

IMPACT OF RAINFALL PRIOR TO HARVEST ON RIPE FRUIT QUALITY OF 'HASS' AVOCADOS IN NEW ZEALAND

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In order to optimise export quality of New Zealand avocados the New Zealand Avocado Industry Council Ltd sets guidelines for harvest conditions, which include rainfall. The guidelines currently specify that fruit should not be harvested if more than 5 mm of rain has fallen within the previous 24 hours. High fruit turgidity has been shown through *in vivo* experiments to increase the susceptibility of lenticels to handling damage (Everett et al., 2001). However, the level of rainfall required to impact on susceptibility to handling damage and ripe fruit quality under field conditions has not been determined. Field experiments were conducted in the 2002/3 season to determine the impact of different amounts of rain in the 24 hours preceding harvest on both susceptibility to handling damage and ripe fruit quality. Experiments were timed to coincide with forecast rain following a dry period of 2-3 weeks. There were 3 trials carried out in October 2002, December 2002 and February 2003. In each trial a control sample of 200 fruit were collected prior to the forecast rain event. Half of these fruit were picked and placed directly into trays, while the remainder were jostled using a standardized procedure to simulate handling during the harvesting process. Further samples were then collected after various periods of rain, and a final sample at least 24 hours after it had ceased raining. Fruit were coolstored for a period of 28 days at 4-5°C, then ripened at 20°C and fruit quality assessed at eating ripeness. The impact of rainfall at harvest on ripe fruit quality and susceptibility to handling damage will be discussed.

Reference:

Everett, K.R., Hallett, I.C., Yearsley, C., Lallu, N., Rees-George, J and Pak, H.A. (2001). Morphological changes in lenticel structure resulting from imbibition and susceptibility to handling damage. *New Zealand Avocado Growers Association Annual Research Report* **1**: 47-52.