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Insights into epicuticular wax composition of fruits and leaves of Saskatoon (*Amelanchier alnifolia* Nutt. cv. Smoky and Northline)

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Amelanchier alnifolia Nutt. known as Saskatoon berry, Juneberry, or Western Serviceberry, is a deciduous shrub native to the Northern plains of North America [1]. The fruit is often reported as a berry, but it is actually a pome fruit (accessory fruit) typical in the pome fruit family Rosaceae [2]. The most common cultivars are Honeywood, Martin, Northline, Pembina, Smoky and Thiessen [3]. The aim of this study was GC-MS qualitative and quantitative determination of triterpenoids occurring in surface waxes of fruits and leaves of two cultivars of Saskatoon (*Amelanchier alnifolia* Nutt. Smoky and Northline). The chemical composition of plant waxes is highly variable among plant species, organs of the plant (e.g., fruits and leaves), and during organ ontogeny.

Nineteen triterpenoid compounds were identified in analyzed cultivars, including five triterpene acids (3-oxo-oleanolic, oleanolic, betulinic, ursolic and corosolic), eight steroids (mainly campesterol, stigmasterol, sitosterol and tremulone), and six neutral triterpenes (α - and β -amyrins, ursolic aldehyde, erythrodiol, uvaol, and taraxerol – only in leaf extracts). The results of the analyses showed that the leaf extracts had significantly higher content of triterpenoids in comparison to the fruit extracts. The content of triterpenoids in Smoky and Northline cultivars amounted to approximately 127.85 and 45.69 $\mu\text{g}/\text{mg}$ of fruit wax extracts, and to 215.80 and 214.03 $\mu\text{g}/\text{mg}$ of leaf wax extracts, respectively.

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References

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