

California Avocado Association 1924-25 Annual Report 10: 41-43

THE AVOCADO IN THE LOWER RIO GRANDE VALLEY

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In order that there may be no possible misunderstanding concerning the authority with which I speak on the subject which has been assigned to me I wish to state at the outset that I have *not* recently returned from a trip to the Lower Rio Grande Valley. In fact, it has never been my pleasure to visit that "Valley" as it is generally known in Texas. Although born in the Lone Star state my parents removed to New Mexico when I was some three months old or thereabouts I am told, and hence I think it is safe to assume that I am reasonably unbiased in reference to its subtropical horticultural possibilities.

The material which follows, therefore, is not the result of personal observations on my part and I do not desire to be held accountable for its reliability or accuracy. Time alone will determine these points. Lacking a personal acquaintance with the conditions which occur in the Lower Rio Grande Valley, of Texas, therefore, it is my intention to place the full responsibility for the correctness of my analysis of avocado culture and its possibilities in that section upon the shoulders of the several individuals and agencies from whom information bearing on this subject has been secured. Theirs must therefore be either the credit or the blame for what follows. And in order that you may know to whom credit or censure is due, I will state that the material in this paper has been secured from the following sources: the Editor of the Valley Farmer and Citrus Grower published at San Benito, the county agricultural agents of Cameron and Hidalgo counties, several former students who reside in the Lower Rio Grande Valley, the Chief of the Division of Horticulture of the Texas State College of Agriculture, and the Subtropical Fruit Specialist of the United States Department of Agriculture for the Gulf Coast states. Having thus successfully, I hope, developed a complete alibi for myself I shall proceed to the subject of the discussion.

There are no commercial avocado orchards of bearing age in the "Valley" and only one or two relatively small commercial plantings of young trees. And the fate of these is uncertain since the occurrence of the cold weather of last January which California generously shared with the Gulf Coast states. In view of the extensive injury to young grapefruit trees reported as caused by that "freeze" it is extremely doubtful whether the young commercial plantings survived.

What bearing trees there are in Texas, relatively few in number, are situated in Cameron and Hidalgo counties and principally in the vicinity of Brownsville. It is reported that experimental planting of dooryard trees has been practiced extensively during recent years in the more northern parts of the Valley proper which is said to be seventy-five miles long and thirty miles wide. Few of these trees have reached bearing age as yet and many of them were likely badly damaged during the past winter.

A considerable number of wild seedling trees, some of which are thirty or forty years old and bear good crops, are reported growing at Matamoros, Mexico, just across the Rio Grande River from Brownsville, and it is stated that a popular pastime of the residents of Brownsville is crossing the river, not for the much advertised Tequila, but for avocado sandwiches. Fruit cannot be taken from Mexico across the river except after inspection for the presence of the Mexican fruit fly and the removal of the seed to prevent introduction of the avocado seed weevil. All of the bearing trees are Mexican seedlings as are also nearly all of the more recently planted trees.

Budded trees, especially of California or Florida varieties are so rare that a number of my informants report none present, although several mention plantings of young budded trees, which may have succumbed to the recent freeze.

The reports vary considerably as to the success of the few trees which have reached bearing age. All agree that in Brownsville there are a few good bearing trees and that across the river in Mexico there are many old wild seedling trees which generally bear good crops of fairly good quality fruit. One of my former students, now teacher of agriculture in one of the high schools there, says that "it has been demonstrated that the avocado can be successfully grown in the "Valley." The Editor of the Valley Farmer and Citrus Grower says, "Seeds planted in yards have developed vigorous trees, those from Mexican seeds being resistant to such frosts as we have and bearing fairly well. He states further, "Nursery experiments have indicated that budded trees on Mexican stocks grow vigorously under Valley conditions and bear well." Another former student says "there is no doubt that the trees do well here on well drained land." The chief of the Division of Horticulture of the Texas State College of Agriculture is somewhat more conservative and writes as follows: "There are a few Mexican seedlings in the vicinity of Brownsville that have borne several very satisfactory crops."

On the other hand, most of the informants report that the budded trees planted have almost invariably failed from one cause or another. Thus the government specialist in subtropical fruits reports that "budded trees almost invariably fail to live" and concludes that "the main causes are low winter temperatures and too much salt either in the soil or irrigation water." The chief in horticulture of the State College writes that "several plantings have been made of budded sorts, but these have been killed by cold or neglect." One of the former students calls attention to the tenderness of the budded varieties to low temperatures and believes that some method of frost prevention or protection will be required if these varieties are to succeed. And a county agricultural agent mentions that some of the trees, although blooming heavily, fail to set and mature any fruit.

It would appear, therefore, that with budded trees of superior varieties at least, if not with the seedling sorts as well, the industry is far from having passed through the experimental era.

In commenting on the possibility of commercial production and competition with Florida and California, concerning which I asked for a frank opinion, all informants agreed that such cannot possibly occur within the next ten years. That the avocado industry of the Lower Rio Grande Valley to be successful must be based on the development of hardier varieties than those now available is the opinion shared jointly by the chief in

horticulture of the Texas College of Agriculture and the federal specialist in subtropical fruits. Both regard the present California and Florida varieties as too tender to withstand the low winter temperatures which are said to occur "nearly every winter." But that it is believed that a successful avocado industry may ultimately be developed there is indicated by the following statement from the head of the Horticultural Division of the College, "Our newly established field station at Waslaco will undertake work with the avocado and other subtropical fruits."

And that the enterprising Texas fruit growers are still optimistic concerning the avocado as a possible crop for the Valley (at least one that may help to launch profitable subdivisions on the basis of Florida and California experience) is indicated by reports that the nurserymen there are securing all the seed they can from California and Florida and are anticipating a good demand for avocado trees during the next few years. As further evidence in support of these reports I can state that the Division of Subtropical Horticulture at Berkeley has in recent months received a number of inquiries from residents of the Lower Rio Grande Valley asking about the methods used in California in growing avocado seedlings and budding nursery trees. Some California budwood has also been ordered in recent months. Two of our former students who reside in the "Valley" state frankly that they are getting ready to grow avocado nursery stock and expect to experience a good demand for it during the next five years, especially as the grapefruit planting boom of the past five years wanes.

Summary

The following general summary of the avocado situation in the Lower Rio Grande Valley seems warranted by the information furnished me by Texas correspondents in the Lower Rio Grande Valley:

1. Avocado culture in the Lower Rio Grande Valley is still in the purely experimental state. A few bearing trees exist of Mexican seedling types. Budded trees of standard varieties have not succeeded as yet.
2. The best informed persons do not believe our California and Florida varieties sufficiently hardy to successfully meet the conditions there.
3. A moderate boom in avocado planting may be expected during the next five years.
4. Commercial production sufficient to offer real competition to California and Florida is still a long way off and may never eventualise.

Factors bearing especially on this last point are the periodic occurrence, at relatively frequent intervals, of damaging winter temperatures; the rather rapid development of important drainage and alkali problems; and the presence just across the Rio Grande River of two serious insect pests of the avocado, the avocado seed weevil and the Mexican fruit fly.