Petri Jauhiainen/Luke

Arctic food

from Finland

You know what you're eating
when you choose Arctic food

Erkki Oksanen/Luke

FINNISH FOOD PRODUCTION IS UNIQUE

When Finnish food is exported or served and communicated to foreign guests, it is backed by a unified story that builds the image of Finland as a responsible producer of pure food, an interesting country for food. The story strengthens the messages of individual companies and supports them in their internationalization. The purpose of this brochure is to help you communicate the special features of Finnish, Arctic food.

The Arctic food concept, the unique characteristics of Finnish food, provides a consistent way for exporters to share the specific quality of Finnish food. It supports Finnish food exporters and promoters in their marketing activities, especially in communication and brand building. Its key elements are Finland's Arctic, natural growing environment, and our expertise ensuring clean, high-quality and tasty food. Let us introduce the uniqueness of Finnish Arctic food.

Arctic food production means Finland, 60 degrees north, the northern latitude region for food production. Finland is the northernmost place on earth where food is produced on this scale.

CC0/Arctic Food From Finland/Ruokatieto

Rapeseed and field mustard, oil plants cultivated in Finland.

Finnish food production is one of the world's most sustainable. Good practices in primary production are the basis for high quality food. Environmental issues and animal welfare are key focus areas. Finnish food is pure, and throughout the food chain its hygiene, traceability and accountability are among the best in the world. Along with corporate social responsibility, these elements form Finland's competitive advantages in the export markets.

Certain factors affect many sectors of food production. The purity, fertility and production capacity of agricultural land are as important as the quality of our waters – household, surface, and groundwater. Their combined impact on food quality takes in the entire production chain. Finland's soil is among the cleanest in Europe with regard to heavy metals, for example. Our fresh water resources are among Europe's most abundant in relation to the population. The availability of high quality water is becoming a key competitive asset in the global food market.

Arctic food

It's unique.

Our dark arctic winters and long light summer nights create growing conditions found nowhere else. Here the soil is perfect for crops rich in nutrients and flavour.

It's straightforward.

The environment is unforgiving. Only by utilizing all the available technology and know-how can the produce meet the highest possible quality standards.

It's arctic.

This is the north. We know who we are, and we know the food we produce through and through, from seed to table. The north has shaped us, as it shapes our food.

Tapio Tuomela/Luke

Clean soil means clean food.

CLEAN SOIL

Finland's bedrock is 3000 to 15000 million years old, amongst the oldest in the world. The soil was formed in the Ice Age and later. During the Ice age, Finland was covered by two to three kilometre thick continental glacier. Nowadays the most common soil is moraine in the form of gravel, sand, silt, fine sand and clay. Finland's main arable land is moisture-retaining and rich, fine sand, silt and clay soils.

Finnish soils are clean in comparison with heavy metal concentrations elsewhere in Europe. Some of the metals are naturally part of a region's soil. In industrialised regions, the concentrations are also related to emissions to air from industrial plants. So clean air contributes to ensuring the cleanliness of the land.

Concentrations of many elements in Northern European soil (e.g. As, Cd, Co, Cu, Mn, Pb) are significantly lower than in the southwestern and southern parts of Europe.

Low pesticide use

In 2015, the volume of pesticides sold for agricultural use in Finland was among the lowest per hectare in Europe. Pesticide use is proactive and well-controlled.

Food farmed in Finland contains very small quantities of pesticide residues compared to that of many other European countries. Food quality is ensured by sampling, and the samples are collected in accordance with EU standards mirrored by Finland's own sampling plan.

Case: High Grade Region for potato production

In European potato production, High Grade status has been granted to a total of five regions. High Grade Region status may only be granted to regions or countries where no plant pests harmful to potatoes are present, or from where they have been eradicated. Five member states or parts thereof (Finland, Portugal, Ireland, United Kingdom, Germany) have been granted High Grade Region status.

Finland's High Grade Region is far from other production regions in the country. The production of potatoes other than seed potatoes is focused on the southern coastal regions with strong starch or food potato production areas. This means aphids cannot spread viruses to seed potatoes as easily as from other potatoes, which contain many viruses. Plant pests, such as Colorado beetles, often arrive assisted by wind and reach southern Finland or Eastern Finland first, either across the sea or the eastern border. However, it is not easy for them to reach the more northerly parts of the country where the High Grade Region is located. Compared with other European countries, plant disease risk is relatively low throughout Finland.

The High Grade Region produces disease-free seed potatoes for the whole of Finland, but seed potato exports from the area are also significant. Certain European companies have concentrated their production of the highest seed potato grades in Finland.

The High Grade Region has further potential for growth because plant health is exceptionally good in European terms.

