Protein from plants in a Nordic Bio-Economy

Biorefinery of plant protein and perspective, source criteria, quality
Collaboration and support

Ministry of Food, Agriculture and Fisheries of Denmark

Co-funded by the Eco-innovation Initiative of the European Union
IGM BioProcessing

- Water-based extraction
- Several different protein concentrates and isolates
- Soluble protein
- Gentle method leaves the proteins functional
- Holistic approach – all fractions are value added
TripleA technology

IGM BioProcessing

Defatted soybeans → Dissolving → Extraction
- Insoluble proteins & fibers
- Soluble proteins

Extraction → Extraction
- Soluble proteins
- Soluble proteins

Extraction
- Dissolvable fiber oligosaccharides
- Minerals
The Pilot plant

- Wet milling
- Washing section
- Decantor
- Separator
- SFE equipment
- Chromatography
- Whirl flash dryer
- Spray dryer
The plant

- Investment
  - € 20 mill
- Production start
  - September 2013
- Production capacity
  - 35,000 tons annually
- Certifications
  - ISO 22 000
  - GMP+
AlphaSoy® Premium – new soy concentrates for feed

Protein content ranging from 64 – 74 %

Low level of ANF (anti-nutritional factors)

- trypsin-inhibitor < 1.0 mg/g
- stachyose and raffinose < 0.1 %
- Glycinine and β-conglycinine < 100 ppm

Protein digestibility up to 92 %
DanSoy® concentrate and isolate

- Neutral color and smell
- Neutral pH
- Particle size < 100 µm
- 68 – 90 % protein
- Dissolvable and non-dissolvable proteins
- Functional and non-functional proteins
Future

Pipeline:

- Proteins from European grown leguminous crops
- Vegetable protein isolates for food
- Soluble fibers for food
- Rape seed
  - Danish oil and protein crop
Challenges

- Economy in all fractions
- Constant supply of high quality raw material
- Cultivars with high protein level, high resistance, good growth characteristics
Challenges

- Build know how about the new products and their potential
  - Novel food
- Generate sales of new / not known products
For further information please visit www.triple-a.dk