



Birch sap tapping in Finland

Birch sap tapping is an ancient tradition in Finland. There are many Finnish folk tales about the extraction of birch sap and it is believed to have medicinal properties. At exactly the right moment at the beginning of spring, a small hole is drilled into the tree trunk and this natural nutritious clear liquid flows out.

The sap has been used locally and traditionally by people in Finland for centuries. However, small companies are now realising the added value that the production of birch sap can have alongside birch wood production. New techniques have been developed for collecting the sap, and the demand for the sap is growing on export markets.

This innovative idea for new potential value chains was presented at the recent EIP-AGRI workshop 'New value chains from multifunctional forests' by Henri Vanhanen from the Natural Resources Institute Finland (LUKE). LUKE is an organisation promoting the bioeconomy and the sustainable use of natural resources, developing collaboration opportunities, know-how and new business models.

A complementary activity to timber production

Birch trees are one of the most common indigenous tree species in Finland. Birch is not only known for timber, but it is also important in Finnish mythology and as a **national symbol**. Over 97% of Finnish forests could be certified as organic (**Finnish forest association**), and so sap tapping to produce a healthy, organic, high-quality product can be a complementary activity to wood production.

Just as the snow is beginning to melt as winter draws to a close, for a limited time, sap rushes up from the roots to the branches to provide nourishment to produce leaves for the springtime. This is when the trees can be tapped and the sap extracted. Colder climates are favourable for birch sap production.

Birch is one of the woods used for the Finnish pulp and paper industry. The extraction of birch sap however, has remained a family activity, a few small companies have been selling it locally. But a certain number of foresters and companies have now identified an increasing demand for this product and are beginning to investigate its added value and the advantages of developing a production chain to complement timber production.



An emerging market for high-end health products

The birch sap or "water" is a clear, smooth liquid. Henri Vanhanen describes it as "slightly sweet, somewhere between lemonade and sparkling water". It can be consumed just as it is- as a fresh, nutritious, healthy, natural juice. This is how it has been traditionally consumed in Finland.

However, a certain number of other uses are now growing in popularity. It is also believed to be detoxifying and purifying, and therefore a demand is growing for it as a health product. Furthermore, because of its calcium content, it is good for teeth as the birch sugar (xylitol) has naturally occurring

anti-cavity properties. It can also be refined or made into syrup. Cosmetic product companies are also now showing an interest as the minerals in it are good for skin and hair. Other culinary uses are becoming widely known- such as an ingredient in a Japanese recipe for meat fondue.

These developments have led to a growing demand, and opportunities for commercialisation.

Because it can only be produced in countries with the right climate, it is a relatively rare, high-end, high-quality product. Henri Vanhanen says "People in Finland know the product and buy it locally, it's traditional. But most of the marketed product (90%) is now exported to Asia and Central Europe. It's a new trend!"

The value chain

There are a number of different structures in the growing value chains for birch sap. Some sap processing companies have their own forests. Others rent from forest owners for tapping and collecting the sap with 1-10 year contracts. Sometimes, forest owners themselves collect the sap and sell it to refining companies.

Then the sap processing companies either have their own retail products or they sell the raw sap to beverage and cosmetic companies.

Sap production engages forest owners from rural areas. Furthermore, some of the refining industry is located in rural areas of eastern Finland.

New techniques have been developed for collecting the sap. Henri Vanhanen told us: "The traditional way of collecting birch sap would be hole in the tree, straw and bucket. But now many of the companies have developed pressurised automatic collection systems that collect sap aseptically from the tree. As birch sap goes off quite quickly when collected with traditional methods, beverage companies want to rent forest and collect with their own method to secure the high quality of the end product."

A growing success

Henri Vanhanen explained that there is plenty of room for success with this new value chain "There is a growing demand in expanding tree water markets for high-end birch sap products. In Finland we can produce organic birch sap. The logistics and infrastructure is already in place which can ensure short transportation of the raw materials."



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This case study was presented as a poster at the [EIP-AGRI workshop 'New value chains from multifunctional forests'](#) in Vienna in November 2016. See page 12 of [this document](#)

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