

Avogrey® avocados: New selections from New Zealand

David Grey¹

Introduction

Avocado (*Persea americana*) is a tree belonging to the family Lauraceae, and likely originating from south central Mexico. It is thought that originally the fruit may have been eaten whole and the large seed dispersed by now extinct megafauna, including giant ground sloths.

The avocado tree has a long history of cultivation in Central and South America, likely beginning as early as 5,000 BC. Nowadays avocados are a popular fruit with increasing interest and demand in many countries. World production of avocados has been estimated at 5.9 million tonnes (2017).

Persea americana 'Hass' accounts for 80% of commercial plantings in the world. 'Hass' originated in 1926 from seed planted by R.G. Hass at 430 West Road, La Habra Heights, California.

The New Zealand avocado industry

From modest beginnings, the avocado industry of today is big business.

According to the NZ Avocado Growers Association Inc. and NZ Avocado Industry Ltd., there are 1,400 growers producing nearly 40,000 tonnes of avocados on 4,000 hectares (2019–2020). This represents NZ\$160 million or more in domestic and export returns.

'Hass' is the leading cultivar in New Zealand, with 'Reed' also grown to extend the season.

Avocado growing by the Grey family

The Grey family are pioneers of selecting and growing avocado in New Zealand, and this has been intergenerational.

Around 1920 the Department of Agriculture distributed avocado seeds to growers in various parts of New Zealand. Some of those seeds were planted by Charles Grey (1876–1952), on his property Waimarae Orchards at Ormond, near Gisborne, and three trees were established. One of these trees produced fruit of good quality, which was first sold in 1939 in Auckland markets, under the name 'Ormond'.

By this time Charles' son, Leonard (Len) Grey (Fig. 1)², was establishing contacts with avocado growers and nurseries in California and during the 1940s imported about twenty avocado cultivars for trial and assessment. Several of these, including 'Fuerte' and 'Nabal', grew and cropped well, but others, including 'Hazzard', 'Hellen', 'Jalna', 'Linda', 'Mary Martin', 'Puebla', and 'Queen', proved to be unsatisfactory and discarded. In the late 1950s the 'Hass' variety was imported, and soon proved to be the best cultivar for New Zealand conditions.

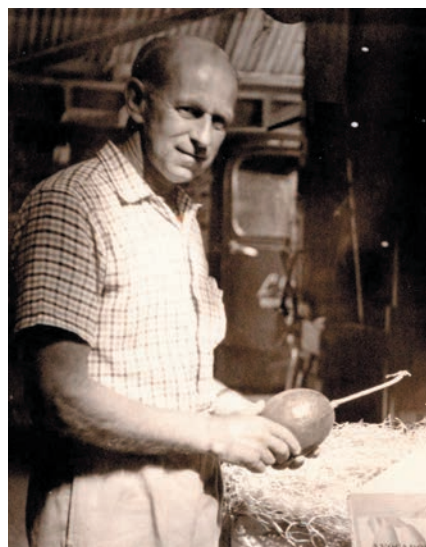


Fig. 1 Len Grey packing avocados c. 1963. Photo courtesy of David and Judi Grey.

Waimarae Orchards was, until the mid-1960s, the only commercial avocado producer in New Zealand and continued until 1988 when Cyclone Bola effectively killed trees already weakened by root rot.

In the meantime, from 1968 Len's son David Grey, with wife Judi (and initially with brother Bruce) developed a new property, named Avogrey Orchard, at Waerenga-a-Hika, 10 km from Gisborne (Fig. 2). Avocados were planted there from 1970 along with annual crops, then later citrus and tamarillos. Unlike the avocados grown at Waimarae Orchards, trees at Avogrey Orchard survived Cyclone Bola in 1988 and continue to thrive.

Avogrey® avocados

Over the years, David felt that the 'Hass' avocado was not the ideal cultivar for New Zealand. While 'Hass' grows and crops well, and the season fits export opportunities to Australia and Asian markets, quality issues often arise. David's horticultural experience suggested to him that 'Hass' is a "dry climate avocado being grown in a wet climate" and that New Zealand's relatively high rainfall and high humidity was creating greater disease pressure.

