Postharvest colour dynamics of 'Bing' and 'Newstar' sweet cherry

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Abstract

In sweet cherry, exocarp colour is important to consumer perception of quality. Besides the intrinsic quality of each cherry, batch homogeneity (size and colour) is recognized as a parameter of commercial quality. During the packing process, homogeneity is improved by grading and selection. However, fruit heterogeneity in the orchard might result in differential quality dynamics during postharvest. The objective of this study was to analyse the dynamics of 'Bing' and 'Newstar' sweet cherry fruit colour during postharvest as affected by between-trees variability. Fruits of colour 4 (CTIFL colour chart) were collected for objective colour parameters and indices from harvest through multiple postharvest samplings from cold storage. Colour was measured with a colorimeter Minolta® Cr 400 and the HUE angle, Colour Difference, Colour Index and Chroma were calculated. There were no clear patterns in the changes of HUE angle and Colour Index during postharvest. In both cultivars, there were significant differences between trees in Chroma and Colour Difference at harvest. Chroma decreased and Colour Difference increased linearly in time, but there were differences in the models fitted for each tree. Between-tree colour variability at harvest and variable colour dynamics during postharvest handling may constitute a restriction for obtaining homogeneous batches at sale points.