LANTMÄNNEN
RESEARCH FOUNDATION

Call text – Bioenergy and green materials 2025

The encompassing goal is to support research which, by utilising all of the potentials in the entire agricultural process chain, contributes to a more bio-based society. Strong focus on raw materials from grains and pulses. Applications should, where relevant, include a description of scale-up and techno-economic analysis. The sustainability aspect of new processes should also be considered. If you have an idea for a project, we are happy to discuss choice of materials and processes before you file your application.

Bioenergy and biorefineries of the future

Energy and fuel components derived from environmentally smart and green sources are necessary to achieve a fossil free agriculture and society by 2050. Our goal is to create a project portfolio with the aim of both improving existing products and developing new energy products, preferentially using new raw materials and/or production processes.

Current research areas:

- Fossil free components for diesel and petrol-based fuel, as well as ethers such as ETBE.
- Fossil free and sustainable components for lubricants (base oils).
- Fossil free fuels for agricultural machinery that preferably can be used in today's diesel engines without modification.

Note that it is of great important to investigate how new fossil free components affect the properties of the final product in intended applications.

Green materials and biochemicals

Lantmännen's biorefineries and mills produce a wide range of products based on oats and wheat, and in the near future peas and faba beans too. Many of these are potential raw materials in the development of, for example, fossil free binders, oils, fuel components and packaging material.

Current research areas:

- Next generation ester-based bio-oils for use in agriculture and forestry.
- Bio-based and degradable lubricants.
- The potential of bioethanol or wheat starch as a raw material in green materials and bio-based chemicals.
- Recyclable and environmentally sustainable packaging materials for, primarily, grain-based foods.

Increased value in product streams and side streams

Grains, beans and peas contain components such as starch, protein, fibre, cellulose and hemicellulose, which all can potentially be used in new, innovative applications.

Current research areas:

- Innovative areas of uses and applications for starch from wheat, peas and faba beans.
- Fibre-rich fractions such as wheat bran, oat husks and pea husks as raw materials for green materials and chemicals.
- New applications for capturing biogenic carbon dioxide permanently (e.g. in building materials).