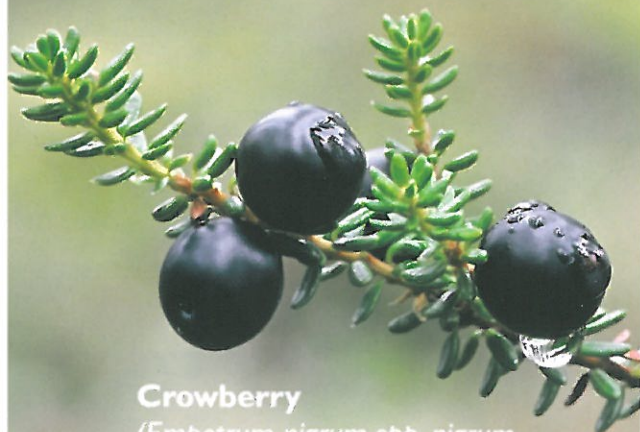


# What's good in THE CROWBERRY?

From Finnish forest to you.



**Crowberry**  
(*Empetrum nigrum* spp. *nigrum*,  
*E. nigrum* spp. *hermaphroditum*)

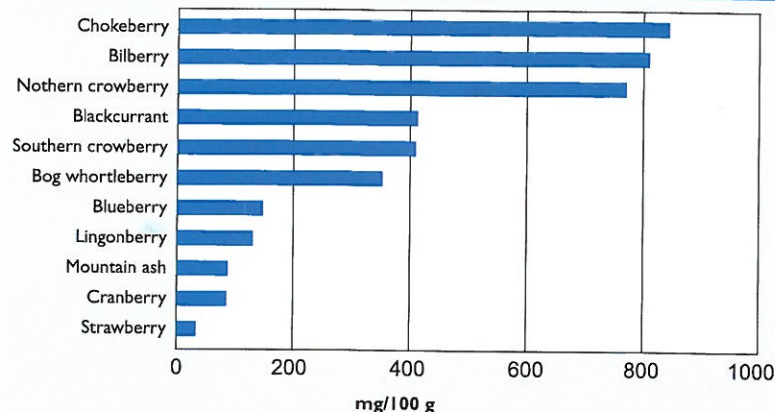
## The crowberry is rich in antioxidants and anthocyanidins

- The antioxidant content of the crowberry is very high. Antioxidants prevent fat oxidation caused by free oxygen radicals.
- The anthocyanidin content of the crowberry is 770 mg/100 g. Anthocyanidins give berries such as the bilberry, crowberry, bog whortleberry, chokeberry and lingonberry the strong red or blue colour.
- The berries rich in anthocyanidins are used e.g. in the food and pharmaceutical industry in Asian countries.
- Proanthocyanidins are also recovered from the crowberry. The effects of the type A proanthocyanidins are studied e.g. for urinary tract infections.
- Berries also contain some vitamin C and plenty of fibre.
- The sugar and acid contents of the crowberry are rather low.



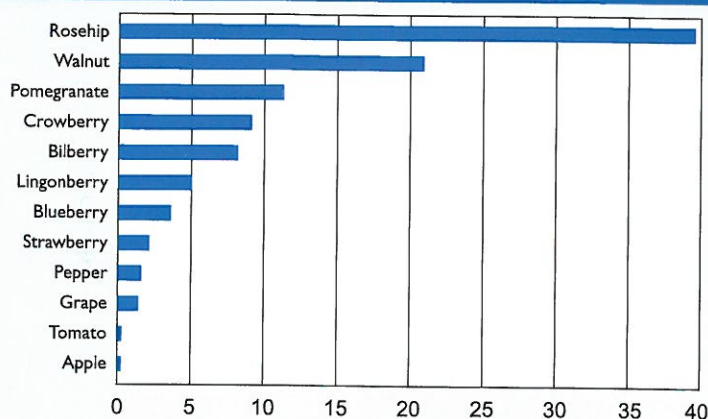
- The shining black-coloured crowberry is a wild berry species especially productive in Northern Finland. Most often it grows on quite dry heaths as well as on marsh and backwoods hummocks.
- Two different crowberry species grow in Finland: the *Empetrum nigrum* spp. *nigrum* and the *E. nigrum* spp. *hermaphroditum*. The *Empetrum nigrum* spp. *nigrum*, smaller in size, grows mainly in Southern Finland and the more productive *E. nigrum* spp. *hermaphroditum* is more common in Northern Finland.
- The crowberry's crop season is from early August to the first snows in Finland.
- In a good year, the biological crop of the berry in Finland is almost as great as that of the bilberry, i.e. 120-160 million kilos.
- Everyman's right enables free picking of wild crowberries in the Finnish forests.
- The crowberry is often used together with other berries.
- The crowberry is prepared into juices, jams, wines and jellies as such or by combining it with other berries. The juice or jam prepared from crowberries has a strong dark red colour.

## Anthocyanidin (anthocyanin) contents of berries (mg/100 g)



Source: Määttä-Riihinen K, et. al. 2004. Distribution and contents of Phenolic Compounds in Eighteen Scandinavian Berry Species. *J.Agric.Food Chem.*2004,52,4477-4486.

