

SUMMER AVOCADO VARIETIES

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The avocado season in Florida begins in June and extends through the fall and winter. The market is well supplied from September to December, but the supply is limited during June, July, and August. In addition to favorable market conditions, this early season has the advantage of being before the hurricane season, and it also requires a shorter period of disease control.

The available summer varieties produce fruit that is mostly sold on special markets. The fruit is large in size and has a fairly thin skin. It softens rapidly after harvest and does not ship well. In periods of very wet weather the flesh of these varieties becomes very watery and, with some varieties, free water or a dilute solution may collect in the seed cavity. This is objectionable to the consumer, and sometimes the liquid even causes the flesh to discolor or spoil. On the other hand, the flesh of some of these varieties has a tendency to become dry and mealy or gummy if this fruit is left on the tree for a long time in a very dry season. Early picking will partially avoid these problems, but in practice the fruit is frequently picked so early that the quality is poor.

In order to help the industry select the best of these summer varieties for propagation, the Sub-Tropical Experiment Station has grown and tested many varieties. Many more have recently been acquired and are being tested, and the search is still on for better varieties. The present discussion is limited to varieties which mature earlier than the Waldin.

The bearing habit of avocados is one of the important criteria for selecting varieties. Yield records for seven varieties are presented in Table 1. Although these cannot be compared directly because the trees are of different ages, they give a good indication of which varieties yield the best and how low the yields can be with some other varieties. Some of the low yields beginning in 1956 are a result of the freeze that occurred early that year and damaged some of the trees. Since the hazards of freezes and hurricanes make it difficult to base judgment of these varieties entirely on the performance of one or two specimen trees at the Sub-Tropical Experiment Station, the following discussion of individual varieties will be based on general observations. It should be remembered that the majority of the summer varieties are of the West Indian race and are sensitive to cold temperatures. Unless a variety is of the Guatemalan or Mexican race, it is not likely to grow successfully in any but the warmest areas of Florida.

Table 1. Yield Records of Summer Avocados, 1950-58.
(Yields are in pounds per tree.)

Variety	Age of graft-- 1950	No. of trees	1950	1951	1952	1953	1954	1955	1956	1957	1958
Capac	1	2	0	0	0	0	66	44	12	14	3
Gottfried	10	1	39	28	0	0	26	33	107	0	164
Hardee	8	1	264	336	279	112	366	349	0	0	43
Kalusa	4	2	151	172	128	185	221	320	0	41	0
Marfield	7	1	258	361	148	273	480	337	300	465	209
Simmonds	9	1	109	198	136	298	303	368	0	47	80
Ruehle	4	3	105	28	109	149	246	203	112	206	219

Arue. This is the earliest maturing variety in Florida. It originated in the Society Islands and was introduced to Florida by the U. S. Department of Agriculture. The fruit is large, averaging between 20 and 30 ounces. The flesh was some fiber and is only fair in quality. The skin is rough for a summer variety, and the seed is large. The blooming period begins in November and December, which accounts for the fruit maturing in May or June. A succession of later bloom results in fruit maturing on into midsummer. The Arue has borne fruit regularly at the Sub-Tropical Experiment Station, but the yields have been fairly low. The records have been kept for only a short time and so are not presented.

Biscayne. The variety originated at the U.S.D.A. Plant Introduction Station in South Miami and has been described by Lincoln (4). It matures in late August and has a large-sized, green skinned fruit. At the Sub-Tropical Experiment Station this has been a weak tree, and the skin of the fruit is too yellowish for a commercial variety.

Brogdon. This is a hardy variety of the Mexican race, possibly hybridized with the West Indian race. It was briefly mentioned by Lincoln (4). This variety has fruited as far north as Gainesville and seems to do well in the cooler sections of the Citrus Belt. The fruit is pear shaped, has a dark purple skin, and weighs between 8 and 12 ounces. Fruit of this variety begins to mature in late July, and fruit can be obtained on into September. The tree has not been too strong growing at the Sub-Tropical Experiment Station, possibly because of incompatibility with West Indian rootstocks. Trees in other locations from Homestead to Gainesville have grown well. The tree bears well, and the fruit is more resistant to anthracnose than any others of its race grown here. This variety is recommended for home planting in Central Florida (the Citrus Belt) and in South Florida, wherever the rich, nutty flavor of Mexican varieties is desired. Because of its dark purple, thin skin, it will probably have only limited commercial value.

Capac. This variety has been described by Condit (2). It ripens about the same time as Brogdon and is the same color but a little smaller, objectionably fibrous, and of lower quality. It has not borne well here (Table 1). It has nothing to recommend it.

