Abstract:

Chilling injury or low temperature breakdown and physiological pit occur later in storage and cause significant losses in GOLD kiwifruit (*Actinidia chinensis* 'Hort16A'). This work investigated influence of maturity on both disorders and evaluated alternative storage options. Fruit of different maturities (described by flesh colour) were stored for 24 weeks at 1) 1.5 °C, or 2) 3 °C or 3) 3 °C for 12 weeks then 1.5 °C for 12 weeks. Physiological pit in fruit was greater after longer storage time, for fruit that were more mature (yellow) when harvested and fruit stored at 1.5 °C. Physiological pit was 30 times more likely to occur during storage at 1.5 °C than during storage at 3 °C. Chilling injury in fruit was greater after longer storage time, for fruit that were greener when harvested and fruit that were stored at 1.5 °C. An extra week in storage increased the likelihood of chilling injury by nearly 20 %. The higher risk of pit in more mature fruit and chilling injury in less mature fruit narrows the optimal harvest window for fruit. Effectively managing maturity at harvest will be essential to ensuring fruit develop optimum storage potential and that fruit loss during storage is minimised.