## Antioxidant contents of the plant life products (mmol/100 g)



Source: Halvorsen BL., Holte K., Myhrstad MC, et al. 2002. A systematic screening of total antioxidants in dietary plants. *J Nutr.* 132:461-471.

# What's good in THE CLOUDBERRY?

## From Finnish forest to you.



Cloudberry (*Rubus chamaemorus*)

### The cloudberry has high nutrient content

- The cloudberry is rich in vitamins E, A and C that function as antioxidants in our organs. The cloudberry contains more vitamin E than fruits, vegetables or grain do. The cloudberry also contains much more vitamin A than other berries.
- The cloudberry contains more fibre than any other berry. Soluble fibre advances cholesterol and sugar metabolism. Insoluble fibre is good for intestinal function.
- The cloudberry is rich in minerals and micronutrients, the contents of which are in favourable proportion to our organs.
- Of phenolic compounds, the cloudberry contains especially many ellagitannins. In the research work of VTT Technical research Centre of Finland, ellagitannins are discovered to possess an effect preventing the growth of detrimental intestinal bacteria (salmonella). It has also been discovered in mouse experiments in the University of Helsinki that the cloudberry protects from the development of intestinal cancer.
- The cloudberry's seed oil has a positive effect on skin well-being. The seed oil is used as raw material in the cosmetics industry.

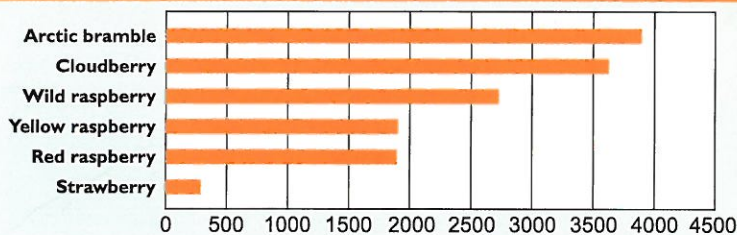


- The cloudberry (*Rubus chamaemorus*) is a yellow or orange-red very juicy berry species growing on bogs.
- In a good year, the cloudberry crop reaches 25 million kilos. The best crop is harvested on bogs in Northern Finland.
- The main crop of the cloudberry ripens in July. In Northern Finland, cloudberrries can even be picked in August.
- Everyman's right enables free picking of wild cloudberrries in Finland.

### The cloudberry in cooking

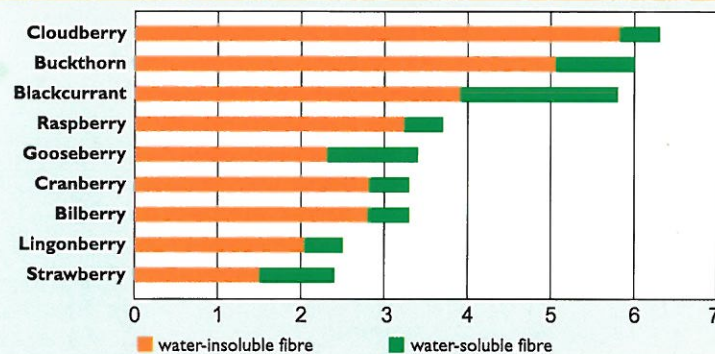
- The cloudberry can be used e.g. in jams, juice and berry soups and in desserts and as pastry garnish.
- Fresh cloudberrries are also delicious as such, with a touch of sweetening sugar or honey, or served with ice-cream, dessert dressing, yoghurt or cream cheese.

### Ellagitannin contents of berries mg/kg



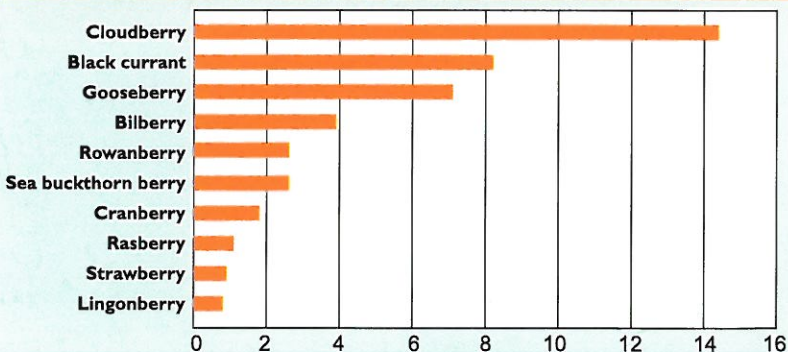
Source: Riihinen 2005. Phenolic Compounds in Berries. Kuopio University Publications C. Natural and environmental sciences 187.

### Fibre contents of berries (g/100 g)



Source: National Public Health Institute of Finland 2007. Finnish Food Composition Database. <http://www.fineli.fi/index.php?lang=en>

### Vitamin A (RAE) content of berries (µg/100 g)



Source: National Public Health Institute of Finland 2007. Finnish Food Composition Database. <http://www.fineli.fi/index.php?lang=en>