The Effect of Mandarins (Citrus spp.) Scions on Peel Components and Juice Quality

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Abstract

The effects of mandarin scions on peel components and juice quality parameters were investigated in this study. Peel flavor components were extracted by using cold-press and eluted by using n-hexane. Then all analyzed by GC-FID and GC-MS. Total soluble solids, total acids, pH value, ascorbic acid as well as density and ash were determined in juice obtained from mandarin scions. Twenty-seven, Twenty-seven, thirty-five and forty peel components in Unshiu, Clementine, Minneola tangelo and Lee varieties respectively including: aldehydes, alcohols, esters, monoterpene, sesquiterpenes and other components were identified and quantified. The major flavor components were linalool, limonene, γ-terpinene, (E) β-ocimene, β-myrcene, α-pinene. Among the four scions examined, Lee showed the highest content of aldehydes and Clementine showed the highest content of TSS/TA. Since the aldehyde and TSS/TA content of citrus are considered as two of the more important indicators of high quality, variety apparently has a profound influence on citrus quality.

Key words: Flavor components, Juice quality, Peel oil, Mandarin scions, Citrus spp.