Finland's High Grade Region status is driven by its remote northern location and harsh winter weather. The proximity of the sea makes for a longer growing season with less frost than at the same altitudes further inland. The area is characterised by long periods of sub-zero temperatures in winter and deep ground frost, which contribute to preventing the reproduction of plant diseases and pests.

Olga Philman/Luke

New potatoes.

Seed potato

The long, cold winters and ground frost enable the destruction of those potatoes left in the earth, and reduce the risk of contamination of overwintering pests. Soil that melts and freezes several times during the winter carries a reduced number of pests.

The potatoes' growth rate is extraordinary, accelerated by the bright summer nights. The yields for a long day can be considerably higher than those in short-day conditions. Abundant sunlight destroys the potato blight spores.

In the production of the highest seed categories, irrigation is preferable to reduce the risk of bacterial diseases. In addition, surface and groundwater may be used to wash and disinfect storage containers. Sprinkling protects crops from frost and is often the only viable solution in large production areas.

The potato producers are highly professional and well-educated. Cooperation along the production chain is close and long-lasting.

Finland's high availability of suitable land offers the potential to increase production.

Erkki Oksanen/Luke

Koli national park in eastern Finland overlooks Lake Pielinen, the country's fourth biggest lake at nearly 900 km².

ABUNDANT AND CLEAN WATER RESOURCES

Finland has abundant water resources at its disposal. Clean, fresh water for plants, for our animals to drink, in food production and manufacturing, for cleaning production spaces, equipment, and personnel hygiene. Smart water utilisation in food production and hygiene is routine in the Finnish food production chain. Animal drinking water satisfies even household requirements. Clean water reduces the risk of disease, as pathogens thrive in poor quality water.

High quality drinking water

The microbiological quality of drinking water is generally high in Europe. Drinking water purification processes eliminate all health-damaging microbes from raw water, making drinking water safe. All surface water plants in Finland and several groundwater plants run chlorine disinfection. The raw water utilised in water treatment plants is taken from groundwater, surface water or man-made groundwater reservoirs, which are plentiful.

Rodeo/Luke

Tap water is excellent in Finland. There's no need to buy drinking water unless you want bubbles!

Groundwater quality is good

Groundwater quality is generally good in Finland. Nitrate sources in water bodies include fertilisers or the decomposition of nitrogenous substances, urban waste waters, and mire drainage. Nitrogen is among the main plant nutrients not normally present in large quantities in surface water bodies. Finnish tap water is drawn from raw water e.g. ground and surface water reservoirs, and is also used in the food manufacturing industry.

Abundant water reserves

Finland uses only 3 % of its freshwater reserves annually, while the same figure may reach 30–50% in certain densely populated regions in Central or Southern Europe. Finland also has many unexploited water resources open to utilization in food production and manufacturing.

Finland's abundant water resources facilitate their sustainable use in terms of quantity. From this perspective, it makes sense to locate water-intensive production, such as plant cultivation, in Finland. Agriculture accounts for around 5 % of the total use of water in Finland, whereas the average figure worldwide is around 70 %.

Surface water quality good

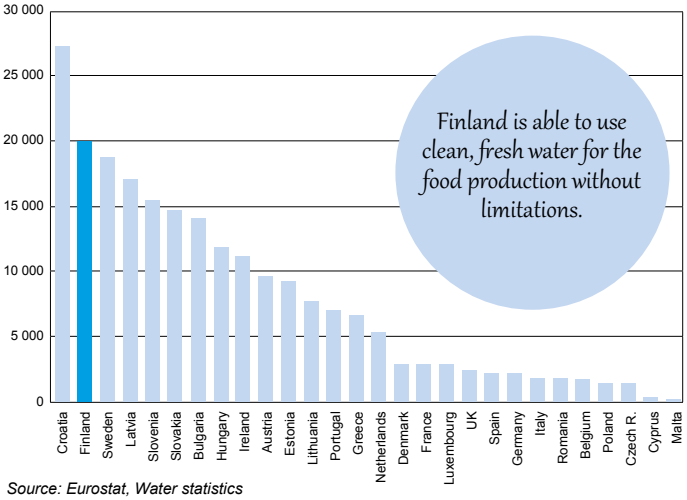
Over 80 % of Finland´s lake and sea areas are superior or good in terms of surface water (ecological status, colour map, chemical status scores). Regional differences in the status of waters are considerable. The ecological status of large lakes and especially waters in Northern Finland is, for the most part, good or high.

Small Water footprint in food production

Food produced in Finland has a small water footprint in relation to the country's water resources. Our abundant water reserves enable the use of clean water at the different stages of food production. Around 2 % of renewable fresh water resources are consumed yearly in Finland, while in the worst water crisis areas the figure is close to 100%.

