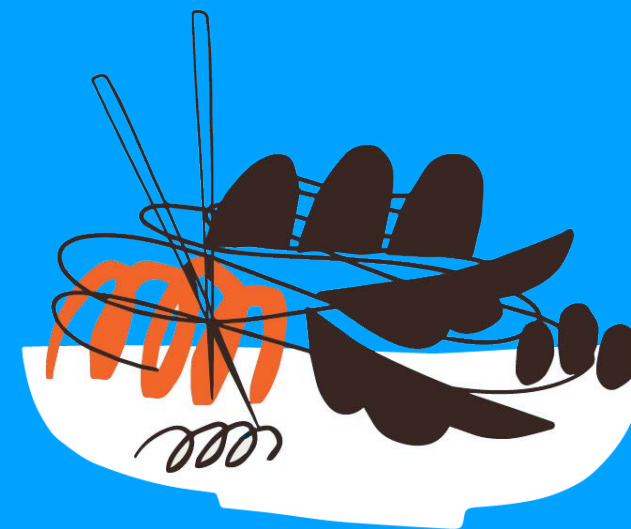


Legumes contribute to a sustainable food system

The climate crisis, the decline in biodiversity and the spread of non-communicable chronic diseases challenge our current ways of producing and consuming food. The legumes that can be successfully grown in northern Europe include faba bean, pea, and clovers, which can promote environmental and economic sustainability and human health. In order to increase the cultivation and use of legumes in Europe, decision-making must support the entire value chain of leguminous plants.

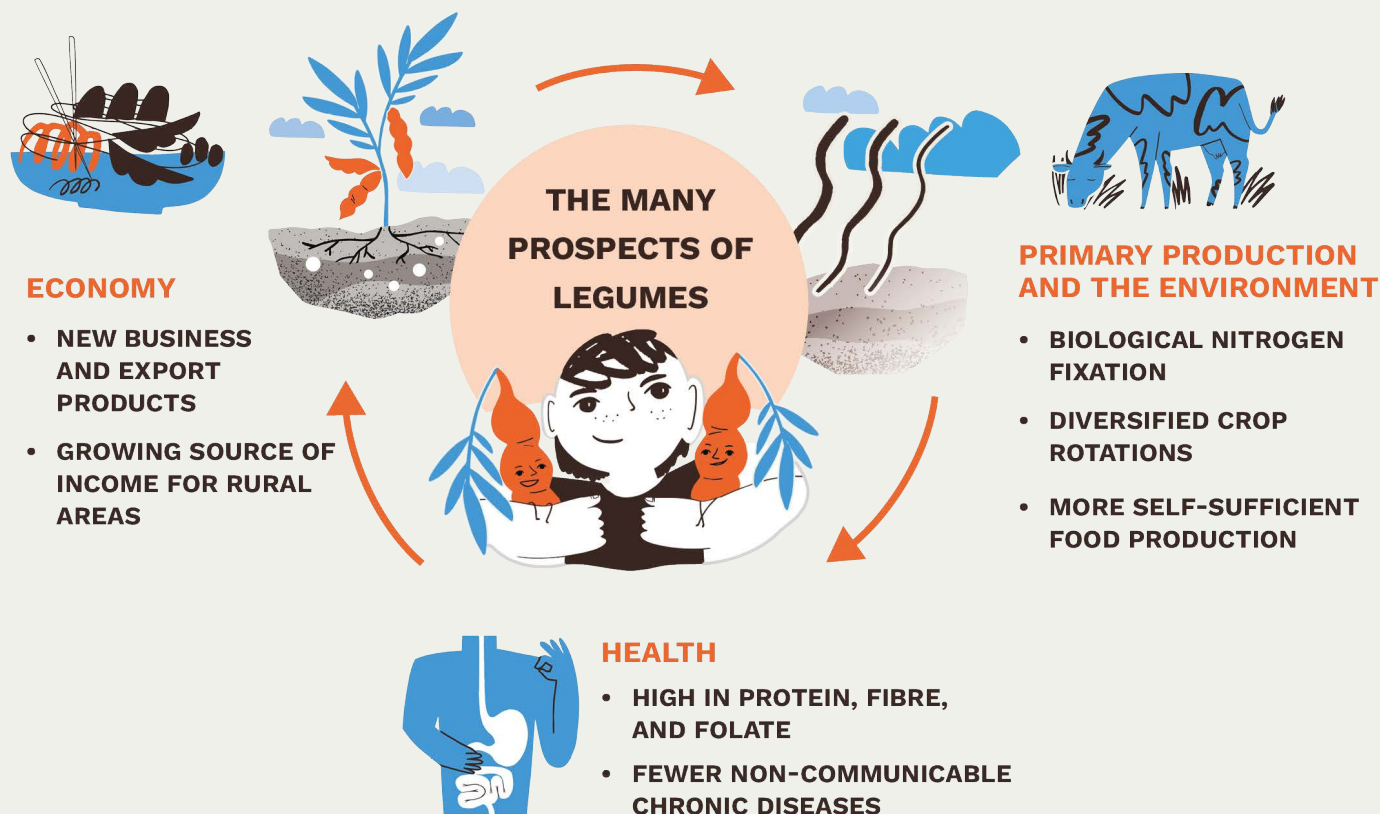


This is how you can support the legume value chain and promote the transition to a sustainable food system

- 1. Create favourable conditions for utilising legumes.** Leguminous plants help the European Union achieve its sustainability objectives by reducing the adverse environmental impacts of the food system.
- 2. Improve the opportunities for legume cultivation and use.** The cultivation of legumes in Europe reduces dependence on nitrogen-containing fertilisers and plant proteins imported from outside the European Union. Investing in a growing sector produces economic well-being.
- 3. Increase the dietary consumption of legumes.** Partial replacement of red and processed meat with legumes helps to improve dietary sustainability from the perspective of both health and environment.