Since 1999 David has been trialling and selecting new green-skin cultivars using open-pollinated seedlings of the cultivar 'Sharwil' as their starting point. 'Sharwil' is an Australian-raised selection marketed as a gourmet avocado because of its exceptional fruit quality, but the tree crops poorly under New Zealand conditions. 'Sharwil' is also noted to be resistant to pests and diseases.

¹ Avogrey Orchard, 599 Bushmere Road, Waerenga-a-Hika, RD 1, Gisborne District, New Zealand; info@avogrey.co.nz

² Leonard Grey (1916–1993) was awarded an MBE in 1990 for "services to horticulture" and the Grey family was awarded the Fruit Industry Bledisloe Cup in 1997, four years after Len's death.



Fig. 2 David and Judi Grey, alongside one of their new avocado selections. Photo courtesy of the *Gisborne Herald*.

Avogrey Orchard has named three new green-skin cultivars, selected for superior fruit quality and yield: Avogrey® AVO009 'GreyStar' (Fig. 3), Avogrey® AVO010 'Eclipse', and Avogrey® AVO011 'Titan' (Fig. 4). Astronomy names are used to describe their "out of this world" qualities: yellow flesh colour, dense, creamy texture, nutty taste, and with no strings or discoloration. All are protected by Plant Variety Rights and are available to commercial growers only, with royalty and marketing controls.



Fig. 3 Avogrey® 'GreyStar', one of the new avocado selections raised at Avogrey Orchard. Photo courtesy of the *Gisborne Herald*.

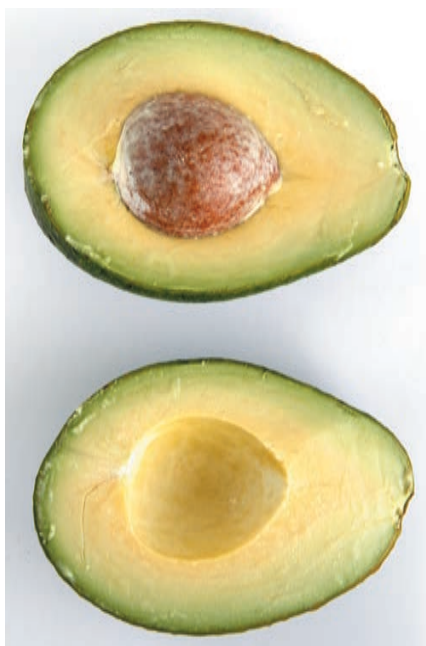


Fig. 4 Avogrey® 'Titan', with a large proportion of edible flesh and a relatively small stone. Photo courtesy of Avogrey Orchard.

Avogrey® 'GreyStar' is seen as the main selection, with superior flavour and a long season of production. Avogrey® 'Eclipse' is probably a cross between 'Sharwil' and 'Reed', selected for producing late in the season. Avogrey® 'Titan' has the largest fruit size of the three selections (often more than 700 g compared to 400 g for the other two selections).

These new avocados are attracting widespread interest, from consumers eager to try the new taste, and from growers to establish orchards of the trees in New Zealand, Australia, and South Africa. So far about 4,000 trees are on order, with 1,000 planted in 2020 (plus 200 of various ages established on Avogrey Orchard).

With the right marketing, perhaps these new selections will result in diversification of the New Zealand avocado industry, just as we are seeing in the kiwifruit industry with cultivars supplementing the original 'Hayward' selection.

Websites

(accessed December 2020)

avocadosource.com: variety database: www.avocadosource.com/AvocadoVarieties/QueryDB.asp.

Avogrey: www.avogrey.co.nz.

New Zealand Avocado: <https://industry.nzavocado.co.nz/>.

RNZ: New varieties of avocado developed in Gisborne: www.rnz.co.nz/national/programmes/afternoons/audio/2018775184/new-varieties-of-avocado-developed-in-gisborne.

The Gisborne Herald: 'Rolls Royce of avocados': www.gisborneherald.co.nz/local-news/20201130/rolls-royce-of-avocados/.

Wikipedia: avocado: <https://en.wikipedia.org/wiki/Avocado>.