

Impact of maturity stage at harvest on the main physicochemical characteristics, the levels of vitamin C, polyphenols and volatiles and the sensory quality of Gariguet strawberry

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European Food Research and Technology 247: 37–49. (2021)

Abstract

In this study, quality parameters (color, soluble solids content, titratable acidity), levels of sugars, organic acids, vitamin C, polyphenols and volatiles were determined during two successive years in Gariguet strawberries harvested at two stages of maturity (turning stage and fully ripe). Fruits were analyzed at harvest and after 2 days of storage at 10 °C. The descriptive sensory analyses of the samples were also performed by a trained panel. Whether at harvest or after storage, no significant difference was observed for sugars between samples, but strawberries harvested fully ripe had lower organic acids and higher levels of volatiles. Consistent with these results, strawberries harvested fully ripe were significantly noted sweeter and more aromatic than those harvested 75% red. No significant difference was observed for total vitamin C between samples, but strawberries harvested fully ripe were overall richer in polyphenols, particularly in hydroxycinnamic acids. This suggests strawberries harvested fully ripe could potentially have a greater impact on health.