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# The Growing of Satsuma Oranges in Alabama

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Mr. Hume: Over in the neighboring State of Alabama, the orange industry has been under way for some years. Naturally, Floridians are interested in what has happened over there. I am going to introduce to you now, Dr. Winberg, of. Alabama, who is a large grower of Satsuma oranges and a member of the Alabama State Board of Horticulture, which corresponds to our Plant Board, and Dr. Winberg will now talk to you on Satsuma oranges in Alabama.

Dr. Winberg: The best that I can do, I believe, for this audience, is to give a brief resume of what we have done in Alabama since Satsuma orange growing was first established in that State. As far as our record goes, the first Satsuma orange in Alabama was planted in 1897, and I find that three trees survived the low temperature in 1899. Since that time there was very little planting, up to 1909. In 1909 there were only one hundred acres planted to the Satsuma orange in Alabama. In 1910 the Satsuma orange plantings started on a commercial scale and continued to grow so that after the planting season of 1916 there were over 16,000 acres in Satsuma oranges in Alabama. Then came the severe storm that swept over the Gulf Coast territory in July, 1916, followed by the freeze in 1917, and reduced the Satsuma orange plantings in the State by 3,500 acres. It

was a very severe set back. However, in discussing the Satsuma orange culture in Alabama, I wish to call attention to several factors that contributed to these reverses.

There is always danger when any new horticultural project starts anywhere, that they will be over-enthusiastic. Then people get so over-enthusiastic that they fail to calculate the cost; fail to take into consideration the factors which underlie such important development. When it is only a question of the planting of truck crops, it is different, but when it is a question of planting something that will last for many, many years, then I believe it should be considered a pure and simple business proposition, and the cost be taken into consideration. In this case, by reason of the over-enthusiasm, these things were not considered. The mistakes committed were these: First, the 3,500 acres that suffered as a result of the storm and freeze of '16-'17 was due principally to their improper location. Orange trees should not have been planted where they were planted; conditions were not right; location was not right. Second, they had gotten it into their heads that they could plant an orange tree in the ground, leave it and go back North. It didn't work. The orange tree requires attention. Third, they had not taken into considera-

tion the cost, and when they were advised that in order to make this a paying proposition, they had to put in so much money, they got discouraged. Their trees were neglected. When we told them they needed to pay out money in order to make their investment good, they would not do it. They got afflicted with the disease we call "cold feet," a very serious one. And in 1916 when the canker situation in our State was extremely bad, I learned that there was a would-be scientist who advocated that they should plant Bermuda grass in the grove and let it grow. That would harden the trees to such an extent that the canker would have no effect whatever. That was better than the State's constant preaching about spraying and pruning, cultivation and fertilization, because the Bermuda grass proposition was only an initial small expense and after that nothing but rest. So one party planted 250 acres into Bermuda and went home and set down.

At the annual meeting of our Horticultural Society in 1918, he came and told us that it didn't work. All his trees had frozen down. Now the things that were responsible for the set back in 1916 and 1917 were principally the factors that I have mentioned, but probably most of all, insufficient care; in other words, simple neglect. Wherever we had an orange grove that had been given reasonable care the trees did not suffer. They suffered from defoliation, it is true, but they grew during the summer and gave a good crop the following year. On the other hand, where the trees had not received sufficient nourishment and sufficient cultivation the trees died in large numbers.

Now, I maintain that to establish an industry of this kind, the reverses that I have referred to are necessary. I maintain that it was about the best thing that could have happened in our State that the freezes and storm came, because if they had not come the enthusiasm would have continued to grow and would never have stopped. But this gave them a chance to stop and think and consider some of those things which some of us foolish people are constantly preaching, the care of the orchard. They found that that was actually a good thing.

Since 1915 I have been preaching over and over again on every occasion, the necessity for spraying, the necessity for cultivation, the necessity for fertilization, and the spraying, probably, has been the hardest of all of which to convince the people. The fertilization and cultivation is a combined proposition of which they can see the result, but when it comes to the elimination of insects, they cannot see its importance and it is hard.

