BREEDING AND FIELD EVALUATION OF NEW ROOTSTOCKS FOR INCREASED 'HASS' YIELDS AND RESISTANCE TO ROOT ROT IN SOUTH AFRICA

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Vegetatively propagated rootstock selections grafted with 'Hass' were evaluated for their root rot tolerance and yield potential in an orchard heavily infested with *Phytophthora cinnamomi*. These were compared to the commercial standard rootstock Duke 7. The first orchard (established 1996) contained rootstock selections from Israel, while the second orchard (established 1998) contained root rot tolerant rootstock selections from Westfalia Estate, South Africa. Tree condition declined in general, and the ranking order of the rootstocks remained consistent during the period 1999 to 2002. In the first orchard, 'Hass' trees on various rootstocks were rated from the healthiest to the poorest: VC 805, VC 256, VC 801, VC 207, VC 218, VC 241, Duke 7, Edranol seedlings and VC 225, with rootstocks VC 805, VC 256 and VC 801 being significantly healthier than Duke 7. However yields were extremely low for 6-year-old 'Hass' trees and the evaluation was therefore discontinued in 2002. In the second orchard, 'Hass' trees on various rootstock selections were rated from the healthiest to the poorest: Merensky 2, Merensky 3, V100, Duke 7, Edranol seedlings, Merensky 4, Gordon and Jovo. Merensky 2, Merensky 3 and V100 out-performed the Duke 7 rootstock in terms of yield and root rot resistance.

The avocado rootstock breeding program was initiated in the early 1990s. So far, three root rot resistant seedlings were selected for field evaluation. These were propagated, grafted with 'Hass' and planted in new orchards in 2000 and 2003 respectively.