Abstract:

Temperature equilibration of kiwifruit is a requirement for many procedures in scientific studies and commercial postharvest management. Comparison between fruit attributes measured after different equilibration procedures is difficult because very little is known about the effects of package and equilibration time on measured fruit attributes. We recorded temperature and weight loss of 'Hayward' kiwifruit (Actinidia deliciosa (A.Chev) C.F. Liang et A.R. Ferguson 'Hayward') packed in moulded pulp trays (M tray; interleaving tray commercially used in 20kg apple packages) or single-layered kiwifruit trays with a polyliner (K tray) after shifting from a cool storage (0.5°C, 80-90% RH) to an air-conditioned laboratory (20°C, 50-60 % RH). Seven eighth temperature equilibration time (t7/8) and fruit weight loss were calculated for fruit in each package. Fruit colour (L C H colour space), ethylene production rate, respiration rate, flesh firmness, and soluble solids content were measured on sub-samples in cool storage and in the laboratory at planned intervals. The results indicate that package and equilibration time affect fruit temperature and water condensation over the fruit surface, which in turn affects fruit colour, respiration rate and flesh firmness. It is recommended that fruit colour be measured when fruit is dry. Respiration rate should be measured after three times the t7/8. Flesh firmness should be measured after two times the t7/8. Soluble solid content can be measured at any time during the equilibration. Following these recommendations will ensure a more accurate characterisation of Hayward kiwifruit.