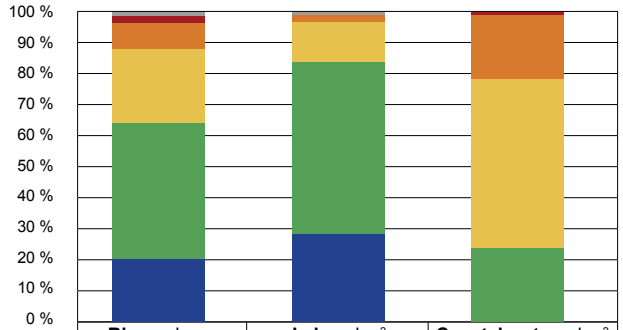
We can grow crops that require watering in larger areas. Globally, Finland is one of the regions where water intensive food production, such as greenhouse cultivation and meat production, can be increased in the future. There would be no significant negative effects on our water economy or through water consumption to our ecosystems.

Freshwater resources per inhabitant in the EU member states – long-term average (1 000 m³ per inhabitant)



Source: Eurostat, Water statistics

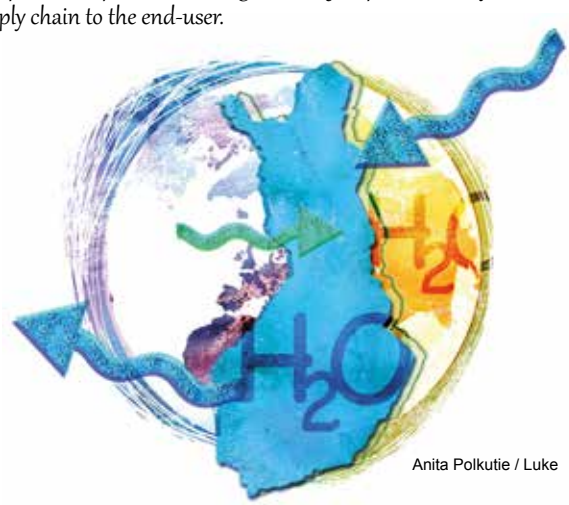
Ecological status of surface waters as a proportion of total length (rivers) of surface area



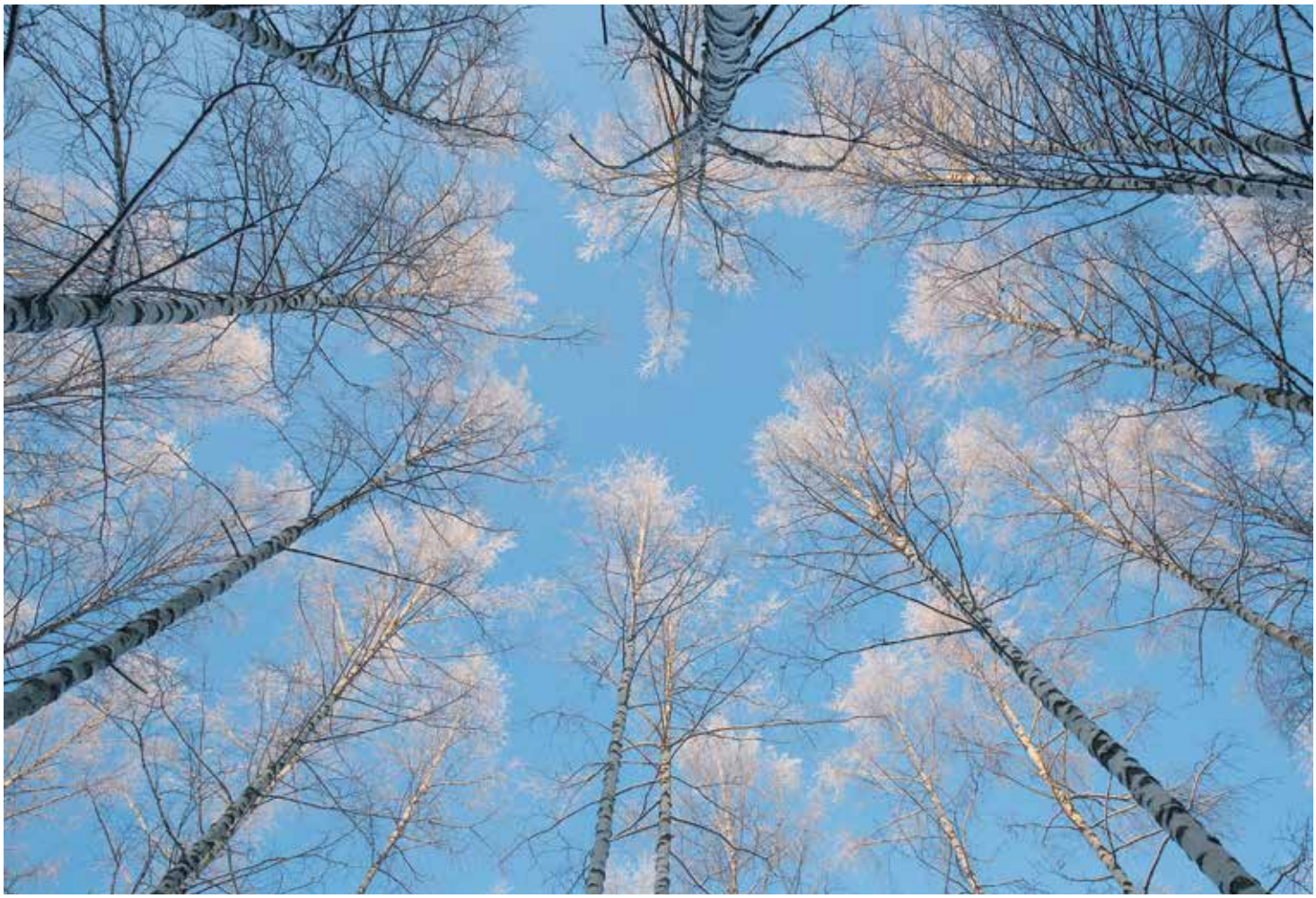
	Rivers, km	**Lakes**, km²	**Coastal waters**, km²
Unclassified	380	219	2
Bad	557	29	179
Poor	3 362	361	4 962
Moderate	8 338	3 776	13 423
Good	15 733	16 004	6 216
High	7 213	8 400	0

