

Title Anthocyanins and fruit colour in plums (*Prunus domestica* L.) during ripening
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Abstract

The accumulation of anthocyanins and the evolution of fruit colour were investigated during ripening of *Prunus domestica* L. Using HPLC, the fruit of the 'Jojo', 'Valor', 'ČaČanska rodna' and 'ČaČanska najbolja' cultivars were quantified for anthocyanins during a 25-day period of ripening (a 33-day period in the case of 'Jojo'). The major anthocyanin was cyanidin 3-rutinoside which, in ripe fruits, ranged from 4.1 to 23.4 mg/100 g FW (from 52.6% to 73.0%). It was followed by peonidin 3-rutinoside (from 6.5% to 37.9%), cyanidin 3-glucoside (from 1.8% to 18.4%), cyanidin 3-xyloside (from 4.7% to 7.8%) and peonidin 3-glucoside (from 0.0% to 0.4%). The ripening process resulted in a concentration increase of total anthocyanins and changed the ratios amongst the anthocyanins. The colour parameters, L^* , a^* , b^* , chroma and hue angle, of partially ripe plums were higher than those in the ripe fruit, but the CIRG index of partially ripe fruit was always lower than that of ripe fruit. The total anthocyanins were weakly correlated with each of the colour parameters; their relationships varied between cultivars and ripening stage. Correlation coefficients between individual anthocyanins and colour parameters in ripe plums were cultivar-dependent