

THE AVOCADO IN QUEENSLAND, AUSTRALIA

George H. Schulz

George H. Schulz grows avocados and pineapples, and operates an avocado nursery at Glasshouse Mountains, Queensland, Australia.

Avocados are grown in eastern Australia from the northern part of New South Wales to as far north as Townsville in northern Queensland, a distance of approximately 1000 miles, mostly within 40 miles of the seacoast. The climate ranges from subtropical with occasional light winter frosts in the lowlands of northern New South Wales to tropical with absence of frost in northern Queensland.

The four main varieties grown in Australia are: Hass, Fuerte, Rincón and an Australian introduction Sharwil.

The Hass does well in all climatic zones. Fuerte is a good bearer and seems to bear better here than in other parts of the world. Sharwil, a seedling introduced by Col. Frank V. Sharpe, looks like a cross between a Fuerte and Hass. It is a green skin variety with a small seed, maturing in September and October, just before the Hass. Rincón which is a very heavy bearer ripens after the Fuerte.

These Four varieties give us a picking time from April to January. Zutano is being tried out experimentally in Queensland, and northern New South Wales, ripening a month before Fuerte. Edranol, Nabal, Anaheim are grown, but there is a definite swing over to the four varieties mentioned above.

The yield per acre varies with the rainfall. Our average rainfall is 50-70 inches, depending on location. Very few orchards are irrigated. Should we have a wet June and July, when the avocados are setting, we usually get a light crop of fruit. On the other hand if it is dry during the setting period we always have a heavy crop. It seems to me that the heavy rain washes the pollen out of the flowers, thus spoiling our crop for that year. I have seen, in a good season, Fuerte carrying up to 3 tons per acre and even a heavier' crop on Hass trees.

The price the grower receives for his fruit is governed by whether avocados are plentiful or scarce on the market. In May, June and July when Fuerte fruit is in good supply in addition to a number of seedling fruits, the price drops to £1 per tray for Fuerte and to about 10 shillings per tray for seedlings. (One Australian £ equals about 32.25 U.S. One shilling equals 11.25 cents. A tray equals about 16 pounds avoirdupois.) During the summer months when the avocado is scarce on the market the price rises sharply.

The Hass, which is a new variety in Australia, is now beginning to be a favorite. It has everything except eye appeal, because of the dark skin when ripe. Nevertheless, the public is getting used to the appearance, thus creating a good demand. With only a few Nabal on the market, this leaves a scarcity of avocados, resulting in a high price of £3-4

per tray for Hass. With heavy plantings of Hass during the last 2 or 3 years this lag will soon be caught up with.

There are many small growers scattered over hundreds of miles. All growers pack their own fruit, and take them to the nearest railway station. The Committee of Direction (a fruit growers' organization) runs a fruit train twice a week, interstate to Sydney, Melbourne and Adelaide. The fruit is sold by fruit agents charging 10% commission.

Avocado root rot (**Phytophthora cinnamomi**) does not seem to be a problem in Queensland yet. Most of our soils where avocados are grown are very well drained. The best soil is a red sandy soil, (basaltic in origin) with excellent drainage characteristics. This soil is found along our coastal strip, which grows a large amount of our lovely tropical fruits.

At present we have no serious diseases to worry us. The only insect problem is the Australian fruit fly (**Strumeta trioni**). This stings the fruit when it is about half-grown, leaving a slight mark on the thin skin varieties. The acid in the fruit seems to kill the young larvae, thus stopping development. With the thick skinned varieties such as Hass and Nabal, the fruit fly leaves a small mole under the skin about the size of a pea. The fruit fly does breed up in our tropical fruits such as citrus, papaya, and mango.

The method used for propagation in Australia is mainly the side graft or tip graft. With owning my own orchard as well as being in the nursery business, I find that tip grafting in a hot house is satisfactory in all respects. Good quality trees can be uniformly grown at reasonable cost. In addition to the ability to grow good quality trees, by the ability to grow trees from seed to orchard planting in seven months. With the bare-root method the decision as to what varieties to grow has to be made eighteen months to two years in advance of planting an orchard, while, with the tip graft, the desired varieties can be grafted just seven months before the time set for planting.

My own experience with rootstock (in my district) is that the pure Mexican stock seems to be more susceptible to a form of stunting of uncertain nature, and go out at an early age. Trees grown on Guatemalan or a cross between Mexican and Guatemalan seem to bear better and are more vigorous.