

Grain legumes – for stable and table

The interest in local production of protein crops for food and feed is increasing due to a demand for guaranteed GM-free, 100 pct. traceable, climate and environmental friendly production with resulting healthy and high quality products. A local production does not rely on imports and world market prices. Grain legumes are valuable in organic production systems due to their self-sufficiency in nitrogen. Local and regional production will be the subject of session D6.

The development of a production of Danish organic protein feed for Danish organic farm animals has been supported by a four year project called “EcoProtein - Danish organic protein for organic farm animals” (2012-2015). The Organic Farming section at SEGES is the organizer of the project which also involves the Faculty of Science and Technology at Aarhus University, a number of private companies and several organic farms. The EcoProtein project is the organizer of the international sessions about grain legumes at the Danish Organic Congress. The aim is to give inspiration and exchange knowledge and experiences across Europe.

The main focus of the EcoProtein project has been Faba bean and to some extent lupine. Faba bean has turned out to be a successful crop in the organic crop rotations. The cultivated area with Faba bean in Denmark has over the project period increased by five times. When introducing a new crop care has to be taken to avoid diseases. Session F8 will deal with the issue of how to avoid diseases.

The ambition of the project was to produce organic protein for animal feed and thereby reduce the extensive import of soya. Different processing steps in the field-to-final-product chain have been tested in order to investigate amino acid composition and the amount of undesirable compounds, which may reduce digestibility or harm the animals. Faba bean has proven to be a good protein crop for feeding livestock. Feeding trials and demonstrations have tested the productivity and quality of milk, eggs and pork after optimising the feeding with processed or non-processed protein crops in organic dairy cattle, finishing pigs and egg-laying hens. In session F7 results and experiences from the EcoProtein project will be presented.

Grain legumes for human consumption are another interesting aspect of grain legume production, that can increase the value of the crop and at the same time provide healthy and vegetarian proteins. Session E2 will give examples of how grain legumes can be integrated in the human diet.

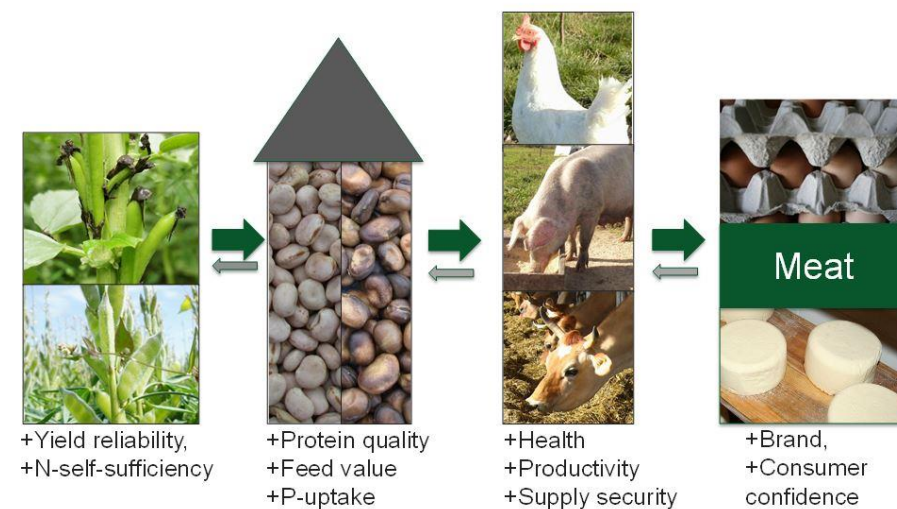


Figure 1. The EcoProtein project confers advantages at all stages of the chain



Grain Legumes

Sessions about organic Grain Legumes at the Danish Organic Congress 26th November 2015

Sponsored by the Green Development and Demonstration Programme (GUDP) through the EcoProtein project



D6 Supply of Organic Grain Legumes in Europe

Thursday 26th of November 9.00-10.30

Imported soybean from non-European countries has been questioned from an environmental and climate point of view and the interest in protein supply based on locally and regionally produced grain legumes has increased. Different initiatives emerge around Europe with the objective to supply Europe with sustainable grain legume production. This session will take a view on the European situation seen from a German perspective and also present an example from Sweden, where there is a high share of protein supply from local Faba bean production.

