

Report of the Variety Committee

As I write this report, California avocado growers are going through a third consecutive cold winter. This winter, starting in December, has been consistently colder than the last two. Many nights have been bordering on the dangerous side. Thankfully, we have not so far experienced a severe, devastating night. Also, we have not had severe wind damage except in the same areas that seem to get hit almost every year.

The manner in which our orchards have fared in these last three years of cold winters indicates as to each location whether we have planted or grafted over to a variety that, climate-wise, will bear sufficiently to return a profit. Secondly, it delineates our frost damage contour line that can help keep the Hass, Gwen, Pinkerton, and other Guatemalan varieties above that line. Below the line, you will have to make the best of the Zutano and Bacon, though they are on their way out as commercial varieties.

As to Fuertes, if you are in an area where they bear and the trees remain healthy, stick with them—especially on lower areas with deep soil. Renewed appreciation of the Fuerte variety appears to be in prospect in 1989. Fuerte has been around for 75 years, and during those years it has been the backbone of California's and much of the world's avocado production. Because of its superior flavor and quality early in the year, it is the preferred variety for the processed food industry. There will probably not be any more Fuertes planted in the nature, however, because of the variety's limitations and erratic bearing habit.

The Pinkerton variety, in spite of some early marketing disappointment this season, should establish itself in the years ahead as the best of the early winter varieties. It will also supplement short supplies of large size Hass. It will need continued help from the Production Committee and the cooperation of its growers. Also, there is need for education of consumers on how to ripen it properly; because of its thick skin, it takes experience and patience to ensure that it is fully ripened before it is cut.

The Hass variety suffered more damage than any of the other varieties in this fall's hot spell. Many groves experienced 110 °F four feet above the ground. Closer to the ground, it was probably 115 °F or higher. The Hass, because of its habit of having a lot of outside, exposed fruit, suffered more— especially heavily-laden older trees. Much of this fruit has a dead or damaged seed and will not size. The fruit will ripen normally, however. Even some of the fruit that showed discoloration in the flesh has repaired itself.

Small fruit size becomes more pronounced as Hass trees become older. As the industry's Hass grow older, we will be plagued with more and more small fruit to sell. The problem increases if the trees are stressed in any way. Some relief can come from stumping and cutting back. The relief, however, is only temporary.

The Hass variety, despite its shortcomings, has established itself over the last 20 years as the best avocado in the world. All new varieties are measured against the Hass.

The Gwen variety should have enough production this year to really evaluate it. So far, it is living up to expectations. Compared to Hass, there seems to be less exposed fruit and more uniform sizing with less sunburn as the fruit hangs more within the leaf canopy. There does not seem to be as much alternation of bearing as with the Hass. Better production of the Gwen should go a long way toward evening up our heavy- and-light years production problems. The flesh does not soften as early as Hass and is subject to end shrivel if picked too early. The Hass, like no other variety, has an unbelievable ability to soften even when it is not legally mature. This is not always a plus, as the early Hass prior to March first in southern California do not have the fine nutty flavor that we brag about later in the season.

There are indications and reports from some areas that Gwen will mature and hold to hit the September and October period when the Hass from San Diego County tend to lose flavor. This needs to be substantiated with more testing. If you have experiences on Gwen vs. Hass that you feel might benefit the industry, please call Dr. Bob Bergh or Dr. Mary Lu Arpaia (editor and task force chairman for last year's update of the "Avocado Varieties for Commercial Planting in California" published in the 1987 Yearbook) at the University of California at Riverside, or call someone on the Variety Committee.

The Variety Committee needs all the information we can get on the Gwen, Pinkerton, and Whitsell. In the next year or so, we will have to make a decision whether to recommend the Gwen and Pinkerton for commercial planting. At this stage, because of its all-around pluses and similarity to Hass, Gwen is close to recommendation. The Pinkerton, because of its early-season maturing and its potential to replace the vanishing Fuerte, is a close second. Both of these varieties, if planted in the right locations, will produce the tonnage required to help the grower show a profit. The Whitsell, at this stage, needs to be tested a lot more. All of these three have the larger size fruit that we find lacking in the Hass. All you have to do is look at your monthly returns for the Hass variety to see the premium on larger sizes.

