

Title Harvest and post-harvest apple fruit quality following applications of kaolin particle film in South African orchards

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Abstract

Sunburn on apples in the Western Cape region of South Africa can result in yield losses of up to 50%. Application of kaolin-based particle film (Surround[®] WP) increases leaf and fruit surface reflectivity, thus potentially reducing heat load and sunburn. Trials were performed during 2002/2003 and 2003/2004 to assess the effectiveness of kaolin particle film in controlling sunburn on 'Granny Smith', 'Braeburn', 'Fuji', 'Royal Gala' and 'Cripps' Pink' apples. Fruit quality and ripening were monitored following 1–4 months in regular atmosphere cold storage at -0.5°C . Sunburn on exposed fruit was significantly reduced in 'Granny Smith' and 'Fuji'. Kaolin treatment improved fruit colour of 'Granny Smith' and 'Royal Gala', and delayed starch conversion in 'Granny Smith' at harvest and during the early storage period but not thereafter. Incidence of watercore at harvest was significantly reduced by kaolin treatment, but this disorder disappeared during cold storage in both treatments. There were no effects on skin anthocyanin or phenolic concentrations in any cultivar compared to unsprayed fruit.