Courtright. This variety originated in Lakeland, Florida. It is described by Brooks and Olmo (1). It is similar to Brogdon in color, size, bearing, and season but is of lower quality and is more susceptible to anthracnose disease.

Dawn. The Dawn originated as a seedling of unknown parentage in the R. O. Shore Grove, Homestead. It was first propagated about 1950. The fruit is of small size (10-14 ounces), oval shape, green color, and matures early. It is probably of the West Indian race. The variety has not been made available commercially and has not been grown at the Sub-Tropical Experiment Station.

Du Puis. The Dr. John G. Du Puis variety was introduced commercially in 1955 under the protection of plant patent No. 1369. It is described by Brooks and Olmo (1). It is a large, green fruit which matures a little before Pollock. This variety has not been grown at the Subtropical Experiment Station.

Etta. This is a large-fruited variety described by Lincoln (3). The season is about the same as Biscayne, and this variety also tends to have too yellowish a skin color. It has not been grown at the Sub-Tropical Station.

Fuchs. This is the standard early variety and has been grown commercially for many years. It does not develop good quality until late July, and it does not ship well at this time. Because of its moderate bearing habit and its poor shipping quality, it has not been recommended for commercial planting. It is described by Wolfe *et al.*, (6).

Gottfried. This is a purple skinned Mexican type of avocado described by Wolfe *et al.*, (6). It resembles Brogdon but is not as high in quality. Because of low yields (Table 1), only fair quality, and susceptibility to anthracnose, it is not recommended.

Hardee. This is a purple skinned variety of the West Indian race. It is described by Wolfe *et al.*, (6). Although it is a heavy bearer (Table 1), it has the same defects as Fuchs in being difficult to handle in shipping-. It is grown for a specialty market which likes the red-purple color of the skin.

Kalusa. This variety ripens about the same time as Pollock. It is described by Wolfe *et al.*, (6). Although it is fairly good in quality and bears well (Table 1), it is difficult to handle and ship and has not proved to be superior to other varieties of this season, such as Simmonds.

Marfield. This variety is similar to Fuchs. It matures a little later than Fuchs and the quality is only fair. Yields records are presented in Table 1. It has been described by Wolfe *et al.*, (6).

Nadir. This is a West Indian variety, possibly hybridized with the Guatemalan race. It has fairly small fruit, which ripen a little ahead of Waldin. The fruit has a good green color and is pear-shaped but is only fair in quality. The main interest in it has been because of its 10 to 16 ounce size and early season of maturity. It has not fruited yet at the Sub-Tropical Station. It originated as a sprout from the rootstock of a Simmonds tree in the Frank Upchurch grove near Homestead, Florida. It was first propagated about 1943.

Pollock. This standard variety needs no description. It is one of the favorite varieties of Florida. Unfortunately, it has the defect of being a very shy bearer. Because of the large

size and shy-bearing habit, it is of limited commercial value. It is described by Ruehle (5).

Ruehle. This variety has been grown for many years under the Sub-Tropical Experiment Station Number 27-1. As it is soon to be described and released by the Florida Agricultural Experiment Station, it is not described here. It matures during the same season as Pollock but is smaller in size and bears heavily. It will be released as a commercial variety.

Russell. This variety originated at Islamorada, Florida, and has been described by Wolfe *et al.*, (6). It is grown mostly as a curiosity because it has a neck which is often 6 or 7 inches long and a total length up to 12 inches. Its season is a little ahead of that of the Waldin. It bears fairly well and is of good quality. It has not yet fruited at the Sub-Tropical Station.

Simmonds. This is an old variety that is similar to Pollock but the fruit is a little smaller. It bears much more heavily than Pollock, but the tree is not so strong a grower. It is described by Wolfe *et al.*, (6).

For commercial plantings, the Simmonds and Ruehle would be the most highly recommended of the summer varieties. Although there would probably be a good market for Arue and Nadir, their quality does not recommend them. There is a good market for Pollock, but it is doubtful whether high enough yields can be obtained to be profitable. Commercial varieties are satisfactory for the home garden, but Brogdon and Russell can be recommended for this purpose also. Arue might be considered where something very early is desired or needed. Brogdon is especially recommended for Central Florida because of its hardiness to cold. Russell is recommended as a curiosity fruit, which is sometimes 12 inches long, and also because of its high quality. Pollock probably will be continued as a home garden fruit because it is so well known and popular.

SUMMARY

The poor quality of summer ripening avocado varieties are discussed and 18 varieties are briefly described. The Simmonds and Ruehle varieties are recommended for commercial plantings. The Brogdon variety is recommended for home gardens in Central Florida, where frost is a hazard, and in South Florida for those who like the rich flavor of the Mexican race of avocado. Russell is also recommended for the home garden in South Florida.

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