SEMI-COMMERCIAL EVALUATION OF SMARTFRESH™ WITH SOUTH AFRICAN EXPORT AVOCADOS IN STATIC CONTAINERS AT A PACKINGHOUSE DURING 2002

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During the 2000 and 2001 seasons, intensive laboratory testing was done with 1-methyl cyclopropene (1-MCP), an ethylene blocker, on avocado fruit. All the major South African cultivars were tested and aspects such as storage potential, respiration rate and fruit quality upon ripening were covered. The results were extremely positive and the manufacturer (Rohm & Haas, USA) has subsequently registered the powder formulation of the product in South Africa at an application rate of 500 ppb and an exposure period of 12 hours. During 2002, a tablet formulation of 1-MCP, SmartFresh™ was tested under semi-commercial conditions on 'Fuerte' and 'Hass' at the Westfalia packhouse in Tzaneen. The product was applied in a static reefer container. SmartFresh ™ was found to effectively inhibit the ripening process of 'Hass' and 'Fuerte' under the semi-commercial conditions described above. The inhibition of ripening was more intense in 'Fuerte' than in 'Hass'. Furthermore, the inhibition of ripening was more intense in the smaller count 18 fruit than in the bigger count 10-12 fruit. The increase in storage life was found to be comparable to that attained with controlled atmosphere storage (CA) when Smartfresh ™ was applied at the optimum dosage. The most appropriate packhouse based dosage regime for all sized fruit of both cultivars was 300 ppb applied for 16 hours. The period may be prolonged to 36 hours if done in a refrigerated truck *en route* to the port of export and the treatment must preferably be started within 3 days after harvest.