Source: ymparisto.fi

The water footprint measures the amount of water used to produce each of the goods and services we consume. It can be calculated using different methods and, for instance, in terms of a single process, product or nation. The water footprint looks at both direct and indirect water, and includes water consumption and pollution throughout the full production cycle from the supply chain to the end-user.



Anita Polkutie / Luke



Erkki Oksanen/Luke

CLEAN AIR IN SPARSELY POPULATED FINLAND

A sparsely populated country with moderate urbanization makes for the purity of air and other natural resources that characterize Finland. The average air quality is the best globally and contributes to the purity of Finnish food.

There are a number of factors that explain the good air quality in Finland. It is a sparsely populated country with no massive industrial hubs, and cities that are small by global comparison. We have a rather good track record in complying with air pollution emission limits agreed upon by international conventions. Finnish industries employ high technology and our energy production is efficient. By global standards, the car stock is new.

Our climate is relatively humid and cool, which means low levels of photochemical pollution, such as ozone, and no sandstorms. Finland's even topography facilitates the dispersion of pollutants. Our northern location, far from densely populated Central Europe, tends to reduce the amount of long range transported pollutants.

Finland has over 20 million hectares of forest and is part of the boreal forest region (taiga). Forests have an important role in carbon sequestration from the atmosphere. Trees also remove particulate pollution from the air as trees can capture particular matter (PM) from the atmosphere.

Erkki Oksanen/Luke

Coniferous tree species have efficient particle collection capacities compared to broadleaved species.

Erkki Oksanen/Luke

Lichens indicate good air quality and are prevalent in southern Finland's younger forests.

Erkki Oksanen/Luke

Trees remove particulate pollution from the air.

The EU publishes highly detailed European air quality statistics and summaries on a yearly basis. Almost without exception, Finland and the other Nordic countries score the best ambient air quality.

While particulate matter (PM) concentration is only one component of air pollution, it is considered the best indicator of air pollution health effects. The average fine particle (PM2.5) concentration in Finland is 6 micrograms per cubic metre (µg/m^3), the lowest for any individual country in the 2018 global statistics.

Best ambient air quality – Fine particle concentrations $PM_{2.5}$, 2014–2016 (number of measurement locations in brackets)

Source: WHO, Ambient Air Pollution Database

Erkki Oksanen/Luke

Winter light in birch forest.

COOL AIR AND FROST ARE ADVANTAGEOUS FOR FARMING

The Finnish climate is cool. The cold winter with its freezing temperatures reduces plant disease and other pests. So Finnish farmers use fewer protection agents and pesticides than those in many other countries, and the pesticide residue risk is small. When the land freezes, farming actually benefits as the land alters and does not suffer compaction, while plants' access to water improves. The deep freeze of winter is also advantageous for grain storage, as cooling storage spaces requires less energy than in warmer climates.

The arctic region features a cold climate during the winter season, testing the adaptation of its wildlife and peoples to the conditions. Temporary but relatively high summer temperatures, fast-paced summer season growth, winter dormancy, and a great variation in seasonal light.

