TRansition paths to sUstainable legume-based systems in Europe

Case Study Nr. 10

Market model for legume-based feed for organic pig production

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Objective of the cases study

Organic European protein is not available in sufficient quantities to cover demand in an increasing European organic pig production. There is a need to find alternative solutions to importing organic soya from non-EU countries, and organic fava beans, peas and lupines can be used as protein feed for organic pigs. This case study addresses the challenges, barriers and opportunities for using more legumes in organic pig production by investigating the production, supply chain and use in North Europe. The case of organic fava beans in Denmark is presented here as an example. The number of organic pig producers is increasing and, by 2020 it is expected that more than 200,000 organic pigs for slaughter will be produced in Denmark.

Fava beans as feed for organic pigs

Denmark lacks 30,000 tons of organic protein feed today and the market gap will increase in the future. Danish organic pig producers must comply with regulations stating the use of 100 % organic protein in the feed;

Compared to soy beans, the amino acid composition of fava beans does not cover the pig's nutritional need for essential amino acids. Farmers tend to overdose protein feed to the pigs to ensure sufficient amino acid supplies;

Growing demand for organic feed protein cannot be solved only by increasing cultivation of fava beans due to imperfect amino acid profile for pig nutrition;

Organic fava beans experience competition from alternative organic protein sources such as processed clover grass, starfish or seaweed;

Farmers' small crop volumes of organic fava beans is an important barrier for a more efficient cultivation, transportation and marketing of the crop to the feed industry. This encourages import of fava beans to Denmark;

The way forward

Denmark could increase area for growing organic legumes by 25 % to 23,000 ha;

Higher yields and increased stability in yields of organic fava beans could encourage farmers to grow this crop. Presently, a crop rotation of 6-7 years is recommended for organic fava beans in Denmark because of plant health issues.

The inclusion rate of organic fava beans is 5-10 % in organic compound feed for finisher pigs. Research suggests inclusion rates of up to 20 % for finisher pigs and and up to 25 % for piglets.

New ways of collaboration among farms and coordination of production are envisaged as ways to increase volumes and improve supply chain efficiency.

Larger supplies of Danish organic protein would make the crop more attractive to feed manufacturers for use in compound feed mixes for organic pigs. The market is there.

The case study is produced in collaboration with Lars Lambertsen, Senior Consultant in Organic Denmark.
www.okologi.dk

Policy Makers | **Inputs** | **Primary Production** | Aggregation | Processing | Distribution | Retailers | Markets | Consumers

WP1: Knowledge Exchange & Communication | **WP2: Case Studies** | WP3: Nutrition and Product Development | **WP4: Markets and Consumer** | WP5: Life Cycle Assessments and Environmental Assessments | **WP6: Economic Assessments of Legume Production and Consumption** | WP7: Policy and Regulations | **WP8: Transition and Decision Support Tool**

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