

## **Aguacates De China**

**Wilson Popenoe**

Many readers will recognize the following quotation from the 1941 Report of the Variety Committee:

"The problem which the Committee has been working on for some years and is now even more highly concentrating upon, is to discover a new variety or varieties which will not destroy the asset gained in the great consumer acceptance of Fuerte, but which will be consistent enough in tonnage production to make a decent living for its producers at the prices which seem to be indicated for the future."

I quote this here because it summarizes the whole situation, and because I believe we have a few new items of information which suggest that the need thus succinctly expressed may be met in the near future.

I must commence by recounting a bit of history. Toward the end of 1941, Professor Robert W. Hodgson wrote me that there appeared to be two strains of Fuerte in California. One of these, more productive than the other, had been traced back to a tree known as Whedon No. 1 in the old Whedon grove at Yorba Linda. It has been asserted that this tree is a propagation from one of the original Fuertes which I budded in the West India Gardens at Altadena in the autumn of 1911, using budwood sent from Atlixco, Mexico, by Carl B. Schmidt. Professor Hodgson further wrote: "To explain the occurrence of two strains has required the assumption that either the two parent trees in Altadena are different or that a bud-sport occurred in one of them. It would appear more likely, it seems to me, that the sport occurred in Atlixco and that the two strains were introduced simultaneously."

A few months later, Professor Hodgson wrote to Carl Schmidt, now living in Mexico City, to inquire further about the origin of these two strains. In this letter he said, "The only conclusions I can reach are that (1) budwood was sent from two almost identical trees in the Atlixco area, or (2) that the parent tree at Atlixco contained a sport limb and the budwood sent was therefore a mixture of the two strains."

Some of the questions raised can, I think, be cleared up fairly satisfactorily. The trees sold by West India Gardens to Mr. Whedon in the spring of 1913 were not propagations from either of the two "original" Fuertes now standing on our property at Altadena. They were grown from the budwood sent in by Carl Schmidt. I think every nurseryman will agree with me in this statement: It would be quite unlikely that buds inserted in young field-grown stock-plants in November, 1911, could develop to sufficient size to furnish budwood which in turn could be used on young field-grown stock-plants and develop into trees large enough to be "balled out" of the nursery and delivered to Mr. Whedon in the spring of 1913.

Furthermore, I am fairly clear in my recollection that some of our original Fuerte trees were sold to Mr. Whedon. As set forth in the 1941 Yearbook, we got in a jam at West India Gardens and could not supply certain varieties which he had ordered. We asked him to take Fuertes, which he reluctantly did, to his later satisfaction. Indeed, he made a lot of money out of them and it is almost fair to say that it was the Whedon planting which put Fuerte on the map.

Now as to the possibility of two trees at Atlixco almost identical in character. Carl Schmidt wrote Professor Hodgson that he sent budwood of one tree similar to Fuerte—a tree growing in the Hacienda de Xalpatlaco. I do not believe we ever sold any trees of this variety; in fact I do not recall that any of the buds grew in California. I will look into this the next time I visit Antigua, Guatemala, where I have my old records, including transcriptions of all of Carl Schmidt's original notes which came from Mexico with the bud wood shipped in 1911.

This all boils down to the following probability: The budwood received at Altadena from Mexico in 1911 contained two slightly distinct strains from the same parent Fuerte tree.



The Parent Fuerte Avocado Tree at Atlixco, Puebla, Mexico. Photo July 1942

### **IS FUERTE A FIRST-GENERATION CROSS?**

It has repeatedly been assumed, by myself and others, that Fuerte is a first-generation cross between the Guatemalan and Mexican races. We based this assumption mainly upon two facts: (1) In the United States, many seedling trees of which the seed-parent is known have every appearance of being natural crosses between two of the horticultural races; and (2) Fuerte shows several characteristics which seem intermediate between the Mexican and the Guatemalan.

Again we are indebted to Professor Hodgson, who is trying to get at this question. Under date of June 1, 1942, he wrote me:

"In ordinary progenies resulting from open pollination, which are pretty much the result of selfing, half or more of the seedlings usually show sufficient resemblance to the seed-parent to be readily picked out by the time they are two or three years old. And this seems to be true of Fuerte as of other varieties. This suggests to me that if Fuerte descended from Mexican and Guatemalan parentage the actual crossing must have occurred a long time ago, sufficient for relative stability to have been attained by the time Fuerte itself occurred as a seedling."

