New protein sources to enhance sustainability and develop new products

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Proteins and sustainability

- Organic protein is still scarce EU exemption on conventional protein prolonged to 2020.
- Growing demand for proteins as organic pig and poultry production is growing.
- Growing demand for high quality proteins for vegetarian products.
- Legumes are important for organic rotations nitrogen and crop yield.
- Legumes improve sustainability by nitrogen fixation and carbon sequestration.
- But grain legumes are restricted by plant pathogens and by content of ANF and low content of methionine.
- Big quantities of organic soya are imported to the organic animal production in Europe.
- General EU Protein Strategy promoting an environmental sound way to more self-sufficiency in plant proteins.





New proteins

- Important to add new protein sources to the organic supply chain.
- Grass protein has properties close to soy protein (even more methionine).
- Grass clover crops are important for the sustainability of organic plant production.
- Starfish protein meal a new environmental sound protein source.
- Protect and promote mussel colonies that clean the sea water.
- **Insect protein** high productivity on residual sources with low environmental impact.
- Prospects for the use of new proteins in organic feed and food.





The development of organic grass protein

- Research and development projects in Denmark are developing the production of grass protein for organic feed and food.
- Fresh grass clover is pressed and the proteins from the juice are extracted.
- 1 ha of grass clover can deliver protein concentrate with 0,7-1 ton of crude protein.
- The grass protein has a good amino acid composition with high levels of methionine very suitable as feed for pigs and poultry.

Feeding trials with laying hens and with pigs demonstrate high feed intake and

productivity.







