LANTMÄNNEN
RESEARCH FOUNDATION

Call text – Bioenergy and green materials 2024

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 grains, but the raw material base also includes pulses for example. 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:

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

Note that in the development and adaptation of renewable components, it is important to investigate how they 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 which have huge potentials for development into fossil free materials and chemicals such as 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.
- Native wheat starch and/or modified wheat starch as a raw material in green materials and bio-based chemicals.
- The potential of bioethanol as a raw material in green materials and bio-based chemicals.
- Wheat starch and the potential of bioethanol as a raw material in renewable building blocks.
- 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, hemicellulose and lignin, which all can potentially be used in new, innovative applications.

Current research areas:

- Innovative areas of uses and applications for starch from wheat, oats and peas.
- Fibre-rich fractions such as wheat bran and oat husks as raw materials for green materials and chemicals.
- Spent grain from bioethanol production as a raw material for green materials and chemicals.
- New applications for biogenic carbon dioxide.
- Specific factors in grains and peas that affect yield in various industrial processes. One example is the gluten yield when fractionating wheat.

Applications should, where relevant, include a description of scale-up and techno-economic analysis of the process methods used. The sustainability aspect of new processes should also be considered.