Title Relationships between some fruit characteristics and sensory evaluation in quince (*Cydonia oblonga* Mill.) fruits

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Citation ISHS Acta Horticulturae 741:125-133. 2007.

Keywords Ethylene biosynthesis; organic acid; flesh firmness; path analysis; cold storage; shelf life

Abstract

This research was carried out on quince, *Cydonia oblonga* Mill., cv. 'Esme' fruits over two years. Fruit characteristics such as internal ethylene concentration, ethylene production, 1-aminocyclopropane-1-carboxylic acid oxidase activity, respiration rate, fruit skin color hue value, malic and citric acid, sucrose, glucose and fructose content of the fruit, flesh browning, weight loss and sensory quality were investigated at one month intervals during cold storage at 2 ±1ºC, 85-90% RH and at weekly periods during shelf life periods at 20 ±1ºC, 60-70% RH. The Correlation and Path Analysis were applied on all data of these characteristics separately in each experimental year, in order to determine the relationships between fruit characteristics and sensory quality. Although there were eleven variables investigated, only glucose content of the fruits was found the unique variable having direct and positive relation with sensory evaluation during the cold storage period in both years. On the other hand, fructose content was found as negatively effective variable. The determination coefficients were calculated as 84.0% for the first and 94.1% for the second experimental year. During the shelf life period, the malic acid content of the fruits was positively and directly effective variable on sensory quality for both years. The determination coefficients were found as 72.0% and 78.3% based on the years, respectively. In both years, glucose content for the cold storage periods, malic acid content for the shelf life periods were the variables were showing positive relationships with sensory quality in quince fruits.