is that our fruit trees to-day are subject to very severe changes, and the vitality of trees become impaired, and when that is the case it is with great difficulty that we can produce such a high-grade fruit as we should like to. Now, for the short time that is given us this afternoon I want to speak of the importance of the right.

Propagation of Fruit Trees.

I believe we have got to study the question of constitutional vigor in trees, and for a number of years I have been working upon this line, testing the value of selection of trees according to constitutional vigor. With us in New York State the King—which I might say, perhaps, is the king of all varieties, representing such very fine high flavor, representing such beautiful color, and representing (for at least a large portion of the trade) such desirable size — the King stands out prominently as one of our highest-prized fruits, and yet over a very large section of New York State it is by no means a safe apple to plant. It will not last to exceed fifteen years. At the very time when the tree should be coming to its greatest usefulness it begins to decline and fail, and at the end of twenty years King orchards have virtually passed out of existance. We recognize the fact that the King is constitutionally defective, and hence it cannot be recommended for general cultivation. At the present time I am extensively planting the King, but not upon its own body or upon its own root, but rather employing the principle which was somewhat discussed this morning, of top-working. I shall be very glad to give you as briefly as possible some outline of this method. I believe the principle of top-working is one of which we have not fully appreciated the value. I believe through the principle of top-working it is possible for us to largely reduce the time in which orchards may be brought into bearing. I believe that even with the Spy, by suitable top-working, we can reduce the bearing age of a Spy orchard a number of years. (Hear hear.) In the pruning of different trees, I discovered the fact that in pruning Rhode Island Greening, or in pruning the King or the Baldwin, that it was comparatively easy work. Half a day, or an entire full day, could be put in pruning without any very fatiguing labor, but when the Spy rows of trees were reached I invariably found in my own personal experience in pruning that I was pretty well tired out even before noon hour—that it was a vastly different thing pruning Northern Spy trees than pruning Rhode Island Greenings or Kings — for the reason that the wood of the Spy is so much more solid; it is so much harder in its texture that it is vastly more laborious to do pruning in the Spys than in many other varieties. This led me to the examination, then, of the woods of different varieties of apples, and the further study of the value of this stock to top-work other varieties upon; and about eight years ago I started in with the propagation of the King apple upon the Northern Spy stock.

I chose the Northern Spy from the discovery of its being an exceedingly hard textured wood, and hence also being a vigorous, thrifty tree in its growth—a most desirable stock on which to top-work other varieties. Now, in studying upon this question I want to emphasize the remark that was made here this morning in the belief in the individuality of trees. It is undoubtedly true that trees have their individuality, and hence in this principle of propagation we must study the traits and the characteristics of trees' growth, and we must study the individuality of trees, and not select promiscuously even from the bearing trees from which we are to propagate. There is individual force in the fact that the propagation of trees in the nursery from immature trees has the tendency to prolong the growth of trees certainly in the orchard. I think it is not materially different in the propagation of trees from the breeding of animals. All who are in the line of stock breeding understand that there is no wisdom in breeding from the young or immature animal; that the best results are obtained from breeding