Not until last fall when the growers lost at the rate of approximately \$100 an acre as the result of the damage caused by the purple scale, did they realize the necessity of spraying, and therefore these adverse conditions are often a lesson. Now to come back to conditions as they have developed, one factor that has done much to eliminate unnecessary and undue speculation was no doubt the citrus canker, because we had a quarantine notice up in the orchards where the disease was found. When these speculators came they didn't like it, because they had been told that there was no such thing as a disease attacking a Satsuma, and when they found out that the grove actually had

such evils as that they got discouraged. Now, don't understand that this was averse to development, indeed not. But I believe above all things that we should go after things in a conservative way. Let us not hide anything, but when we tell the people to come down from the North to settle and induce them to invest their capital, tell them the facts. Then I believe we can eliminate 90 per cent of the disease called "cold feet."

Notwithstanding the adverse conditions, we have now in Alabama 14,000 acres in Satsumas, 12,000 acres of which are in bearing this year and two thousand acres of new plantings. We have during this year established a market for Satsumas. When we started our organization there in 1914-15 we sent one of our men up north to find a market for our fruit. He came back very discouraged. He had been in some of the principal marketing centers, but found none that would give him much consideration, but we have given that up and we have now, I believe, solved the question of marketing. We have standardized our fruit. We have, in co-operation with the U. S. Department of Agriculture, segregated our fruit into respective varieties of Satsumas. The packing question is partly solved. Packing houses are being established in various parts of the State (that is in what we call the Satsuma belt of the State), and we will need these packing centers. This fall we will have seven modern packing houses in operation. The crop is small yet, the trees are young. In fact we have just now reached the point where the trees have recuperated so that they are in the same condition and size and otherwise as they were prior

to the freeze of 1917, as they were very severely cut back, after freezing.

If these things had not happened, we would have shipped a good many car-loads, but as it is, our maximum output this year will not exceed 150 carloads. But we believe that the Satsuma industry in Alabama is on a firm footing. We have eliminated the undesirable factors; we have established co-operation; we have tried to standardize our methods of cultivation, fertilization, spraying, etc.

With such modifications as may be necessary in different localities there is one thing that I believe is absolutely necessary in pioneering horticulture, and that is co-operation. Had we not been able to affect a measure of co-operation among the people engaged in the industry, we would have had very few Satsuma orange trees left today and the industry would not have amounted to anything.

When we started in Alabama we knew nothing about citrus culture, and I want to take this opportunity to express, on behalf of the growers, our appreciation to the citrus growers of Florida for their co-operation. There has been no time when I have called upon the Florida people for assistance, when they have not given it and that has been a great help. I believe that our pioneering days are mostly over. We have reached firm ground and if no natural calamities come along, I believe that the Satsuma industry on the Gulf Coast, particularly in South Alabama, will be an important factor in fruit growing on the Gulf Coast, and I hope that it will extend into this State and into Mississippi.

These three states, I think, are best adapted to Satsuma orange culture.

To outline anything in particular of what we are doing there, I will not take your time in doing. I will say, however, in reference to our cultivation methods, that it has been a considerable task to get the growers to cultivate. If they had started intensive cultivation in the spring and then stopped cultivation in July, of course, it would have been the best policy. But I found it necessary to advocate extending cultivation into August and as far up as September first, in the young orchards, for the reason that it was nearly impossible to get the people to do intensive cultivation in the young orchards in the first part of the season. And, consequently, where they did not do intensive cultivation at that time, their trees did not get the benefit of the fertilizer they put on in their orchards; the weeds got ahead of the trees and the trees went into a dormant state in the fall in a very weakened condition. That was the principal reason why so many trees died as a result of the freeze in 1917. On the other hand, where we continued cultivation over a longer period of time, the trees went into a dormant state in a vigorous condition, and they survived. Therefore, we are advocating, in Alabama, the cultivation in particular of the young trees up to September first.

We plant legumes in the young or-

chards planted this year and even orchards three years old, and cultivate on each side of the trees, and we find that a better method to develop a tree quicker and harder than by the other method. When it comes to the bearing trees we, of course, cannot pursue that method. We tried to follow the same method in bearing orchards, cultivating up to the first or fifteenth of September, but that prolongs the ripening of the fruit, and when the fruit should be ripe it was then green and we were then approaching a new danger, that of being caught by the frost in the fall.

There are some problems that we have solved, and there are a good many problems to be solved. There is one thing that we are particularly interested in and proud of and that is the co-operation that we have received from the U. S. Department of Agriculture. That applies particularly to the segregating of the varieties and the establishing of tree records. These things, I believe, are of the greatest importance and I hope that in two more years there will not be an orchard of any consequence in the citrus area of Alabama where we do not have records, that together with the segregation of varieties will bring us another step forward. I think I have taken up your time long enough. I thank you very much for this opportunity of being with you.