Winter is the longest of the thermal seasons in most parts of Finland on average. In the south and Southwestern Finland, thermal autumn may stretch over a long period and spring begin early. Durable snow cover varies greatly and drastically in different parts of the country. In 2014–2015, the snow lasted just a few days on the south coast and up to 230 days in Lapland.

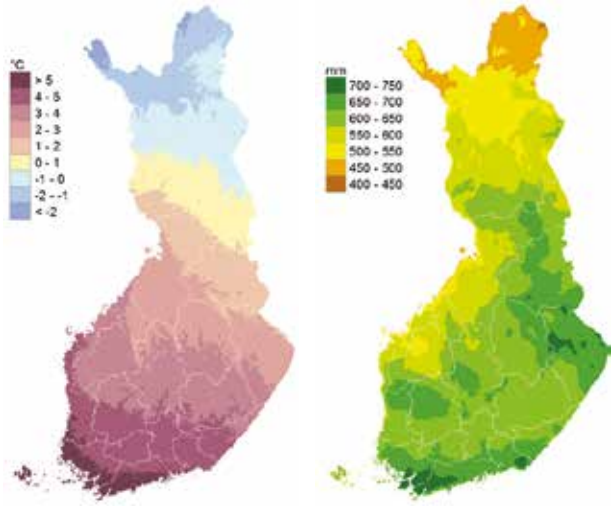
There are no long periods of rainfall in Finland, but usually it rains in all seasons. Annual rainfall varies widely, with the least in Lapland at some 400–450 mm/year, and the most in southern and central parts of Finland, at around 600–750 mm per year.

Jari Lindeman/Luke

Open fields in each of the four seasons in central Finland. Most farmers also own forest which ensures field-forest ecosystem biodiversity.

Snow cover is important for plants in the Finnish arctic region. It protects the vegetation from the cold and the damage caused by the cold weather. It also protects vegetation from drying, especially in early spring. During sunny days at the end of winter, even photosynthesis is possible under the snow, as light passes through the packed snow cover and the carbon dioxide content may be high underneath. Also, air humidity remains high, even under the snow. Melting snow and autumn rains raise the groundwater levels. Although floods occur every year throughout Finland, they are relatively small compared to, for example, Central Europe. The flood risk in Finland is reduced by the moderate rainfall, the number of lakes, and the slight differences in terrestrial altitude.

The winter cold reduces the number of plant-diseases and pests in the soil. This means fewer plant protection products are used in Finland than in many countries, and the pesticide residue risk is similarly reduced. Frosty and variable winter weather conditions undermine the vitality of pathogens. Ground frost is beneficial for plants, frost modifies the soil, promotes plant water supply and prevents, especially in clay soils, soil compaction. Winter is also useful in cereal storage, as cooling stocks in cold weather requires less energy than in warmer conditions.



Annual mean temperature (map to the left, the unit °C) and annual mean precipitation (map to the right, unit millimetre), reference period 1981–2010.

Source: Finnish Meteorological Institute

Mean temperatures 1981–2017, °C

	spring	summer	autumn	winter
Helsinki	4.5	16.3	6.8	-3.2
Jyväskylä	2.5	14.8	3.7	-7.3
Oulu	1.6	14.7	3.4	-8.3
Sodankylä	-0.9	12.7	0.1	-12.3
Frankfurt [1)], Germany	10.7	19.2	10.6	2.5
Padova [1)], Italy	13.6	23.5	14.4	4.2

Source: Finnish Meteorological Institute

[1)] average years 1981–2015.

Helsinki is located in southern Finland on the Baltic Sea. Oulu lies on the Gulf of Bothnia. Sodankylä is in Lapland above the Arctic Circle.

Case: Oats

Finnish oats are high in quality, light, large-grained and low in shell. Their strengths are best described in terms of safety and cleanliness.

The cold arctic winter and frost kills plant diseases and pests. This means fewer plant protection products are required in Finland and the pesticide residue risk is low.

In general, warm weather is of great importance to cereal growth, but less relevant to the oat which thrives in a cool place and is well-suited to Finnish acidic soils. The cool air combined with appropriate humidity supports the full development of oat grain cells and the size and high hectolitre weight of the kernel.

The Finnish growing season offers long, light days which are ideal for intense cereal growth. The longer the day, the faster the cereals will develop, and the intensity of growth is accelerated by the surprisingly high average daily temperatures caused by the warm Gulf stream.

The peat-based and acidic soils typical to Finland are ideal for oats. In addition, the concentration of heavy metals in the soil is low, supporting a low level of heavy metals in the crop.

Oat is positively affected by our arctic conditions and also has a positive effect on the soil and water, needing less pesticide than wheat or barley.

