

**Title** Cultivar, storage conditions and ripening effects on physical and chemical qualities of red raspberry fruit

**Author** Erika Krüger, Helmut Dietrich, Evelin Schöpplein, Sabine Rasim and Petra Kürbel

**Citation** Postharvest Biology and Technology, Volume 60, Issue 1, April 2011, Pages 31-37

**Keywords** *Rubus idaeus*; Cold storage; Fruit ripening; Fruit colour; Antioxidant activity; Anthocyanin profile; Polyphenolics

### Abstract

Ascorbic acid, total polyphenols, anthocyanins, antioxidant capacity (TEAC), soluble solids, titratable acidity and fruit colour ( $L^*$ , chroma and hue angle) were quantified (a) in ripe fruit of four raspberry cultivars and (b) in fruit of different commercial ripening stages (semi-ripe, ripe and slightly over-ripe defined by CIE  $L^*a^*b^*$  measurements) of cv. Tulameen. Fruit were also stored 1 d at 20 °C room temperature or 3 d at 2–4 °C followed by 1 d at room temperature. All measured parameters including the ratios between cyanidin-3-sophoroside, cyanidin-3-glucoside, cyanidin-3-glucosylrutinoside and cyanidin-3-rutinoside were strongly influenced by genotype. Enhanced fruit ripening was reflected by decreased values for titratable acidity, colour parameters and increased concentration of total anthocyanins. After storage, berry colour was darker and fruit considerably lost weight, while total anthocyanins and TEAC were higher in comparison to fresh fruit in both experiments. Soluble solids and total phenols only increased in fruit of different ripening stages of cv. Tulameen but not in the stored ripe fruit of the four cultivars. Titratable acidity, ascorbic acid and the ratio between the individual anthocyanins remained nearly unchanged during the storage period.