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Horticultural Science

Changes in quality characteristics of Golden Delicious apples under different storage conditions and correlations between them

J. Blažek, I. Hlušičková, A. Varga

Hort. Sci. (Prague), 30 (2003): 81-89

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In this four-year study, fruits of Golden Delicious cv. randomly sampled from four different orchards on M 9 were kept at 1 or 2^oC in air storage, and in the course of storing individually assessed for weight, skin colour, skin blush, skin waxiness, flesh firmness, vitamin C content, total acid content, pH value, total sugars, dry matter and calcium content. Changes in some of these fruit quality characteristics during storage are presented and compared with their course during storage both in the cellar and ULO. The maximum storage life of the fruits in the air storage was estimated at 150 days on average. From individual fruit data, correlations between all the observed characteristics at different stages of the storage period were calculated. Fruit weight was positively correlated with dry matter, vitamin C, sugar and acid content, but negatively correlated with flesh firmness and calcium content. Fruits with more skin blush were correlated with higher vitamin C. Flesh firmness was mostly correlated with dry matter content,

but negatively correlated with calcium content and pH values. Vitamin C content was positively correlated with total acids, but negatively correlated with pH values, sugar:acid ratio and calcium content. Total acids were negatively correlated with pH values and sugar:acid ratio. At the end of the storage period, the total acid content was also correlated with dry matter content. Total sugars were closely correlated with dry matter content and negatively correlated with calcium content. Calcium content was very closely negatively correlated with dry matter content, and also negatively correlated with the sugar:acid ratio.

Keywords:

apples; Golden Delicious cv.; storage; fruit analyses; fruit weight; flesh firmness; vitamin C; sugars; acids; calcium; correlations

[[fulltext](#)]

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