Relation between external color and nutritional value of different ripening stages of ‘Sweetheart’ sweet cherry

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Introduction

Studies about chemical characteristics of sweet cherry fruits are very interesting because they allow the identification of the optimum point of ripening for harvesting and enable delivery of fruit to consumers in its best condition in terms of nutritional, sensory and functional properties[1]. Sweetness and skin color influence consumer acceptance of cherry cultivars, as do fruit weight and firmness[2]. The aim of this work was to study the evolution of chemical parameters, phenols and total antioxidant activity of ‘Sweetheart’ cherry in three distinct commercial ripening stages.

Methods

- External color (CIE L* a*b*)
- Total soluble solids (TSS) (°Brix)
- TA (g malic acid/100 g fresh weight)
- Total Phenols (Singleton, 1965)
- DPPH (Brand-Williams, 1995)

Results

As expected maturation index increase according to ripening stage, being more noticeable the difference from stage 1 to stage 2.

The color characteristics of the ‘Sweetheart’ sweet cherry, showed marked declines (p < 0.05) from stage 1 through stage 3, corresponding to a more intense and darker color. According to Ballistreri et al. (2013) the color of cherries may be influenced by concentration and distribution of the different anthocyanins and colorless phenolics as well as the pH.

The values observed of total phenol content show a deep increase from the cherries of ripening stage 2 comparing with those of ripening stage 3, consequently the antioxidant activity increase similarly. According to Hassimoto et al. (2005), the final antioxidant activity values are classified as high 73, 8 %. So should be considered the nutritional interest of the consumption of dark cherries.

The visual appearance of ‘Sweetheart’ cherry, mainly color, should be a good criterion to choose cherries with good intrinsic quality showed by total phenols and DPPH.

References