Key questions

- Can an individual country like Sweden or Germany rely solely on local production in a future perspective?
- What are the possibilities and limitations in organic grain legume production?
- How are policy issues affecting the production of grain legumes?

Presentations

Sustainable and regional supply with organic grain legumes in Europe

Dr. Klaus-Peter Wilbois, FiBL, Germany

Local Faba bean production in Sweden

Henrik Nätterlund, HS Konsult, Hushållningssällskapet, Sverige

Chairman *Lars Egelund Olsen, SEGES, Denmark*

E2 High value Grain Legumes for the Food Industry

Thursday 26th of November, 11.00-12.30

Grain legumes are important crops in organic production providing nitrogen through biological nitrogen fixation and delivering protein feed for organic husbandry. Alternative uses of grain legume proteins as sustainable, healthy and affordable ingredients for the food industry can provide additional and interesting market opportunities with economic benefits for the farmers. This session will provide examples of Faba bean and lupine as sources of such plant proteins. Beans and other grain legumes also provide interesting opportunities for the market on fresh or dried products.

Key questions

- What is the market potential for locally grown grain legumes for food purposes?
- Is the necessary technology to extract and treat the proteins available?
- How do we optimize local grain legume production for human consumption?

Presentations

Faba bean for Bread and Pasta production

Senior Scientist Sözer Nesli, VTT Technical Research Centre of Finland Ltd, Finland

Lupine - Back on the Menu

MSc Udo Prins, Louis Bolk Institute, The Netherlands

Cultivation of Grain Legumes for food

Per Modig, Advisor Organic Plant Production, HIR Skåne, Sweden

Chairman *Scientist Frederik Fogelberg, JTI - Swedish Institute of Agricultural and Environmental Engineering*

F7 Feeding of Organic Husbandry with locally grown Faba Beans

Thursday 26th of November, 13.30-15.00

New varieties of Faba bean have enabled successful local Faba bean production in Denmark. At the same time varieties have been made available with low tannin content for pigs and with low content of vicine and convicine for poultry, substances which in large amounts can be harmful. Such varieties have been tested in feeding trials and demonstrations with organic husbandry, and preliminary conclusions from these results and from practical experiences will be presented.

Key questions

- Are there any negative or positive side effects when feeding with Faba bean?
- Is meat, egg, and milk production affected when feeding with Faba bean?
- Is it economically feasible to use Faba bean in the diet for organic husbandry?

Presentations

Faba Bean for Egg-laying Hens

Senior Researcher Sanna Steinfeldt, Aarhus University, Denmark

Slaughter Pigs Feeding Demonstrations with untreated and fermented Faba Bean

National specialist Tove Serup, SEGES, Denmark

Heat treated Faba bean for Organic Dairy Cows.

Specialist Kirstine Flinholm Jørgensen, SEGES, Denmark

Chairman *Dipl.-Ing. agr. Ulrich Ebert, Ökoring, Niedersachsen, Germany*

F8 Disease Management in Organic Grain Legumes

Thursday 26th of November, 13.30-15.00

Crop rotation, soil management, mixed cropping systems and breeding for resistance can be important tools to avoid diseases in organic grain legumes. Newest knowledge on disease management will be presented.

Diagnostic tools and soil mapping of pathogens is another possibility to prevent infections with soil borne diseases by avoiding cultivation of specific crops in high risk fields.

Key questions

- Will an increase in the cultivated area with organic grain legumes potentially lead to more disease problems?
- Practical advice: How many years cultivation pause is required in different grain legumes to avoid soil borne diseases?
- Can use of populations prevent diseases?

Presentations

The challenge of managing diseases in organic grain legumes

Professor Dr. Maria Finckh, University of Kassel, Germany

Biological Soil Mapping of Pathogens to prevent diseases in organic grain legumes

Researcher Ann-Charlotte Wallenhammar, Swedish University of Agricultural Sciences SLU, Sweden

Chairman

Senior scientist Luciano Pecetti, Centro di Ricerca per le Produzioni Foraggere e Lattiero-Casearie (CRA-FLC), Italy