

Abstract

Development of poor fruit colour in “Pink Lady™” apple limits its export potential. Delayed harvesting improves fruit colour but may have adverse effects on fruit quality and storability. The effects of delayed harvest dates and low storage temperature on fruit colour, quality and storability were investigated. The fruit were harvested from trees grown at Perth Hills and Donnybrook in Western Australia at commercial harvest date (CHD); and 14, 28 or 42 days after CHD and stored at $0 \pm 1^\circ\text{C}$ for 0, 45, 90 or 135 days. Red blush on the fruit, CIE L*, a*, b*, chroma (C*) and hue angle (H°), and the concentrations of chlorophylls and total anthocyanins in the fruit skin were estimated. Total soluble solids (TSS), titratable acidity (TA) and fruit firmness were also recorded. Fruit blush percentage, concentration of total anthocyanins and C* were increased and H' was decreased significantly beyond the CHD at both locations. Firmness, TSS and TA were significantly decreased beyond the CHD for fruit from both locations and a similar trend was found in all the low storage temperature periods. We found that harvesting can be delayed maximum for two weeks after CHD for an incremental improvement of fruit colour in “Pink Lady™” and the fruit can be stored at a low temperature for maximum 90 days with acceptable fruit quality parameters including fruit firmness, TSS and TA.