

Title Physicochemical characterization of kiwifruit (*Actinidia deliciosa*, cv. Hayward) from different European origins

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Citation Abstracts Book, 6th International Postharvest symposium, 8-12 April 2009, Antalya, Turkey. 256 pages.

Keyword Kiwifruit; physicochemistry; consumer

Abstract

Consumer preference of fruit is strongly influenced by sweetness, acidity and characteristic flavours being determined primarily by the sugar-acid balance with fruit firmness. The objective of this research was to compare physicochemical characteristics of kiwifruits from different production areas aiming to associate their characteristics with the production area. Kiwifruits, cv. Hayward, from eight different production areas (6 in Portugal: Entre Douro and Minho - EDM, three producers and Beira Litoral - BL, three producers, one in France and one in Italy) were evaluated between December and May 2007, at five sampling times: 2,45,80,120 and 155 days of storage at 2°C under controlled atmosphere. At Each time, 35 kiwifruit, from each production area were randomly selected to be analysed. Physicochemical characterization was performed in terms of firmness, colour, soluble solids content, pH, sugar content and titratable acidity. Data were analysed by means of multidimensional factorial analysis (MFA) using XLSTAT 2008 software, and reduced to 3 multidimensional factors, explaining 70 % of the variance. Samples from the three different countries were clearly identified along the full experimental period. Portuguese samples from EDM yielded smaller inter production area variability than samples from BL, throughout the entire period. As major conclusion, through simple physicochemical evaluations by means of adequate statistical analysis, it was possible to discriminate different countries of origin for different storage times.