Our Arctic conditions have formed a reference framework for the development of oat varieties. Those suitable to the challenging conditions have been developed using top research expertise in Finland.

The cool air combined with ideal humidity supports the maximisation of oat grain cell numbers and the size and high hectolitre weight of the kernel.

Erkki Oksanen/Luke

Oat production and research are of the highest level in Finland.

Erkki Oksanen/Luke

Caraway field.

Case: Caraway has a unique flavor

The winter and frost support perennial caraway cultivation in Finland. Winter itself reduces plant diseases and pests, and the winter and frost also promote the flowering of perennial varieties, which is in turn a prerequisite for seed production.

The selection of varieties plays a major role in oil content and the quality of the seed. The multi-annual varieties cultivated in Finland have, as a rule, higher oil concentrations than annual varieties. The advantage of the perennial varieties is they can be sown whenever suitable weather conditions arise in May to July. Finnish know-how maintains the oil content during harvesting, drying and storage.

Ground frost is an essential element of the winter conditions and enhances the structure of the soil, promotes plant water supply, and supports the potential for direct sowing of caraway. A straight sow is an environmentally friendly form of cultivation, reducing the strain on the soil.

In addition to our ecological conditions, which are ideal for perennial caraway, its cultivation benefits both our soil and biological diversity. As a perennial plant, caraway slows field erosion and thus reduces nutrient leaching. Caraway is also a multi-use, high-performance nutrient utilizer yet modest in terms of nitrogen consumption, which again makes for a low risk of nutrient leaching.

Janne Lehtinen/Luke

Flowering caraway.

As a multiannual plant, caraway also enhances biological diversity, promotes the living conditions of pollinators and other useful insects, and provides food for many natural enemy pests (animals and parasites). Caraway also exploits the water resources of the soil effectively early in the spring and requires no irrigation.

Jouni Hyvärinen/Luke

Bilberry in autumn colours.

INTENSE GROWTH DURING THE SUMMER

SPECIAL ARCTIC LIGHT

The brightness of the short arctic summer has an important effect on wild and farmed plants. There is no other place on earth where grain is farmed during a growing season when the days are as long as in Finland.

In fact, above the Arctic Circle the sun does not dip below the horizon at any point of the day. There is much to offer during the growing season when the days are long. At the height of the summer, southern Finland has 19 hours of daylight as the sun sets late and rises early. Lots of light makes for intense cereal growth. The longer the day, the faster the grain develops.

In arctic conditions, perennial crops take advantage of the early spring light. High levels of chlorophyll in Arctic plants accelerate photosynthesis whose optimum temperature is lower than the species in other areas. The plant's breathing accelerates sharply and is faster than usual at night, too. During the growing season, the daily rate of growth matches that of the warmer climate plants.

Case: Bilberry and other aromatic wild berries

Northern plants can be roughly divided into those that favour a thick snow cover, those that tolerate winter without snow, and plants for which the thickness of the snow covering is irrelevant.

For berry plants, bilberry (vaccinium myrtillus) needs a protective layer of snow for the winter season, while lingonberry is more resistant and can cope with a thin covering.

A thick covering is essential for bilberries to thrive in Finland. The early winter temperatures, especially at -20 °C, start to damage the shoots and a snow blanket of less than 10 cm results in frost damage to a third of blueberries.

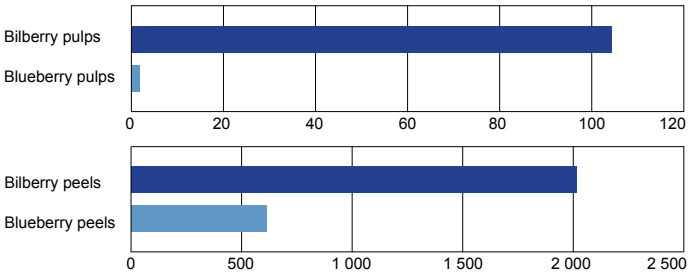
Wild berries grow without fertilizers, irrigation and plant protection products, and are therefore free from pesticide residues or the hygiene risks posed by sprinkling irrigation. Finland's geographical location, northern and continental, guarantees not only large berry yields, but also good quality.

Anthocyanin concentrations in bilberries are high compared with other berries, about 3-5 times those of cultivated blueberries. Anthocyanins are bioactive compounds that also act as blue and purple pigments in the peels and pulps of the berries. As cultivated blueberries are light inside, the difference between the two species is considerable.

Anthocyanins have been proven to have many health-promoting effects. Scientific research has provided evidence of the preventive effect of anthocyanins in cardiovascular diseases, inflammation, and age-related degenerative diseases. The anthocyanins in berries have also been proven to promote cognitive functions and eye health.

