

Call text – Food and Health 2022

Lantmännen Research Foundation supports research which can contribute to achieving sustainable and lucrative food systems. Recent developments have also highlighted the importance of secure food supplies. The aim of this research area is to generate new knowledge that can be used in the development of future foods and ingredients from grains or other plant-based raw materials, which enhance possibilities for a healthy diet and a sustainable food chain. The scope of the research area extends through the entire chain from raw materials to consumption. If you have a project idea, we are open for a dialogue before you submit your application.

Health benefits of grains and legumes



Grains and legumes are important components in Nordic diets and have numerous positive effects on our health. We are especially interested in these effects along with knowledge-generating projects that promote the development of tasty, healthy and innovative foods based on grains or legumes.

Current focus areas:

- The consumption of grain and/or legume products as part of a healthy diet.
- The impact of individual components, such as fibers and whole grains, on metabolic syndrome, blood sugar and insulin regulation, bowel health, and cognition. The effects of malting and fermentation are particularly interesting.
- Sustainable nutrition, with a strong focus on whole grains, public health and environmental aspects. The differentiation of the nutritional content in plant based food products for the establishment of healthy and environmentally sustainable diets.
- Individual nutrition, the role of foods, adapted to individuals or groups of individuals, in optimizing health effects in which foods are customized to individuals or groups of individuals, for more optimal health effects.

Where it is relevant applications should take into consideration how knowledge gained can be used to support future health claims. The Foundation does not finance research where children take part in the study.

Bread quality



Breads and other baked goods make up a large portion of our diets. To help contribute to future foods and sustainable food systems new insights are needed regarding flours, the chemistry of baking and baking processes. This research area includes knowledge of raw materials, ingredients and processing techniques used to produce bread and other baked goods, with respect to good taste, right texture and sustained shelf life.

Current focus areas:

- The functionality and properties of flours and their inherent components on baking characteristics and the end products. The importance of gluten quality is in focus.
- The baking process. How do ingredients interact with each other during different processing stages, from dough formation, proofing and baking until the bread is consumed (fresh and/or during and after freezing).
- The distribution and retention of water during baking, storage, freezing and thawing. How can this be controlled to retain taste and texture in the bread?
- Improved taste and texture in breads with high contents of whole grain and fiber. Breads based on wheat, rye or oats are of interest.
- The use of sourdough and yeast cultures to improve taste, texture and sustained shelf life.

- Novel solutions in process technologies to improve product and storage quality. Improved energy utilisation is also an area of focus.
- Packaging solutions which help maintain taste, texture and crispiness.

Ingredients of grains and legumes in foods

There is a big demand for different plant-based ingredients to be used in innovative products. To meet this need, current technologies for fractioning and further processing of grains and legumes need to be further developed and improved.



Current focus areas:

- Fractioning and upgrading of raw materials and side streams for new ingredients and foods.
- Knowledge concerning the raw materials and both the chemical compositions and structures of the generated fractions, and their correlations to the functional properties, as well as how these can be controlled by different processing methods.
- Deeper understanding of the role of starch, protein and fiber from grains and legumes in various food applications.
- Innovative processing methods for the production of attractive (taste and texture) products based on grains and legumes.

Where appropriate, applications should contain descriptions of the scaling-up procedures and techno-economic analyses of the employed processing methods.