The content of anthocyanidins in *Vaccinium angustifolium* Ait. berries

Piret Raudsepp
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### Summary

The aim of the study was to determine and quantify the composition of anthocyanidins in selected forms of *Vaccinium angustifolium* cultivars to find the forms with possibly high content of anthocyanidins. As the comparison *Vaccinium myrtillus* and one cultivar of North Blue was included. The determination of anthocyanidins was carried out with reverse-phase HPLC/DAD/MS (High-performance liquid chromatography with diode array detection and mass spectrometry). Quantification was done with external standard method using delphinidin-chloride, cyanidin-chloride, peonidin-chloride and malvidin-chloride as standards. Petunidin as a standard was commercially unavailable therefore the quantity of petunidin was calculated indirectly using the mean of cyanidin and peonidin calibration equations.

The anthocyanidins detected in analysed samples with positive ion mode were: delphinidin (m/z=303), cyanidin (m/z=287), petunidin (m/z=317), peonidin (m/z=301) and malvidin (m/z=331).

Analysis results of both years revealed that the most abundant anthocyanidin in *Vaccinium angustifolium* and North Blue cultivar was malvidin and in *Vaccinium myrtillus* the most abundant anthocyanidin was cyanidin.

The variation of anthocyanidin content within *Vaccinium angustifolium* forms was noticeable, varying from 183 to 1963 µg/g in 2003 and from 71 to 1762 µg/g in 2004. The content of anthocyanidins in *Vaccinium myrtillus* was higher as expected: 5858 µg/g in 2003 and 7223 µg/g in 2004. North Blue had noticeably higher content of anthocyanidins in 2003 900 µg/g vs 37 µg/g in 2004. The reason why the content of anthocyanidins tended to be lower in 2004 needs further investigation.