

Title Levels and distribution of anthocyanins, proanthocyanidins, flavonols, and hydroxycinnamic acids in *Vaccinium angustifolium aiton* cv. 'Fundy'

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Abstract

A field study examining the levels of anthocyanins, proanthocyanidins, flavonols and hydroxycinnamic acids was conducted at the Wild Blueberry Research Centre in Debert, Nova Scotia, Canada. Plant samples consisting of the flower, berry skin, berry pulp, green and red leaves, and upright stems were collected throughout the 2003 growing season. Flower samples were collected at full bloom (10 June), green leaves and upright stems were collected on 11 August, red leaves were collected on 22 September, and berry samples were collected on 22 August. Quantified anthocyanins consisted of cyanidin glycosides in flowers and leaves, and cyanidin-, delphinidin-, malvidin-, peonidin- petunidin glycosides in the skin and pulp of berries. Overall, the highest levels of anthocyanins from these plant samples were observed in the ripe berries. Conversely, the highest levels of proanthocyanidins, flavonols and hydroxycinnamic acids were found in the green and red leaves. Therefore, results from this study have provided an initial insight into the levels of anthocyanins, proanthocyanidins, flavonols and hydroxycinnamic acids in the various parts of the lowbush blueberry plant. This information may provide a preliminary basis for the harvesting and extraction of these compounds for dietary antioxidants.