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REPORT OF THE FOREIGN EXPLORATION COMMITTEE - JUNE 6, 1953

Harlan Griswold
Chairman

Your committee chairman has recently completed his tenth trip into interior Mexico, and this would seem a good time to take stock of the avocado materials to be found in Mexico. The writer is expressing his own opinions which have now developed into convictions as a result of repeated observations in many parts of Mexico and some parts of Central America over the past seven years.

Mexico is abundantly supplied with avocado specimens ranging from the wild types found in the subtropical mountain forests to the more or less domesticated types found growing in the door yards and small orchards of the villages and country side. They have only a few orchard plantings as we know them in California; but a surprising quantity of seedling avocados good, bad, and indifferent find their way to the native markets throughout the country. The fruit of the avocado is prized, and none are wasted. No avocado is so poor a specimen as to not have some market acceptance and consequently these village markets show a complete cross section of all the local seedlings except the completely wild types of the forests, which are usually considered unedible.

Inquiries at these markets lead to interesting tours of the surrounding areas where the tree specimens may be examined. The unfailing hospitality of the Mexican people makes this a rewarding and not too difficult accomplishment. One gains confidence as experience increases. Language and transportation difficulties can be surmounted more easily than might be supposed. Local busses and taxis help but the main reliance is on walking which is very enlightening in both botanizing and in the observation of the folklore of the country.

It is more difficult to get into the mountain areas. It is necessary to locate the more remote mountain villages that have some kind of access road. Transportation must be arranged to this point, and then with a local guide and the permission of the local "Presidente" one may hike into the forest. This permission is very important as one can get into serious trouble if one neglects this formality. The search for the wild avocados is hard work as they are usually widely scattered among other native trees.

Details of areas that have been covered and descriptions of specimens found can be had by reference to past yearbooks and the accounts of explorations of the committee. It takes time to fruit these specimens in California. When data are available on the experiments here at home they will be incorporated in future reports. Some progress reports have already appeared. The question is often asked, have we secured all that we need from below the border? If not, what can be found? I will attempt to answer this

in the following outline.

Wild Avocados

The wild avocado types have aroused great interest the past several years due to the possibility that they might provide a fungus resistant root stock to combat our most serious disease problem, avocado root rot. This committee pioneered this search and continues to help with the introduction of this material. A large variety of these wild types are now under study by the University and it is hoped that a suitable resistant root stock will result. Dr. Zentmyer at the Citrus Experiment Station is devoting much time to this project and a reference to his reports will keep one abreast of developments.

There is another side to this root stock problem, however. What effect does the root stock have on the scion as to growth and production? Many are beginning to believe the root stock seedling may account for the variation in production from tree to tree in our Fuerte groves. This variation still persists after many generations of bud selection.

Our domestic avocados are all very variable from the seed even from the same tree. In contrast, these wild avocados as we have observed them come true to the seed, one seedling looking like the next in the forest. Here then is an avenue to approach uniformity of root stocks. This is being explored with great interest by this writer and Dr. Schroeder at U.C.L.A.

Although we now have many wild types established in California, much more remains to be done as it is doubtful that we have all that can be found. Now that seeds can be brought into California through official channels, this search has been much easier. With wild avocados, seeds are just as satisfactory as scions and they are much easier to propagate.

The Mexican Avocado

The common Mexican avocado called "Aguacate" is native to the highlands of Mexico, and is known everywhere throughout Mexico for its excellent flavor. In California, it supplies much of our fall varieties; but due to its small size, thin skin, and other undesirable market characteristics, it is not considered a good market fruit in its pure form. Only in the form of hybrids with other types of avocados does it have possibilities for us. Nothing I have seen of these Mexican-race avocados has led me to believe that they have anything to offer that we do not now have. We have introduced a few unusual ones for study.

The West Indian Avocado

These avocados are believed to have originated along the tropical coastline of Mexico and to have been carried to the West Indies. They grow in abundance in tropical Mexico. These avocados are not suited to our California climate, and in any case are considered inferior in quality to the types grown in more moderate climatic zones.

The Mexicans also refer to them with some contempt calling them "Paguas", never

"Aguacates". They are usually large and low in oil content. Some have a satisfactory flavor and in many parts of the world including Mexico are extensively used for food. Cuba ships many into the U. S.

The Guatemalan Avocado

There are very few Guatemalan-race avocados in Mexico, possibly none that are pure types. There are many of them in the highlands of Guatemala. The writer has made two trips to Guatemala, and is of the opinion that these avocados although of excellent eating quality do not offer any possibilities over what we now have. Its large size, thick skin, tenderness to frost, and alternate bearing habit preclude its meeting our high standards currently satisfied by our hybrid types. Like the Mexican-race avocado, it is in the hybrid form with other types that meets our needs; and we have many more of these hybrid seedlings than do other countries.

The Guatemalan x Mexican Hybrids

There are few of these in Mexico, and I know of none in Guatemala. We have studied with interest the Atlixco area of Mexico where the Fuerte came from and where these hybrids are found in some quantity. We have combed over the now famous Rodiles grove of avocado seedlings which contains many of these hybrids. Although we have introduced a number of these for trial, so far nothing has developed; although not all of them have fruited in California. Wilson Popenoe has named one of these Rodiles seedlings the "Aztec", but it is too early to tell its suitability in California.

California is the best hunting ground for these hybrids. Our Society Variety Committee has many local ones under study that have promise.

The West Indian x Mexican Hybrids

We are well supplied with most avocado materials, but in these West Indian x Mexican hybrids we have something new to California. If they prove adapted to our climate we may find something of great value among them. Our fall season has never had sufficient good avocados. The Mexican-race types that come in this season here are not good market fruits. Our local hybrids usually come too late in the season to solve this problem. Only in this West Indian x Mexican cross do you retain early maturity, because both races are early in maturing from the flower.

The committee has discovered a wealth of these hybrids in the Victoria area of Mexico. We have observed specimens that combine the good qualities of both races, to give hardiness to cold, proper size for our market, good quality, etc. Specimens are being introduced and more visits being planned to secure for California what could be the ideal fall fruit.

Conclusions

It is my considered opinion that Mexico has still much to offer the California avocado industry in two categories: First, the wild avocados for root stocks, both as possible root rot resistant specimens and as a more uniform root stock of possible superior production qualities. Second, as a fall-maturing superior market fruit to be developed from the West Indian x Mexican hybrids. It takes much time to develop this material. Future yearbooks will contain the progress reports of these efforts.

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