### **WHAT ARE AGUACATES DE CHINA?**

This statement started me off on an entirely new line of thought: Is it possible that Fuerte, instead of being a first-generation cross between some unknown seedling of the Mexican race and one of the Guatemalan race (many typical specimens of both are to be found in Atlixco), may be representative of a race of avocados—a group as distinct from the others as the Mexican is from the Guatemalan, or the Guatemalan from the West Indian?

This possibility fired my imagination, for if Fuerte is not unique— if there are numerous other trees in Mexico of similar character—then we have a good chance of finding varieties which will realize the ideal set forth in the quotation at the head of this article, i.e., capitalize consumer appreciation of Fuerte and at the same time yield more fruit.

Once in a while we get "breaks" in this life, and we got one in July of this year when Knowles Ryerson, Carl Schmidt and myself came together at Mexico City on the occasion of the Second Inter-American Conference on Agriculture. Knowles had never seen the parent Fuerte tree, so when the sessions were finished, and we had said good-bye to the brethren, Carl drove Knowles, Mrs. Popenoe and myself down to Atlixco.

There we found the old Fuerte tree in a sad state. It is fortunate Knowles got down there when he did, for in another year or two it will be no longer possible to gaze upon this historic specimen. It is just about gone. When I saw it in 1938, on the occasion of the pilgrimage of the California Avocado Association, I realized that it was going, and since that time I have felt that nothing could be done to save it.

No one can say for certain what may be the cause or causes of its approaching end. But there is a drain emptying on the ground a few yards away from the base of the tree, and the surrounding soil is probably soggy most of the time. (When the Editor examined this tree in January 1942, the dry season, he found the soil very dry. The tree held a few immature fruits and also blossoms.) This has been going on for years, and if not the direct cause is probably a contributing factor. Only the trunk and the stubs of a few large branches remain, the dead wood having been carefully cut out last year and stubs treated in the hope of giving the tree a chance to stage a comeback. But no substantial come-back is in sight.

While we were standing about, reminiscing, Carl happened to mention that Fuerte is known in Atlixco as an aguacate de China. This meant that it must belong to some

group recognized locally as distinct from the others, just as the Guatemalan avocados are known in Atlixco as pahuas, not aguacates.

This set us to thinking, and we left the LeBlanc home to browse around a bit. We met a woman who was picking aguacates for market. Carl engaged her in conversation. Would she sell us some aguacates? Yes, but these were not good ones; we had best go around the corner to another property where her husband was picking fruit at the moment; and incidentally, we ought to meet her husband, who was one of the outstanding horticulturists of the region. Really, a man who knew his trees; and even knew how to graft them. But they did not think much of grafting; you got a tree which came into bearing at an early age, but it was short-lived. There was no money to be made like that.

So we went around the corner with the woman, who discoursed along the way regarding the aguacate business in general. This was the season for good aguacates—the small thin-skinned ones. Later they would have aguacates de China; and still later pahuas, but she did not think much of pahuas. They were watery. They did not have the flavor of the smaller, thin-skinned fruits. Had we ever tried the latter in the form of guacamole—mashed up with lemon juice, salt, pepper, and a little chopped onion? Ah, there was a dish fit for the Gods!



CARL B. SCHMIDT

Discoverer of the Fuerte Avocado in 1911, at foot of parent tree at Atlixco, Puebla, Mexico. Photo by Knowles K. Ryerson, July 1942. Bronze Memorial Tablet placed by California Avocado Society at Commemorative Exercises in April 1938.

When we got to the tiny orchard where the husband was at work, we found him high up in a tree, far too busy to come down for any such trifling purpose as talking to a bunch of gringos. He was a horticulturist, and his motto was Business as Usual. But as we stepped inside the gate, we were confronted by a fine young tree, full of fruits of pure Fuerte character—obovoid fruits, smooth and shining, and very attractive.

"Aguacate de China," said the old woman. "It wont be ripe for some time yet."

We looked around some more. There were other aguacates de China, but we reflected upon the Plant Quarantine and did not take any budsticks, except a few which Carl carried back to Mexico City to try In his beautiful garden at Coyoacan. And by the way, if you ever go to Mexico City, don't fail to see Carl's place, and don't fail to see Carl. He likes to talk about the old days, when he was chasing avocados for the West India Gardens.

