Melanose of Citrus

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I have been asked to prepare a short paper on the successful control of Melanose on citrus trees. It is well perhaps that the request was for a short paper, as I am quite thoroughly convinced that there is very little to be said which has not been fully covered in the bulletins issued from time to time by the very able men of our State and national governments who are working among us along these lines.

As the scientific side is best left to scientists, I will confine my remarks to the angle from which the growers must of necessity draw their conclusions. I may as well begin by saying that I know of no better method of control for this disease than the removal of all dead wood which has proven to be a breeding ground. Melanose as I understand is produced by a low form of plant life, or fungus, which first became noticeable as a serious enemy of the citrus tree directly following the big freeze of 1894-95, at which time its virulence became so evident that the U. S. Government sent two scientists named Webber and Swingle to investigate the trouble and if possible find a remedy. These men spent some time studying the disease and I believe found the cause and gave it the name it now bears. We might also say that they gave us the foundation for the work which has been continued up to this time. It has since been proven that severe frost damage has invariably been followed by apparent increase in Melanose.

Later, scientists isolated the spores of the fungus, and compared them with those which caused stem-end rot, but as yet I am not sure that anyone can tell us just what the essential difference is; and as they do similar damage, they may perhaps be classed and treated as one and the same thing as far as practical working details are concerned. In the case of the stem end rot the trouble seems to start in the calyx of the fruit stem, generally on a heavily loaded and thereby weakened branch, often causing the fruit to drop soon after maturity; from then on the two diseases act very similarly, causing the twig to die then following back to the parent branch, and all the time acting as a hot bed of infection for any tender or weakened growth nearby. While stem end rot seems to do most of its damage by dropping the mature fruit which is often perfectly bright, Melanose begins with the first growth and works all through the growing season, making its most rapid strides while the trees are wet with dew or rain, at which time the spores of this fungus multiply in the form of minute hair-like runners, the cells of which are the active germs, and which are distributed by wind or rain, or any moving object with which
they come in contact. Whenever they lodge upon tender or weakened tissue they find a foothold and set to work. The disease does not seem to be very noticeable until the new growth begins to harden up; quite often the grower is not aware that his fruit is materially affected until his fruit begins to color, then to his intense surprise and sorrow it appears as though a strong acid has been showered on his fruit, causing irregular streaks or specks of rust which are so thoroughly imbedded in the rind that its removal would ruin the chances of getting the fruit to market in a sound condition. Upon investigation he will find that many of the twigs, especially water sprouts, are coated with the same brown rust which often extends to the leaves, and in the case of young trees, not infrequently causes the foliage to have the appearance of having been burned in spots.

I have been told, and from what I have seen, I can readily believe that Melanose is more prevalent this past season than for many years, and it seems that many people are justly alarmed at the situation confronting them. I know of no reason why a man should not be alarmed when he sees his trees showing more and more dead wood, and when in going over the market reports he sees that his fruit was about 75 per cent russets, and that they sold for perhaps fifty cents or more a box less than the brights sold for. Most of us who had rusty-grapefruit this year, know how much that extra half dollar means, yet I doubt if there is an average of one budded tree in fifty throughout the State which cannot be pruned for fifty cents, even at the present high cost of labor.

This naturally brings up the labor question in which I am sure we are all vitally interested. Most of us remember that three years ago last winter we had a severe cold spell, which was of course followed by Melanose generally in proportion to the damage done by the cold. Labor was already scarce, and on top of that it became our duty to send many of the remaining men to fight a worse foe than Melanose; consequently many of us have not been able as yet to thoroughly clean the dead wood out of our groves. Until we do give our groves a thorough clean-up, pruning out and burning all dead wood, I am of the opinion that we will not get rid of this very troublesome disease. My experience has led me to think that the negro laborer commonly found in the orange groves of Florida is not as a rule competent to say when a tree is properly pruned. Therefore, we must take into consideration that if one has much pruning to do he must figure on a foreman of first-rate ability. Let me say that this foreman should be in perfect sympathy with the idea before him—wherever possible let the owner act as foreman—and that he only employ what men he can handle in such a way as to see every man’s work at least once every hour. Perhaps twelve to sixteen men should be the maximum crew for one man in the average grove.

The writer has found that where the trees are of a relatively uniform size and condition, and where the men have had some training in pruning, the system of contracting the work of so much per tree
will work admirably. Let each man be taught that it is just as easy to cut off a branch or twig in the proper way as it is to do it improperly. Let him be fined or otherwise punished for leaving stubs, or for cutting wood that should not be removed. Teach him that to cut a twig once in the right place takes him just half as long as to cut it wrong and then have to recut. As the pruning is done let a careful man follow with paint brush and carbolineum or coal tar, to paint all wounds larger than a five cent piece. This will act as a disinfectant, preventing the disease from being carried from dead or infected wood to the clean tissue.

When a man gets in practice he should be able to prune from 6 to 10 bearing trees in 10 hours, even when the trees are in quite bad condition. Each man should be provided with a picking ladder, pruning saw, one large and one small pair of shears. The foreman should see that these tools are in good condition at all times. Our experience has taught us that any man who is a good picker will readily become a good pruner if properly instructed.

Of course, we all know that during the winter months is naturally the proper time to prune, and is by all means desirable. Most of our good pruners are picking fruit at that season. Therefore we find it advisable to do our pruning at any time of the year when the trees are not in full flush with new growth.

After a winter pruning, and just before the new growth appears, it seems advisable to give the trees a thorough spraying with one of the standard fungicides, such as lime and sulphur at a strength of one to thirty or one to forty. Any further spraying for the control of Melanose has not appeared to me as being practical. When all is said and done, I am thoroughly convinced that careful pruning out of all dead wood is the prime factor in the control of this disease. The man who prunes his grove clean at least once every year will soon be repaid, not only in dollars and cents, through the more vigorous and productive condition of his trees, but in the satisfaction of having his fruit go to market ready to compete with anything found there.