California Avocado Society 1991 Yearbook 75:31-35

Report from the Variety Committee

This report covers the period including the record crop year of 1985-86 to the present. Since the last high production year, many unforeseeable things have happened in the California avocado industry. We will have to cope with them and make changes in order to survive.

The worst of these is the water situation. We have gone through five years, and are faced with a sixth, of below normal rainfall in our southern California avocado growing areas. Our storage and reserves are dangerously low. Imported water from northern sources is being curtailed because of lack of snowfall in the Sierra Nevada. The urban and agricultural users north of the Tehachapis are water-short, also, and are reluctant to see the precious commodity go south. We are able to buy surplus Colorado River water; however, the limited capacity of the delivery system presents problems.

Avocado growers are among the most efficient and least wasteful water users. However, to get production, sufficient water is a must.

Besides the drought, we have had to deal with two very cold winters in 1990 and 1991. A severe freeze in 1991 was especially damaging in the coastal area from Ventura north to San Luis Obispo. The San Joaquin Valley avocado areas were hit especially hard. Even with their less expensive land and water, there will not be much enthusiasm to plant more avocados in the region, especially since they are limited to growing the poorer quality green thinskin varieties.

In addition to drought, freezes, and winds, over which we have little control, we are faced with escalating production costs.

On the plus side, avocado growers as a whole have been research minded. The portion of the funds collected from us by the California Avocado Commission's assessment of growers that are earmarked for production research are being ably administered by the California Avocado Society, largely on projects developed by scientists in the University of California at Riverside and Cooperative Extension. The priorities for projects that need attention are determined by grower input to the California Avocado Society and to county farm advisors. Among these projects, those pertaining to avocado varieties and breeding are the concern of this report.

Since 1915, the oldest standing committee of the California Avocado Society has been the Variety Committee. For the last two years, this committee has been a part of the Nurserymen's Section. The present arrangement makes for greater efficiency, as many of the same people are involved in the related functions.

During these past two years, state budget cuts have forced the University of California at Riverside to make adjustments for economy reasons. Several of our older top professors in the university have accepted voluntary retirement. It is retirement in name only, as they are still at their desks, and their wealth of experience is still available to us.

Among this group is Dr. B. O. Bergh, plant geneticist, who some thirty-five years ago decided to specialize in avocado breeding. How fortunate for the world avocado industry! He, over the years, laid down the methodology and procedures for an avocado breeding and selection program that has made the old "chance seedling" method obsolete.

The South Coast Field Station of the University of California has the finest collection of avocado varieties and selections under test anywhere in the world. The station is also the site of the California Avocado Society Field 44 Germ Plasm Reservoir. Rental of this field and costs of maintaining it are funded by the Society. Dr. Bergh is the project leader of work at the station, and is assisted by our Variety Committee.

The Variety Committee has not forgotten the many years that Horticultural Specialist Bob Whitsell worked under Dr. Bergh's direction. His contributions until his retirement in 1988 are sincerely appeciated. During Bob Whitsell's last two years at work, Dr. Bergh selected a young horticulturist to work with and learn the ropes from Whitsell. The dedicated young man is Gray Martin. The avocado industry is fortunate to have in the breeding program this young man coming into his own, especially in these times of economy and a tight variety research budget. Gray has accepted the challenge. He has the energy, enthusiasm, and patience required to carry on the field work and evaluation parts of the avocado breeding program. He has a personality that inspires those who are associated with him. Because of University budgetary restraints and seniority policies, however, his full time employment requires supplemental funding from other sources. I'm sure our avocado research advisors will find a way to handle this problem.

Because of weather—the freeze in particular, economic, and subdivision pressures, several of our grower cooperators have given up. This has resulted in the loss of many thousands of selectively-bred seedlings before they have had a chance to bear fruit. Fortunately, the last of our large cooperators, Bob Lamb, of Ventura, is still with us. In his plot, Gray Martin has already found several outstanding selections that could be commercial. Bob Lamb deserves a lot of credit for his patience and generosity to the industry in these trying times.

Commercial Varieties

Following are some comments on our current California commercial varieties. Hass has become the standard by which we measure all new varieties. This chance seedling, discovered in 1925 and patented in 1935 by Rudolph Hass, ranks among the greatest fruit discoveries of our time. It ranks in the avocado family as high as the Washington navel, discovered in Bahia, Brazil, ranks in the citrus family. In spite of all the pluses of the Hass, however, we must not depend on one variety. Let me quote from Dr. Bergh's report to the Avocado Research Committee last year.

> "The Hass variety now dominant is of excellent quality and market acceptance, but is not nearly as productive as we now know to be possible in California, and probably not productive enough to meet the long-range competition from other foods and from other avocado growers. Moreover, these are added risks for a largely single-variety industry. One example is the April '89 heat wave that sharply reduced Hass set,

whereas earlier and later bloomers fared better. Another example is the greater insect and diseases peril in monocultures."

Avocados have reached the point where they have become a staple in our produce markets. We must develop a balance of superior varieties that will enable California growers to keep a constant supply of avocados available the full twelve months of the year. We have been trying to stretch the Hass season too far. This variety is not at its best early in the season, even though unlike any other variety it will soften and be edible before it is legally mature. It also has problems of quality late in the season.

