

Avocado Breeding

BOB BERGH
Department of Botany and Plant Sciences,
University of California,
Riverside

In order to make the California avocado grower more competitive re both other foodstuffs and foreign avocado producers, we need lower per-pound production costs. This can be achieved especially by varieties with significantly more production per acre; smaller trees for lower picking costs would help further. These are the major goals of my breeding program, with high fruit quality.

That we are on the road to success is indicated by results from our S.C.F.S. randomized plots from spring 1984 topworks. Based on fruit counts, with calculations for average fruit size, and recommended tree spacing, through the second (1987 harvest) crop, 'Whitsell' had produced per acre nearly 5 times as much fruit as 'Hass', and my most promising patent, 'Gwen', just over 8 times as much as 'Hass'. A long-term 'Gwen' advantage over 'Hass' of 2:1 seems a safe forecast. The 'Gwen' trees averaged one-third the 'Hass' size, the 'Whitsell', one-sixth.

A number of interesting new selections were made during 1987. For example, the J241, with good size, appearance, peel, and flavor, hung through February 1988 from spring 1986 set. By that date, the new crop fruits were palatable although still objectionably bland.

About 3,000 replacement seedlings will be planted this spring. Our largest seedling plantings are just now beginning to come into fruiting.

Breeding for rootstocks resistant to *Phytophthora cinnamomi* was largely re-directed spring 1987 and continuing through spring 1988. 'Thomas' is now the major hybridizer of choice. Each isolation plot is being given a representative of each of the four sources of resistance: Mexican, Guatemalan, *Persea schiedeana*, *P. steyermarkii*.