, and also from a particular part of the tree? I sometimes have a tree that will bear heavily on one side and have no crop on the other. We often see that on the Northern Spy. The idea was to take our scions from the bearing side of the tree. We know how we can improve grain, vegetables, roots and that sort of thing by judicious selection. Could we not carry that out in fruit growing? I think there is a great idea there. It is said nurserymen take their scions indiscriminately. In top-grafting can we accomplish nothing in that line? I think that idea is probably new to the oldest fruit growers here—carrying out the individualities by top-grafting, as regards productiveness, color, early bearing and all other things that constitute a good fruit.

Mr. POWELL: I may say that that was the very thought I had in my mind to discuss here for you at perhaps this afternoon's session. I have been working a number of years on the same line as this gentleman, and I think it would be perhaps as important a line to discuss as could be taken up. (Hear, hear, and applause).

Prof. MACOUN: I would like to warn the fruit growers about top-grafting on Wealthy and Duchess. We have tried it, with the result that after several years those that had been top-grafted had outgrown the Wealthy and Duchess, and I expect we will lose the trees in a few years. There is a marked difference when you see the trunk very much smaller in proportion than the top. We are starting a series of experiments in top-grafting at the farm in Ottawa, and we are using the Haas, Mann and Crystal White as stocks, and I propose to use the MacIntosh Red as a stock; it is one of the cleanest trunks we have. I propose to graft them on seedlings of the Martha Crab, and then Rhode Island Greening on top of that, and I think we may be able to get some of the tender varieties to succeed with us.

Mr. MORRIS: I think the Professor will find if he buds the Crab it will shoulder.

The SECRETARY: Has Prof. Macoun tried the Keiffer pear as a stock for other pears? Many of us will be inclined to graft our Keiffer pears to some other variety.

Mr. POWELL: For several years I have been working on Keiffer stocks with the Anjou and the Bosc. I have not attempted other varieties, but have been very much satisfied with the working of these two varieties on the Keiffer. There seems to be a perfect union, and it is a question which is raised as to whether the union will be perfect between other varieties and the Keiffer; and I find that in that respect the union is perfect, and I cannot see why the trees will not last well on toward a century. The Anjou is one of our most valuable pears, but very uncertain in its productiveness. Many orchards will stand for twenty years and show no fruit, and yet you take the Anjou and top-work it, or