

## AVOCADO PRODUCTION IN SOUTH AFRICA

S Kremer-Kohne and JS Kohne

Merensky Technological Services, Westfalia Estate, P.O. Box 14,  
Duivelskloof 0835, South Africa

### Avocado production

The main avocado production areas are concentrated in the north-east of the country, in the latitudes ranging from 22° to 30°S. This region is characterised by warm, wet summers and cool, dry winters. The high summer precipitation (>1000 mm per annum in most areas) and warm temperatures contribute to a high incidence of root rot caused by *Phytophthora cinnamomi*. The phosphorous acid injection technique for root rot control was developed at Westfalia Estate (Darvas *et al.*, 1984), to protect the susceptible seedling rootstocks used at the time. New plantings are established on clonal rootstock, mainly Duke 7, which is known to have some tolerance to root rot.

According to the last tree census (SAAGA, 1995) the area under avocado production covered some 10 800 ha compared to 9 000 ha in 1991. The total crop for 1997, which was an 'off-year' for the South African avocado industry, was about 45 000 ton of which about 55% was exported. The present season, which is an 'on-year', is estimated to result in a total crop of approximately 70 000 t. The predominant cultivars are Fuerte and Hass, which comprise 47% and 31% respectively of the area under production. However, on a tree number basis, there are slightly more Hass than Fuerte trees. This indicates that the majority of recent plantings are Hass, while Fuerte orchards are mostly made up of trees older than ten years.

There are nine registered avocado nurseries which participate in a plant improvement scheme. Over the past five years, these nurseries have sold approximately 300 000 young avocado trees per annum, mostly to the South African market. In addition, the export of avocado nursery trees on clonal rootstocks has recently become an increasingly important

business for some of the leading nurseries.

### **Organisation of the industry**

The South African Avocado Growers' Association (SAAGA) presently has about 500 grower members, who account for approximately 96% of the national avocado production. As there is no central exporting board, exporting companies operate in competition, and SAAGA endeavours to coordinate these in order to regulate supply.

SAAGA staff also coordinate research by identifying priorities (in cooperation with farmers and researchers) and backing symposia and publications. Three extension officers act as a link between producers and researchers, in order to keep interested parties (growers, packers, exporters) abreast of developments in the industry. They also represent the producers in negotiations with the Government or with private companies, in addition to generally encouraging avocado consumption. During the export season, one of SAAGA's technical officers is stationed in Europe to monitor fruit quality and provide feedback to growers and exporters.

Of the total avocado production, approximately 55% is exported, while 35% is consumed nationally and 10% is processed into oil. Export is both by air and by sea; the main route being overland to Cape Town (1 800 km) in refrigerated trucks, and then shipment by sea to Europe. The proportions transported by sea and by air, roughly 50-50 until 1985, changed dramatically as a result of advances in postharvest - technology, and 97% is now exported by sea. Air transport has stabilized at around 3% of total exports, and this takes place in the beginning and towards the end of the South African avocado export season.

South African avocados are exported to France, United Kingdom, Germany, Switzerland, Scandinavia and other countries, including some middle and far east destinations recently.

To supply the market with a product in good condition, a high quality fruit is required which is correctly packed and ventilated, and backed by an adequate transport and marketing

infrastructure. Refrigeration must be uninterrupted until arrival on the distant market, a journey which usually results in fruit arriving overseas about three weeks after being picked. The temperature of refrigeration depends on the dry matter contents of the fruit at harvesting. As soon as possible after picking avocados, pre-cooling to 16-18°C is advisable before packing. Immediately after packing, it is essential to cool the fruit down to a pulp temperature of 7-8°C before transporting the fruit. Batches of fruit destined for export which have not been cooled down to a pulp temperature of 7-8°C before shipment, will not be authorized by the inspector of PPECB (Perishable Products Export Control Board of South Africa).

The European demand for Hass avocados, particularly in France and the UK, is increasing, with Hass often fetching higher prices than green skin cultivars. The profitability of the avocado trade has been affected by increasingly unstable market prices, with the majority of the South African crop being exported from April to September, competing with avocados from Israel, Spain, Mexico and Kenya at the start and end of the South African season.

As transport and marketing account for approximately two thirds of the total costs and production for one third, the profitability of the avocado industry in South Africa depends in the first place on controlling transport and marketing costs, and secondly on controlling production costs. The prospects of the South African avocado industry depend on increasing the export yield per hectare in order to remain competitive. This will entail new production methods, e.g. high-density hedgerow cultivation, in order to achieve high annual yields.

## References

Darvas, J.M., Toerien, J.C. & Milne, D.L., 1984. Control of avocado root rot by trunk injection with Phosethyl-AI. *Plant Disease* 68: 691-693.

SAAGA, 1995. South African Avocado Growers' Association Avocado Tree Census.