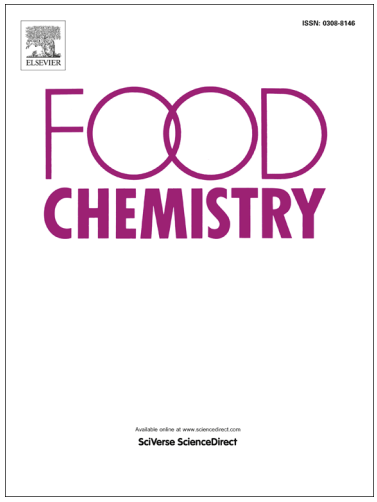

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Variations in chlorophyll and carotenoid contents and expression of genes involved in pigment metabolism response to oleocellosis in citrus fruits

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Abstract

Yellow or green spots related to pigment changes found at the early stage of oleocellosis can cause severe economic damage. However, little information exists on pigment changes during oleocellosis development, so this study investigated the main changes in chlorophyll and carotenoid metabolites and related gene expression. Among the variations, the increased contents of chlorophyll a and b, and decreased concentrations of lutein, β-cryptoxanthin, zeaxanthin, violaxanthin, α-carotene and β-carotene were responsible for chlorophyll and carotenoid changes, respectively. Regarding gene expression, the up-regulated genes,