



Climate Programme
for Finnish Agriculture

**STEPS TOWARDS
CLIMATE FRIENDLY
FOOD**

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Food production is strongly dependent on the natural conditions. These are going to change along with the changing climate. By producing food in a sustainable way we can make a significant contribution to climate change adaptation. Food production also impacts on the environment. How we produce and consume food is truly important. This brochure presents eight steps towards climate friendly food.

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Climate change alters the circumstances in Finland and globally.

The global mean temperature is rising and the growing season is getting longer. Extreme weather events will be stronger than before. Autumn and winter precipitation increases. If we are able to utilise the opportunities all this brings along while mitigating the negative impacts, both the volumes of agricultural production and the range of products may grow.

Food must be produced and consumed in a sustainable way.

Optimising the use of inputs becomes even more important as there is less energy, water and productive soil available.

Food production can be increased in a sustainable way with the surface areas we now have for this purpose. This reduces the emissions per litre or kilo produced.

By improving the sustainability of production we can also achieve higher profitability.

Measure 1

Proper management of the soil

Arable land produces more when organic matter is added into the soil or plants are cultivated that produce abundant biomass.



”The soil is the most important and valuable production factor for the farmer, which is why it has to be managed accordingly. The very same measures that fix carbon in the soil and slow down climate change also increase the productive capacity and resilience of the soil”, says farmer Juuso Joonas from Tyynelä farm in south-eastern Finland.

Measure 2

Climate friendly management of peatlands

Preservation of soil organic matter can be improved by not clearing peatlands for farming and by cultivating perennial plants on lands with peaty soil.

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”When working on peaty lands more greenhouse gases are released to the air than in the cultivation of mineral soil. This is why, whenever possible, peaty lands should be used for the cultivation of grasses, for example. Perennial grass cover reduces nutrient leaching and soil erosion and improves carbon sequestration in the soil”, says Perttu Virkajärvi, Professor at the Natural Resources Institute Finland.



Measure 3

Breeding new plant varieties adapted to the new conditions

Profitable production can be ensured by producing and cultivating plants that are suited to the changed circumstances.



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”At Boreal Plant Breeding we are capable of producing plant varieties that take different times to grow and to improve stem strength. We enhance the resilience of the plants against diseases and pests. We also improve the adaptability of plants to yield a crop in the varying cultivation environments in different parts of Finland”, says Merja Veteläinen, Director at Boreal Plant Breeding Ltd.



Measure 4

Plant and animal health is ensured and the spread of invasive alien species is prevented

The best way to minimise damage is to take preventive action as early as possible.

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”Through inspections we aim to prevent the entry of new dangerous pests to plantations, forests and gardens. In market control of wholesalers we may detect batches of seedlings infected by pests before the seedlings are planted to their final sites, thus preventing damages that the spread of pests would cause”, says Marko Pirinen, Inspector at the Finnish Food Safety Authority Evira.



Measure 5

Manure is processed to make it readily usable and nitrogen fertiliser is used according to the needs of the plants

The most efficient way to use nutrients is to base this on the needs of the plants.



”We used to apply fertiliser only when sowing. This started to feel wrong as we did not know anything about the growing conditions of that particular summer. We decided to apply part of the fertiliser when sowing and the rest later on using the new technology. A sensor on top of the tractor measures the biomass and chlorophyll content of the vegetation and then tells the spreader how much fertiliser is to be applied and where this should be placed. This gives us more even vegetation with less flattening and improves the quality of the crop produced”, says Teemu Helkala, farmer and agrologist from Elimäki in south-eastern Finland.

Measure 6

Energy efficiency is improved and renewable energy sources substitute for fossil energy

Through better energy efficiency we achieve higher profitability and reduce greenhouse gas emissions.

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”We use renewable energy to produce all the heat used in the greenhouse round the year. For electricity production we use our own hydropower. To save electricity we have designed a LED lighting system and use multi-level growing”, says Sami Oksanen, Commercial Horticulturist at Virolan Puutarha in central Finland.



Measure 7

Food loss is reduced all through the food chain

By utilising edible leftovers in cooking and by processing side-streams in primary production and food industry into bio-based products we can save both natural resources and money.



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”We tell about the ingredients of different foods and organise contests in reducing food loss between the school classes. Excess food from the buffet is sold to outsiders, thus reducing loss”, says Tanja Koski, Municipal Catering Manager.

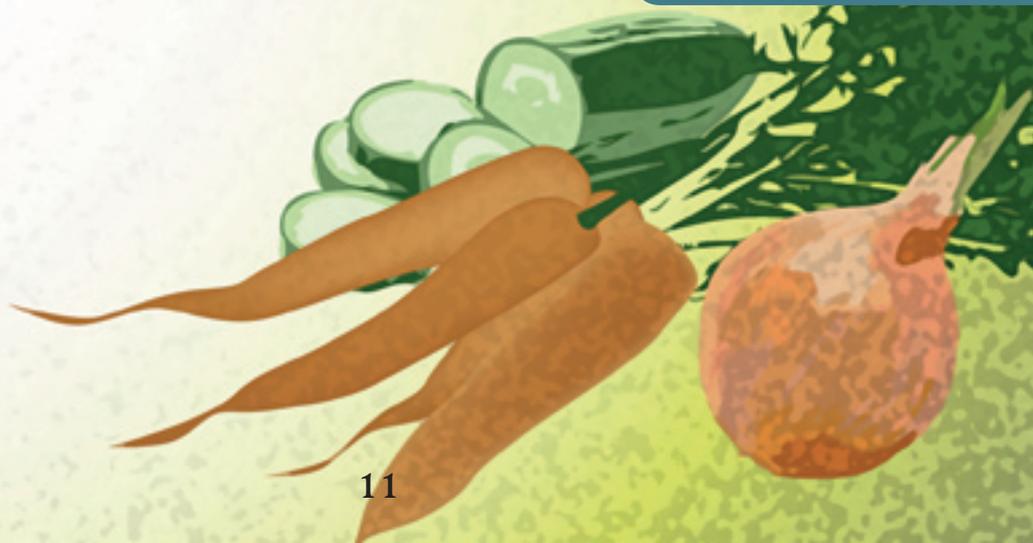
Measure 8

Towards a more plant-based diet

A more plant-based diet means healthier and more environmentally friendly eating.

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”A mixed, mainly plant-based diet in line with the nutrition recommendations promotes the objectives of the climate programme. In our own kitchen we show our commitment to the climate programme by being increasingly careful of what we buy. We favour a mixed diet with plants predominating and rejoice over fresh seasonal products. More and more often the protein in our meals is of plant origin. We also season the meat dishes with root plants”, says Arja Lyytikäinen, Secretary-General of the National Nutrition Council.





Further information on
the climate programme at

www.mmm.fi/climatefriendlyfood