The Finnish climate is cool. At the height of summer, southern Finland has 19 hours of daylight and above the Arctic Circle in the north the sun does not set. Research results show that levels of anthocyanins increase when there are more daylight growing hours. The anthocyanin levels of wild bilberries are high throughout Finland.

Content of anthocyanins in bilberry *(Vaccinium myrtillus)* **and blueberry** *(Vaccinium corymbosum, V. angustifolium)* **pulps and peels**
(mg/100 g fresh weight)



Source: Riihinen et al. 2008.

Anthocyanins have many proven health-promoting effects such as preventing cardiovascular diseases and inflammation.
Bilberry (*vaccinium myrtillus*) grows wild whereas blueberry is cultivated.

Erkki Oksanen/Luke

Lignonberry (Vaccinium vitis-idaea) grows wild in Finland.

Tuukka Ervasti/Ruokatieto

Broiler production chain is efficient because it is based on contract production. Broiler farms are mainly located in Southern and Western Finland.

HEALTHY LIVESTOCK

Livestock are cared for in the best possible manner. Hormones to enhance growth are banned and antibiotics are administered only to sick animals on the orders of a veterinarian. Pigs have tails because the animals are well looked after and there's no tail biting as stress levels are low and living conditions good. There's no salmonella since the hygiene of the animals, workers and production spaces are controlled.

The foot pad index is used as an indicator of broiler flock welfare. A score under 40 indicates a flock is in good condition. The majority of broilers slaughtered in Finland score under 40.

Pigs are kept indoors and the closed, controlled facilities enable the optimization of animal welfare factors, including temperature and air conditioning. The temperature of the building can be maintained in a steady state and good air quality ensured. The pig's body functions optimally in a thermoneutral area. If the air is too hot, the pig doesn't sweat, and will reduce its feed intake which decreases growth. The closed facilities reduce the danger of pests, birds and other animals intruding, and the disease risk.

Restricted use of antibiotics, for medication only

An antibiotic, or antimicrobial, is a substance that kills other micro-organisms, or inhibits their growth. European reports published since 2010 show that sales of antimicrobials for food-producing animals are very moderate in Finland. Total consumption between the extremes of application can differ a hundredfold. The proportion of antimicrobials critically important to human medicine is low in Finland.

Finland favours individual medication, whereas joint results for Europe show most antimicrobials were administered to animal groups in feed or drinking water. In 2015, the proportion of pharmaceutical injection and other products for individual medication was 60 % in Finland, while in Europe

Erkki Oksanen/Luke

Pigs have healthy tails showing that animals have good living conditions and low stress level.

more than 90 % of antimicrobials sold for use in livestock were administered to animal groups. The use of antimicrobials for animals has been strictly regulated for decades. In Finland, antimicrobials are prescription only medicines and a veterinarian is not allowed to profit from the medicines sold or used. Finland voluntarily gave up the use of antimicrobials as growth promoters already in 1996.

A strong regulatory framework, determined guidance and a focus on livestock health care and the prevention of infectious diseases in animals have yielded results. The use of antimicrobials for food-producing animals is especially moderate in Finland by international standards.

Effective animal disease prevention

Finland's climate and remote location have contributed to positive animal health. We have a long tradition of animal disease prevention. The farm and geographical structure of livestock production has contributed to prevention, since livestock farms are fewer and the frequency of animal transports lower than in many other European countries. In addition, the density of livestock is lower than in Central Europe.

Salmonella has long been prevented from entering the animal production and food chain in Finland, making Finnish food safer in that respect than in many other countries. Salmonella is a group of bacteria that can cause serious gastrointestinal and general infections.

One way of ensuring the low prevalence of salmonella in the food chain is the national Salmonella Control Programme (1995), which covers cattle, pigs and poultry, and the meat and eggs produced from them. Within the programme framework, Finland is committed to keeping the occurrence of salmonella below 1% in each species. In poultry meat and egg production, salmonella is monitored throughout the production chain, from the grandparental or parental generation to productive poultry.