In the years ahead, because of the limited climatic areas where you can grow avocados in the United States, we will be lucky if our acreage remains stable. With the increased consumption of avocados as the years go by, even in an "on" year, we should have no problem selling our California production.

Growers need to cooperate more, and should not pick too early just because they have a bumper crop of one variety. We need to have patience and not spoil the price structure for a grower with a short-crop variety. The next year, it could be the other way around.

Each variety that we grow commercially has its particular season when it is at its best. It should be marketed then, and not held past its maturity. This time next year, you should have some new varieties from the breeding programs to warrant some experimental plantings of these on a very small scale.

Historical Planting

On August 5, a most interesting meeting was held at the arboretum at the California State University at Fullerton. Included were President Len Francis and directors of the

Society, members of our Variety Committee, nurserymen, Bob Bergh and his staff, and others. Ricardo Montenegro, arboretum superintendent, represented Cal-State University/Fullerton.

The purpose of this meeting was to review the progress of a collection of the closest progeny of commercial avocado varieties that originated within a few miles of Fullerton. Background information about this project will be found in the 1980 Yearbook in an article by Dean F. Millen, retired superintendent of the South Coast Field Station and a Variety Committee member.

The avocado part of the historical project was headed by Jim Bacon and Dean Millen, with the backing of the California Avocado Society. There is an agreement between Cal-State University at Fullerton and the Fullerton Redevelopment Agency to provide land and preserve these trees for future generations. There are now five trees each of Fuerte, Hass, and Bacon in the planting.

The Fuerte trees are three generations removed from the original tree known as import No. 15 from Atlixco, in the State of Puebla, Mexico. Budwood of the original tree was sent by Carl Schmidt, of West India Gardens, to Altadena, where propagated nursery trees survived the great freeze of 1913. Grower John T. Whedon planted some of the No. 15 progeny, now known as "Fuerte," in Yorba Linda to found the first commercial planting of the variety.

The Hass trees are one generation removed from Rudolph Mass's original tree in La Habra Heights.

The Bacon trees are one generation removed from Jim Bacon's original tree in Buena Park.

The trees in the collection are now about eight years old. They are planted in deep soil and are in good health; with reasonable care, they should be there a long time.

This is a most worthwhile project, and it is hoped that the Avocado Society and industry supporters will keep an active interest in this historical planting.

Retirement of Robert H. Whitsell

December 31, 1988, saw the retirement of Bob Whitsell from the avocado breeding team at the University of California/Riverside. Since 1961, Bob has been Dr. B. O. Bergh's chief assistant and evaluator. We will miss him in those capacities; however, Bob will continue to serve on the Society's Variety Committee where, rest assured, we will draw in the future on his talents and experience. He will also serve as a consultant concerning the Society's Variety Germ Plasm Reservoir at the South Coast Field Station.

Enter Vincent Weng

New to Bob Bergh's team, but not new at the University of California at Riverside, is Vincent Weng. Vincent did his undergraduate work at National Taiwan University. His graduate work was in agronomy at New Mexico State University and culminated in an

M.S. degree. He started work at UC/R in 1969—until 1983 being involved mostly in field crops research, and from 1984 through 1988, with California native plants. Starting in January 1989, he will join Dr. Bergh and Gray Martin in their avocado research project. We welcome Vincent to our Variety Committee, and will introduce him to other members at a future meeting at the South Coast Field Station.

Gray Martin, who has been thoroughly schooled in Dr. Bergh's avocado breeding program, will be assuming a lot more responsibility. He is familiar with all the Riverside and South Coast Field Station plots, as well as the cooperative grower plots up and down the state. He and Vincent Weng, under Dr. Bergh's direction, will keep the avocado breeding program going. The Variety Committee will cooperate as best we can.

The result of 25 years of Dr. Bergh's avocado breeding program is the finest collection of avocado material in the world. As the better selections come from the various plots, they will be made available to Variety Committee members and selected cooperators who have signed an "Agreement for Testing Plant Varieties Produced and Selected at the University of California." There are those who question the requirement of formal agreement, but I'm sure all committee members and cooperators concur that we must protect the results of years of hard work and financial support of avocado research programs by the university and the industry.

I want to thank all the Variety Committee members and others who helped out with the variety display at the Society's annual meeting and for their support during the year.

Respectfully submitted, *Oliver Atkins, Chairman*