Abstract

Fruit to fruit variability is inherent in horticulture and can contribute to uneven ripening and presentation of fruit of inconsistent eating quality to the consumer. This is often the case in controlled ripening or conditioning of peaches and nectarines, whereby a sub-sample of the population does not ripen as quickly as the majority of the fruit resulting in fruit of mixed softness/ripeness at the retail store. This can lead to an unacceptable eating experience and poor return sales. A non-destructive measure of fruit firmness (the Sinclair iQ™ system) was assessed as an alternative to the manual destructive penetrometer to develop a model to predict when the fruit from a 'Ripe and Ready' program (controlled ripening/conditioning) were ready for retail distribution. As expected there were large variations in firmness among the fruit of each cultivar following commercial harvest. Fruit firmness data from the Sinclair iQ™ system during conditioning was also modelled to predict the required length of conditioning from the initial firmness readings. This work was conducted over two seasons and showed important seasonal differences. The model is being further evaluated and refined. Its commercial application would be of significant benefit for the peach and nectarine fruit conditioning programs by ensuring fruit at a consistent stage of ripeness are offered to consumers.