Our time was short, and we had to return to Puebla. We talked about aguacates de China as we rolled along. Were there trees in other parts of Mexico, and if so, where? We did not think they were to be found at Queretaro, that great center of avocado culture toward the north; and even less at Monterrey or San Luis Potosi, which Carl had explored in 1911, and others have worked since. They might be south of Atlixco, perhaps at Oaxaca.

## **THE AVOCADOS OF OAXACA**

Knowles and I decided we would go down there and find out. But his time was short and he had to give up the idea. Mrs. Popenoe and I made the trip, my first visit to the region. We found many avocado trees of the Mexican race, and I had almost given up hope of finding anything else until I went to see Professor Casiano Conzatti, who has lived in Oaxaca 40 years and is the author of many notable publications on the flora of Mexico. I asked him to let me wander through his garden. "It is in a deplorable state," he apologized. "I am ashamed to take you through it. Since the earthquake of some years ago, when we almost lost our house, we haven't taken much interest in the place."

But we started out, myself with one eye looking for aguacates. I saw a fine young tree, twenty feet tall with a trunk six inches thick, and high up, many fruits of Fuerte character. We finally got one down. It was immature, but it had the Fuerte skin, and a small seed. It was not a Mexican, though the leaves had anise odor. And the leaves were very large, as we had noted with the aguacates de China in Atlixco.

A few moments later we came across another tree. It was a handsome one. I took out my notebook and wrote down the following:

"Aguacate de China. Trunk about two feet thick at the base. Professor Conzatti says the tree was here when he bought the house 40 years ago. Foliage is much larger than that of several Mexican aguacates in this same patio, and not so strongly anise-scented. Fruits now hanging are obovoid, slightly symmetrical, about five inches long, probably eight to twelve ounces in weight, green in color. Crop not heavy."

So much for aguacates de China at Oaxaca. I saw no more of them during our brief stay. Incidentally, I had thought to find an abundance of aguacates of the Guatemalan

race at Oaxaca and was disappointed. I had expected them because I had seen them in Chiapas, south of Oaxaca, and in Atlixco to the north. I had reasoned that this race, which we consider native to Guatemala, had worked its way northward as far as Atlixco (perhaps further, but I have not seen them) and that Oaxaca, being a good agricultural region, would have them. But I saw only one tree which was definitely Guatemalan. It was in the Paseo Juarez, a park not far from Professor Conzatti's house.

## **BEWARE OF PREMATURE CONCLUSIONS**

On the basis of the relatively few trees which we saw during our brief stay in Mexico, it would be premature to say that the aguacates de China represent a distinct horticultural race. But this is a possibility. If they are all first-generation crosses, they are more uniform in character than we would expect to be the case. The subject merits further study, for it is entirely possible that we may find in Mexico varieties of Fuerte character which are just as good in quality and better in productiveness.

Based upon what we have seen to date, the aguacates de China (I cannot hazard a guess as to the origin or significance of this name) have in common the following characteristics:

1. Robust growth. This was the origin of the name "Fuerte," as pointed out in the Yearbook for 1941.
2. Large, rather thin leaves, as compared with the Mexican race; some times larger than those of the Guatemalan.
3. Anise-odor of the foliage distinctly noticeable, but not so marked as in the Mexican race.
4. Fruits round to pyriform in shape, commonly obovoid without a distinct neck.
5. Size between that of the Mexican and Guatemalan; weight commonly 8 to 12 ounces.
6. Skin thicker than that of the Mexican, leathery and not so easily torn.
7. Color usually light green, with lenticels yellowish and conspicuous.
8. Flesh of rich flavor and high oil content.
9. Seed relatively small in comparison with that of the other races, leaving a good proportion of edible matter.
10. Ripening season intermediate between that of the Mexican and Guatemalan races.

## **LET'S DO SOMETHING!**

There is too much at stake for us to delay longer in searching for aguacates of Fuerte character and better productiveness. I feel confident the Mexican government would lend generous cooperation. Someone should go over the ground thoroughly, and pick out promising seedlings for trial. Based upon what we saw, the best time of the year to

do this would be from July to October, perhaps commencing in late July. At that time fruits of the Mexican race are ripening in the highlands, while aguacates de China are close enough to maturity so that one could locate interesting trees, which he could then watch during two or three succeeding months in order to obtain the necessary information regarding their desirability.