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.