

EVALUATION OF NEW AVOCADO SCION AND ROOTSTOCK CULTIVARS

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ABSTRACT

An update on the evaluation of new avocado scion and rootstock material is given. Promising scions are Shepard, Pinkerton, Gwen, T142 and BL122. The rootstocks under evaluation are Barr Duke, Thomas and D9, grafted with Hass. Apart from imported rootstocks, local seedling rootstocks of trees with outstanding yield records are also being evaluated.

INTRODUCTION

Smith (1993) reported on the horticultural performance of imported scion and rootstock cultivars at Westfalia Estate. In the meantime, another year's data became available and some new cultivars and rootstocks have been included in this study.

NEW SCION CULTIVARS

GREEN SKIN CULTIVARS

Shepard

According to Whiley et al (1990) Shepard is ready to be picked three to four weeks earlier than Fuerte. However, preliminary observations with Shepard grown at Westfalia Estate do not point to Shepard being earlier than Fuerte. The fruit is pear-shaped with a dark green pebbly skin. Greater resistance to post-harvest diseases than Fuerte is reported from Australia (Whiley et al, 1990). The flesh is butter yellow in colour and rated well with a taste panel at Westfalia Estate. Further evaluation is warranted.

Pinkerton

Under South African conditions, this cultivar tends to flower over a very long period of up to five months. Fruit set over this long period leads to problems with selection of mature fruit during harvest, which results in fruit quality problems (Sippel et al, 1992). The pear-shaped fruit is dark green in colour with a leathery skin of medium thickness. According to Schutte (personal communication) this cultivar has good internal quality and deserves further evaluation.

Gwen

At Westfalia Estate, Gwen fruit seems ready to be picked at the same time as late Hass fruit. Gwen is prone to shriveling and lenticel damage which is not masked, as is the

case with Hass when turning black. The fruit has pronounced vascular bundles. Despite these problems, a semi-commercial Gwen planting is warranted to test its reputed high yield potential.

BLACK SKIN CULTIVARS

BL122

This is one of the selections which shows potential as a new black skin cultivar. Topworked trees at Westfalia Estate are bearing their first crop and will be evaluated in the 1994 season. At this stage the yield seems high with a very good size distribution. T142

Trees are vigorous and slightly spreading. At Westfalia Estate the harvesting period for T142 seems to be from July to September (Smith, 1993). Fruits are large (between 400 and 500 g), and fruit quality is satisfactory. T142 shows potential and further tests will be performed.

NEW ROOTSTOCK CULTIVARS

IMPORTED ROOTSTOCKS

Four rootstocks, grafted with Hass are being evaluated at Westfalia Estate (Smith, 1993). Approximately one hectare of each rootstock has been established, at two sites. The rootstocks used are Barr Duke, D9, Thomas and as a control, Duke 7. G755, which was previously included at one site, has been excluded from the trial after confirming earlier indications of poor yield (Köhne, 1991).

Stem circumference of new rootstocks is measured annually (Table 1). Thomas and Duke 7 are more vigorous than Barr Duke and D9. Smith (1993) reported about a first small crop being harvested in 1992, when these Hass trees were two years old. Due to severe drought there was no crop in 1993. The next crop will be harvested in June 1994, and will provide more data.

LOCALLY SELECTED ROOT STOCKS

Rootstocks derived from 15 top producing Fuerte trees (Smith et al, 1993) at Westfalia Estate, have been used to produce clonal trees with the same rootstock and scion as the original trees. These copy trees are to be planted later in 1994 in close proximity to the original trees, to test if their outstanding performance can be repeated.

TABLE 1
Mean stem circumference of different rootstocks grafted with Hass.

ROOTSTOCK	1992	1993	1994
Duke 7	32.9	36.8	43.3
Thomas	31.8	37.0	42.8
G755	37.2	-	-
Barr Duke	28.8	34.2	39.9
D9	27.9	33.1	39.6

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