

THE POSSIBILITY OF TRANSMITTING INSECTS ON BUDWOOD WITH SPECIAL REFERENCE TO THE AVOCADO

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Mr. President, Ladies and Gentlemen:

With every fruit industry, particularly in its early stages of development, there is usually considerable enthusiasm concerning the propagation of new varieties. This is no less true of the avocado industry at the present time. In some sections West Indian avocados are being top worked to Guatemalan varieties and hybrids, while in others we find the Guatemalan and Mexican avocados being budded and grafted to promising varieties. This desire is particularly keen among nurserymen who seek and test out new varieties in order to have the best obtainable for the trade. Very little, if any, thought is ever paid by them to the possibility of acquiring some injurious insect or plant disease on bud or grafting wood. Fortunately our quarantine and inspection laws are of such a character, as to greatly safeguard the grower in this respect. It may be said, that the inspection laws in force in the States, as well as those of the Federal Horticultural Board, have been the means of protecting American horticultural interests in many ways against plant pests, to the extent of millions of dollars. This is not often appreciated by growers who are generally more occupied in propagating their particular crops, than to the thought of what might attack and possibly destroy them. How many of you have really thought of this in a serious way, or realize the stupendous losses directly traceable to destructive plant pests?

But I must not digress further. Avocado budwood when shipped from one locality to another is and should be inspected for plant pests. There is some significance attached to the question of transmitting insects and plant diseases by means of propagating wood. It must not be construed, however, that it is not feasible or practicable to obtain propagating wood from sections quite remote from your own. It should be borne in mind, however, that remote sections as Florida and California possess different insects and plant diseases which attack avocados. For this reason it is advisable for the grower to take some precautionary measures. I have particular reference to what may possibly develop later on trees, where budwood is obtained from other sections and which has been inserted on your trees. It is quite difficult to detect, or to be absolutely certain, that budwood is scrupulously free from pests even after examination and inspection.

Remote sections as California and Florida, where avocados are being propagated extensively at the present time, have climatic conditions, humidity, temperature and precipitation quite different in many respects. For this reason it should not be assumed that insects and plant diseases which thrive and cause damage in one section would be equally as important in the other. It may be, however, that an insect or plant disease considered of minor importance in one locality, when transmitted to another, may prove

to be of considerable importance under a different environment. Again, an insect which causes damage in one locality may prove equally as injurious in another under somewhat different conditions. The San Jose scale introduced into California from China, in the early days of American horticulture, is a good example.

During the past few years, I have examined considerable budwood which is from time to time being sent out from Florida to other sections for propagating purposes, and thought it fitting to present briefly some information as to how insects and other maladies may possibly be transmitted on bud and grafting wood. In examining budwood, it has been observed that scale insects are often found clustered particularly in the vicinity of the buds. Various scale insects, a number of importance, are usually present and constitute the most important insects which infest budwood. Unless examined most carefully, the individual scales which may seek shelter between the tightly placed buds and stem will be overlooked. Many of these scale insects which attack the avocado are parthenogenetic, and in this way an infestation may result from a single overlooked individual. Again, the eggs and other stages of red spiders are frequently detected among the buds of the avocado. A species of considerable importance to the avocado grower occurs in Florida. As with the avocado in California, there are undoubtedly entirely different species of insects which the Florida grower should guard against. From reports you have a twig borer which has not been reported from Florida, and no doubt other species of scale insects.

Additional examples of ways in which budwood is infested could be mentioned, but the above illustrates sufficiently whereby insects may be transmitted. Perhaps, I should mention briefly, although the subject is just as important, that plant diseases may possibly be transmitted on bud and grafting wood. It is much more difficult to detect plant diseases which may be imbedded in the plant tissues, especially in their initial stages of development. In Florida, there are a number of important plant diseases which attack the avocado, both fruit and various parts of the tree.

I do not wish to be classed as an alarmist, but merely desire to present a message to the avocado grower as to how easy it is to acquire a trouble you are not looking for. A prejudiced or uninformed grower may violate the law, but he is unknowingly doing an act which may be the cause of considerable loss to the avocado industry by shipping infested budwood or grafting wood. The inspection officials operating under the law, should have the earnest and wholehearted co-operation of every grower. He should see where they are striving to be of as much help to him, and the industry as a whole, from the invasion of destructive plant pests.

In conclusion, it should be the duty of every propagator and grower who procures budwood from remote places, to carefully watch young and old trees on which bud or grafting wood is inserted for any unfamiliar insect or plant disease which may possibly develop. Where young nursery trees are budded with imported budwood, they should be carefully watched particularly in the vicinity of the buds. I have often observed nursery trees heavily infested with scale insects in the vicinity of inserted buds, and it is probable that healthy seedlings were infested in that manner at the time of budding. This may also prove to be true on sprouts on older trees cut back which are budded and grafted in the field. As a matter of suggestion, nursery trees budded with imported budwood should be segregated and kept under observation a period of time, for the

detection and possible development of any new pests.