1. Create favourable conditions for utilising legumes

Legumes help the European Union to make the sustainability leap in food production. Increasing the regional cultivation and use of legumes requires changes in primary production, food industry, food services, and consumer choices.



Increasing the cultivation and use of legumes brings several benefits:

- Legumes fix nitrogen, so they need little or no inputs of nitrogen fertilisers and thus save fossil energy.
- Legumes increase the biodiversity of the agricultural environment and are food crops for pollinators.
- Legumes improve the sustainability and self-sufficiency of local primary production and food production.
- Legume consumption promotes a sustainable and healthy diet and helps reduce non-communicable chronic diseases.

So far, the European Union cultivates and utilises legumes very little in food production. The production and consumption of legumes can be increased by paying attention to the entire value chain of leguminous plants. This means that **decision-making, political guidance, advisory services and research actively promote legume cultivation and breeding, food processing and product development, utilisation of side streams, and sustainable consumer choices.**

2. Improve the opportunities for legume cultivation and use

The cultivation of legumes and production of legume foods are areas of current research and future development. The global food market for plant proteins is expected to grow at an annual rate of about 10 per cent in the 2020s. The European Union has the opportunity to create new business and economic growth from the sustainable food system transition.

In addition to generating protein suitable for human and animal consumption, legume production creates environmental benefits and new business. Grain legumes are grown on 2.7% of the European Union's arable area. According to Leg4Life project's producer survey, the greatest obstacles to the wider utilisation of legumes in Finland are the uncertainty and poor profitability of cultivation. Both can be influenced by various **economic instruments**. For example, contract farming can safeguard the farmer's sales in the ever-

changing market. **Advisory services and research funding** are also needed to develop legume varieties and production systems that are more reliable in European agro-climatic conditions.

For example, before plant protein products can be made of faba bean, industry producing food ingredients such as protein isolates and concentrates is needed. In order to support the consumption of legumes, it is important to promote the **product development** of legume-based foods and to ensure that **diverse, high-quality ingredients** are available and produced locally. The quality requirements for these products may differ from those for other uses, necessitating further **development work at the breeding** level.

The interest in legumes as ingredients in the food industry is increasing, and the development of leguminous plant products is vigorous. **Research is needed to support the development** of legume-based foods that taste good, are gut-friendly and are easy to embrace in everyday life.



77%
of Finnish producers and

72%
of consumers
consider it important to produce
leguminous plants in Finland.

52%
of Finnish producers
agree that legume production will
be a new source of income for rural
areas.

Surveys commissioned by the Leg4Life project for Finnish farmers (n=2,085) and consumers (n=1,000)



33%

of Finnish consumers

are of the opinion that they could increase the consumption of legume products if they were offered more at the lunch restaurant at their work or educational institution.

46%

of Finnish consumers

consider Finnish origin to be an important factor that would increase the use of legume products.

Surveys commissioned by the Leg4Life project for Finnish farmers (n=2,085) and consumers (n=1,000)

3. Increase the dietary consumption of legumes

The consumption of legumes in Europe is low, although there is growing interest in them. Even small changes towards a more plant-based diet are useful if the majority of people make the change.

Legumes account for only 1% of EU citizens' protein consumption. For example, Finns consume only about 13 grams of legumes a day, a little more than a tablespoon. Only about one fifth of all Finnish adults eat the recommended minimum amount of vegetables, fruit and berries. On the other hand, almost 80% of Finnish men and more than 25% of women eat more than the recommended amount of red and processed meat. A diet that includes a lot of red and processed meat and few vegetables, fruit and berries is linked to increased mortality and the risk of type 2 diabetes, cardiovascular diseases, and colon cancer.

Leguminous plants are a good alternative to red and processed meat. Legumes contain plenty of protein and are good sources of fibre, vitamins, and minerals. **Reducing meat eating and increasing the consumption of plant foods** could bring significant benefits to the health of both the population and the environment.

In order to increase the proportion of legumes in diets, **consumer awareness, skills and motivation to utilise legume-based foods must be promoted** in addition to promoting legume production and product development. In Finland, for example, public food services in schools and workplaces make legume-based foods known to consumers. Consumer choices are guided by factors such as **food prices**, which can be influenced by policy instruments.

The Leg4Life research project advances the health and well-being of the population and environment by promoting the cultivation of legumes and their use as food and feed. Leg4Life (2019–2025) is a joint project between the University of Helsinki, the Finnish Institute for Health and Welfare and the Natural Resources Institute Finland. The project is funded by the Strategic Research Council (SRC) established within the Research Council of Finland.

Sources and more about the topic: www.leg4life.fi/policybriefs

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