Fuerte remains king of the green thinskins. It was the predominant variety from the early '20s to about 1960, when Hass forged ahead. Fuerte was almost written off after the bumper crop of 1985-86. The over-supply of green thinskins and poor prices caused the Fuerte to be pushed into the same category as Zutano and Bacon. Many Fuertes were unfortunately grafted over to frost-sensitive varieties, including Hass, on low, cold ground. A succession of cold winters and low production of Hass created a large void in our variety supply during December, January, and February. The few remaining Fuertes, mature and with superior flavor, began to be appreciated again. They are being used by processed food plants to blend and upgrade Hass and other varieties lacking full maturity and flavor at this period. Growers with healthy Fuertes on low, colder ground should hang in there if they are in areas where Fuertes bear reasonably well. There still remain many consumers who favor the Fuerte, when it is properly handled, as the best tasting avocado variety.

The Pinkerton has had a temporary setback because of light crops during the recent freeze years. Its early bloom is susceptible to damage during cold winters. However, if we return to a cycle of warmer winters, its heavy production should return. It is the best of the Guatemalan varieties available during the December through February period, and is desperately needed to fill in for the disappearing Fuerte. Packers, with help from the university, have solved the problem of its slow ripening with a special preconditioning procedure.

The Gwen variety ran into the late cold winter cycle just as it was becoming established and starting to bear commercial crops. This was unfortunate timing. The young grafted and planted trees suffered severely from the cold. Being more juvenile than the Hass, to which it was compared, Gwen in many cases received unfair criticism. Growers expected too much. On the other hand, we have had an opportunity under severe conditions to learn a lot about it in many different areas.

This variety will establish itself as a mid- to late-season variety that will supplement the Hass. Its similarity to Hass, even with its green color, should create no marketing problems. Its fruit has a larger average size, and indications are that fruit size will hold up, unlike Hass, as the trees grow older. With its more consistent bearing habits, Gwen will help stabilize the roller coaster production in an industry now depending heavily on Hass alone. As with the Hass, Gwen—an A flower type—could benefit from cross pollination from a B flower type. Whitsell, a B flower type, would be a possibility. Older groves having a few Bacons or Zutanos left could leave a few scattered trees instead of removing them. In addition, the benefits from bee-assisted pollination have been proven over the years. If the grove is large enough and space is available, arrangements can

be made with commercial beekeepers—usually at no charge, and they are most cooperative.

Most experienced growers are including Gwen with Hass in their plantings. The smaller tree size of Gwen is a "plus" from the producer's viewpoint. Its fruit tends to be more protected inside the tree canopy than is the case with Hass. In San Diego County's decomposed granite soils, Gwen tends to be more vegetative, with less production in its early years, than in the deeper loam soil at the South Coast Field Station in Orange County.

The Reed, variety, because of its late spring bloom, is a consistent heavy producer. It is the variety most immune to attack by greenhouse thrips. Unfortunately, this fine quality fruit, because of its large size, has encountered marketing problems. It has been shipped east for economic reasons before it was at its maturity best to fill the void created when the marketing season ends for larger size Florida fruit. When Reed is at its best, from July till fall, it has a rough time competing with Hass, receiving about 40% less price per pound. The Reed growers could have really benefitted from an association like those organized by Pinkerton and Gwen growers to promote the sale of their varieties. In its summer season, Reed is an excellent buy for avocado lovers, and especially for restaurant and other food service users.

I am familiar with many of Dr. Bob Bergh's new varieties now being evaluated by Gray Martin, who will periodically keep growers up to date on findings. Sincere cooperators, if they qualify, can sign a non-propagation permit and receive budwood for experimental planting that will provide valuable information to the industry. Potential experimenters should make their interest known to Dr. Bergh or to Mr. Martin.

Honored Bergh Remains Active

Last April, at the World Avocado Congress in Orange, two researchers were honored for their contributions to the international avocado industry. Dr. Joe Darvis, of South Africa, received a plaque presented by Dr. George Zentmyer, recognizing his injection procedures in the control of avocado root rot. I had the privilege of presenting on behalf of the avocado industry a handsome plaque to Dr. Bergh, in recognition of his avocado breeding program. Last summer, after Dr. Bergh accepted voluntary retirement, I had the honor of presenting him with another plaque on behalf of the California avocado industry.

Do not let all this retirement talk lead you to believe that we are losing Dr. Bergh! He is very much available and in control of our avocado breeding activities, and we look forward to drawing on his talents in the years ahead.

As I close this report, I would like to implore all avocado growers to not get discouraged in these trying times. California avocado growers, for approaching one hundred years, have seen the avocado industry grow from infancy to the full-fledged industry of today. During that period, there have been other trying times, and we have survived them. We have shared our research and knowledge with other avocado producing countries, and we have reached the point where we now are learning from them. Let's do all we can to solve the water problem, keep our avocado acreage intact, and assure that our industry

remains viable.

Respectfully submitted,

Oliver Atkins

Chairman, Variety Committee of the California Avocado Society