

AVOCADO VARIETY TRIALS AT RIVERSIDE



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The first avocado variety orchard was planted at the University of California Citrus Experiment Station during the period of 1919 to 1923. This planting included about 30 named varieties and numerous seedling trees. The named varieties were those that were grown commercially at that time or those that appeared to have promise for commercial planting. The seedling trees were planted in an effort to find a promising new variety. Of those planted, including the seedlings, the Fuerte is the only variety now considered satisfactory for commercial planting in the intermediate and interior climatic zones of southern California. It is the leading commercial variety grown in California, and it is grown in a number of other countries.

In 1943 another variety orchard was planted at a new location on virgin land. This planting consisted largely of varieties that had been introduced during the decade prior to the time the orchard was established. Thirty-six varieties were planted, and sixteen strains of the Fuerte. Since this orchard was set out, additional new varieties have been added. This is a continuing experiment in that unsuitable varieties are to be discarded and new ones added.

These varieties are kept under observation for a sufficient period of time to determine their behavior in regard to the amount and regularity of fruit production, fruit quality, frost resistance, blooming period, and tree characteristics. Those that are found unsuitable for the climatic conditions at Riverside will either be topworked to a new variety or will be pulled out for a new replant. This trial is being conducted in cooperation with the variety committee of the California Avocado Society. The suggestions of the committee have been used in the selection of new varieties for trial.

New seedling varieties appear each year. It is not always an easy matter to determine which ones should be added to the planting. According to a check list of varieties prepared in 1950 by M. B. Rounds, Chairman of the variety committee, there were about 430 California varieties. Probably about 20 of these are of commercial importance at this time. The Fuerte alone accounts for approximately 70 per cent of the total production. So many varieties are confusing to the industry and of course make it

difficult to carry on a variety trial.

The progress of this variety trial has been reported from time to time. As of January 1, 1952, the following statement can be made:

The varieties included in the original planting that have been found to be poor producers under the conditions prevailing at Riverside are: E 28, Karen, Middleton, Leucadia, Gottfried, Frances, Nabal, MacArthur, Wurtz, Campbell, Encanada, Edranol, Taft, Hellen, Macpherson, and Kimmel. They include nearly one-half of the original varieties. Of the remaining varieties of the first planting, several are in the doubtful class and will be reported on at a later date after further observation.

The following varieties have been added to the orchard since 1943: Kim-ball, Sonora, Hartman, Courtright, Gehee, Rincon, Strong, Boley, Lodge, Silliman, Santa Barbara, Routh, Mayo, Bacon, Tantos Fuerte, Harms, Wright, Geib, Dr. White, DeBard Fuerte, Larry and Wilhorne. None of them have been under trial a sufficient period of time to draw definite conclusions. Of the varieties under trial, these now appear to have considerable promise at Riverside: Duke, Emerald, Hass and Zutano. Following is a brief description of each.

Duke (Mexican race).

The Duke is an old variety and has long been recommended for planting in the interior districts. The tree is large and moderately spreading and resistant to cold. The fruit is medium in size, somewhat pear-shaped, with a smooth green skin. The seed is of medium size and usually loose. The fruit averaged 6.4 ounces, the seed 1 ounce, and the oil content averaged 10.2 per cent for the past season. The quality is only fair. The season at Riverside is September and October. When mature the fruit drops heavily. Its main use will continue to be for planting in the home garden. The Duke may have some promise for limited commercial planting because of its earliness.

Emerald (Mexican race).

The Emerald is of rather recent origin, 1928, and came from San Diego County. The tree is tall and rather upright. It has been moderately hardy to frost at Riverside. The cold winter of 1948-49, with a low of 25° F., damaged about 20 per cent of the fruit and caused only small damage to low hanging foliage. The attractive, bright green, pear-shaped fruit is of medium size. The fruit has averaged 7.5 ounces and the seed 2 ounces plus. The oil content averaged 19 per cent for the season. The quality is good. The season is December 15 to April. This variety has borne good crops rather regularly at Riverside. The Emerald appears to warrant consideration for planting in interior districts.

Zutano (Mexican race).

The Zutano is from San Diego County and originated in 1926. The tree is tall, slender and upright. It is one of the cold resistant varieties and similar to Duke in this respect.

The fruit is pear-shaped, medium to large in size, and has a green skin. The fruit has averaged 10 ounces and the seed 2 ounces plus. The oil content averaged 14.5 per cent for the season. The quality is good. The season is December 15 to February. It is the most consistent producer of good crops of all the varieties under test. The Zutano can be recommended for the home garden and may have some commercial possibilities in the inland districts. Before commercial plantings are made, the grower should investigate market outlets.

Hass (Guatemalan race).

The Hass comes from Orange County and is one of the newer varieties. The tree is large and moderately spreading. The tree is moderately frost resistant at Riverside. During the winter of 1948-49 the tree suffered only slight leaf and twig damage. However, the fruit was severely damaged and about 90 per cent of it dropped. The fruit is medium size, the skin pebbled and leathery, green colored early in season becoming black when ready to eat. The fruit has averaged 7 ounces and the seed 1 ounce in weight. The oil content averaged 17 per cent as early as April. The quality is good. The season at Riverside is from April to August. This variety has been a consistent producer of medium to heavy crops. The Hass may be considered for commercial planting in the warm locations of the interior area.