

and on original stock; Spy on Crab stock and original stock; King on Ben Davis; Baxter on seedling; Yellow Bellflower on seedling; Hubbardston's Non-such on seedling and original stock; McMahon White on Fall Pippin; Baldwin on Rambo; Ribston Pippin on Little Red; Gravenstein on seedling. For scions, I am a strong believer in the individuality of certain trees. I have noticed that in the Spy, the Pewaukee, and the Cayuga Red Streak. In a row of Spy trees there is one tree much earlier, much redder in color, and much earlier to bear. In the Pewaukees I noticed that one was of much higher color than the other; and I have noticed it in the Cayuga Red Streak so much that I asked one of the exhibitors to let me have one to send to Prof. Macoun to see if it was really that variety, and he replied that it was, but a remarkably good specimen of that variety. It is usually recommended to take scions from bearing trees. In taking off the top I would remove from one-third to one-half at a time. You must be careful not to expose the branches to the sun. I have quite a number, having a strip down the south side killed in that way. If you have not left sufficient foliage, you should use paper to cover the exposed portions. I would not cut a branch over two inches in diameter. If the trees are high I would use Ben Davis or Ontario—that is, if the apple suited me—to keep it lower. You have it much under your control by the variety you put upon it. Should you put Spy on a high tree, you are still running it up higher. If you require spreading, the Rhode Island Greening will spread. Should you come to a stock that is damaged, as I have done, and had doubts whether to graft it, I would graft it with an early-bearing variety. The Ben Davis will come into bearing the second year. In top-grafting, if you observe, you will learn a lesson on pruning that will be of use to you. It is a mistake, often made, to put in too many grafts. If a man is putting in for money, he will put in all he can, and if you have not knowledge you will sometimes put in too many yourselves. You should not have too many branches on a tree, but it is not good to cut off a large branch near the trunk. I need not speak of the waxing—you all know how it is done. In the summer I would re-wax them, or press it over again when the sun is warm. I would not have too many varieties; four to six I would consider quite sufficient for a commercial orchard. The varieties that suit me are: King, Spy, Baldwin, Rhode Island Greening, Ben Davis and Mann.

[IRRIGATION.]

The other subject is irrigation. My farm is on a mountain side. In that valley, and at the base of the rock just under the brow of the hill, there come out little streams. These I run together and lead them across the orchard, and use them for irrigating the orchard and fields and the garden; also for power in the barn. I simply have to put stones in the ditch and it overflows and goes right down between the rows of trees whenever I want to water. Every year there is a month or two during which I find it necessary to irrigate. The ground is clay soil, and it would crack quite large cracks if not irrigated.

The CHAIRMAN: Are there many seasons during which you irrigate there?

Mr. GRAHAM: I do it every season. There is usually a month during harvest season when it is dry. I irrigated the rows of trees, and I had a splendid crop of fruit. It is hard to say how much I should attribute to the water or the manure or the pruning, but I am well pleased with the returns. Some years ago someone asked Prof. Craig why it was the apples were rotting so badly that year, and his answer was that it was caused by the starting or stopping of vegetation—the checking of it by drouth and then starting of it by rains—and I noticed that year that my apples kept splendidly in the cellar. This year I was told up north that fruit would not probably keep well. Mine is keeping splendidly in the cellar.