

Bilberries to increase our dietary fiber intake

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Bilberries—a unique part of the Nordic diet—could be utilised in higher amounts in food products to increase our dietary fibre intake. VTT Technical Research Centre of Finland Ltd took an interest in bilberry press cake and developed methods to use it as a dietary fibre source in tasty snacks.

VTT studied the dietary fibre content, carbohydrate composition, and non-carbohydrate fibre content of Finnish bilberries (*Vaccinium myrtillus*) and bilberry press cake—a side product from juice processing. The results indicate that bilberries contain plenty of dietary fibre: fresh bilberries 3%, freeze-dried bilberries 24% and dry bilberry press cake 59%. The content can be explained by the high relative proportion of peels and seeds in the berries due to their small size. The [dietary fibre](#)

was mostly insoluble, which means it has excellent bulking effects and therefore increases intestinal mobility and removal of digestion residue from the body.

Press cake in snacks and muffins

The berry juice industry produces large amounts of press cake, which is currently under-utilised. It is a low-cost raw material with a healthy status and it can be used to substitute all or part of whole berries in health-promoting products.

Bilberry press cake can be used as a substitute for whole berries in berry-striped muffins when it is milled according to VTT's patented wet milling method. Thanks to bilberry press cake, a fibre content of over 6% in the muffins can be easily achieved without compromising the sensory quality.

It is possible to add bilberry press cake also to extruded snacks. Extrusion processing is a high temperature short time process, where both expanded puffs and flakes can be produced. A nice flavour and crispy texture can be obtained by adding dried and milled press cake of up to 30% to the flour mix used during the extruded snack production.

High content of anthocyanins

Bilberries and blueberries (*Vaccinium corymbosum*) are known for their high content of anthocyanins. In contrast to cultivated blueberries, the anthocyanin [content](#) in wild bilberries is also high in the flesh part and is therefore more bioavailable than in blueberries or their peels.

Anthocyanins have anti-inflammatory and anti-carcinogenic activity, and they have the potential to reduce the risk of diabetes and cardiovascular diseases.

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Provided by VTT Technical Research Centre of Finland

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