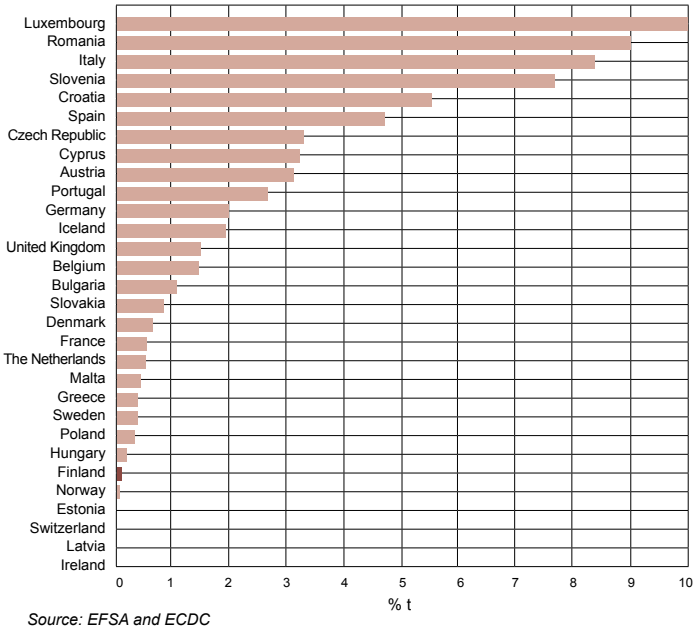
So we can eat uncooked eggs without concern and dough be given to children.

Total sales of antimicrobials in proportion to the number of food-producing animals and sales of antimicrobials critically important to human medicine in 30 EU/EEA countries in 2015
(mg/PCU, milligrammes of active ingredient per population correction unit)

	Range of results from 30 countries	Finland
Total consumption	3–434	20
3rd and 4th generation cephalosporins	0–0.6	0.01
Fluoroquinolones	0–9.5	0.1
Macrolides	0–29.1	1.1
Polymyxins	0–34.9	Have never been used in food-producing animals in Finland

Source: European Medicines Agency, European Surveillance of Veterinary Antimicrobial Consumption, 2017

Salmonella in broiler flocks before slaughter (flock-based data) in countries running control programmes, 2015



Source: EFSA and ECDC

Bryan Saragosa/Arctic Food From Finland/Ruokatieto

FOOD SAFETY

An appropriate degree of food hygiene proficiency among employees is a statutory obligation in the EU for food sector companies, and must also be demonstrated in some way. Finland created a national hygiene proficiency system based on EU legislation in 2002, and instituted a special test to assess the level of proficiency.

The Hygiene Passport system is a success story that has achieved huge popularity in Finland. More than 1.1 million hygiene passports (covering around 20 % of the total population) have been issued, well above the number whose job would require they held the passport. Many food companies have expanded the requirement of their own accord to apply to all food employees within the company. This reflects the keen interest among Finns in clean and safe food and is a clear indication of the robust food hygiene proficiency of Finnish food industry employees.

In addition, all actors in the food supply chain are required to commit to a written self-monitoring plan, approved by the authority, designed to ensure the companies themselves monitor the safety of the products they handle. It is a continuous process to guarantee the safety and quality of the food supply chain.

MILK AND MEAT PRODUCTION

The Finnish dairy sector shares these strengths. Farm animals' health and well-being and high quality products are paramount. Healthy animals need little medication and the high quality of Finnish milk has been proven in Nordic comparisons.

Meat and milk production are strongly linked to the production of domestic feed. In practice, also feed is produced along with the animal production in the farms. The benefits of northern feed production relate to the length of the day, the digestive qualities of the grass are maintained better in feed plants cultivated in northern compared to southern conditions.Thanks to the cool climate, the barns deliver cool, good air quality. Despite a long period of indoor feeding, most cattle have opportunity to excercise outside.

Erkki Oksanen/Luke

Arctic dairy and meat production utilizes mainly domestic feed.

FISH

Fish farming is a licensed, strictly regulated and controlled business. Operations are located by the sea and Finland's inland waters. The newest form of fish farming, recirculating aquaculture, involves recycling and cleaning the water used.

The fish farming sector manages its environmental, economic and social responsibilities in business and production methods. Farmers comply with high ethical values, including animal welfare and environmental protection regulations, the protection of cultivated fish, and occupational safety. Water management is integral to modern fish farming.

Markus Kankainen/Luke

Almost 95 per cent of the fish farmed for food in Finland is rainbow trout.

Bryan Saragosa/Arctic Food From Finland/Ruokatieto

Arctic food
from Finland

It's unique.
It's straightforward.
It's arctic.

FURTHER INFORMATION

www.arcticfoodfromfinland.fi

Project has been funded by European Agricultural Fund for Rural Development (EAFRD)

TEXT AND PICTURE SOURCES

www.luke.fi/ruokafakta/en/frontpage/

www.arcticfoodfromfinland.fi/

http://urn.fi/URN:ISBN:978-952-326-094-8

Pictures: Luke/Picture archive, CC0/Arctic Food From Finland, Ruokatieto/Picture archive

ARVI – ARKTISUUDESTA ELINTARVIKEVIENNIN KÄRKI HANKE 2016–2018

Luke NATURAL RESOURCES INSTITUTE FINLAND

Ruokatieto

Reilua.fi

The European Agricultural Fund for Rural Development
Europe investing in rural areas