



# Organic Plant Protein

Presentation at FOODEX Japan

By founder and Chairman Mr. Ulrich Kern-Hansen

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# ORGANIC PIONEERS

**Organic Plant Protein** was founded in 2019 by the Danish organic pioneers *Ulrich Kern-Hansen* and *Fie Graugaard*





# ORGANIC FARMING

- Since **1980** Ulrich and Fie have been active in developing organic farming, especially focusing on **animal welfare** in pig production.



# ORGANIC MEAT COMPANY

In **1993** Ulrich and Fie founded the organic meat company **Hanegal A/S** focusing on:

- Animal welfare
- Production without additives
- Production without allergenes
- Full transparency





# 2015

## We all had to recognize global challenges



- Meat production must be significantly reduced
- The meat company, *Hanegal*, decide to develop plantbased alternatives to the meat products.
- Need for development of new alternative proteins



- **Organic Plant protein A/S** was founded in 2019, based on:
  - **Expertise** based on 4 years of research and development at Danish Technological Institute (Mr. Per Lang Sørensen)
  - **Capital** from the sale of all shares in our first company, Hanegal, producing organic meat products
- The factory was ready for production in February 2020.
- Kapacitet: 4.800 tons/år



# Our Mission

- We develop and produce new soy free and mild processed **plantbased meat analogues** to support the important reduction of meat-production.
- The production is **organic** to take care of *all* sustainable development goals related to food production.

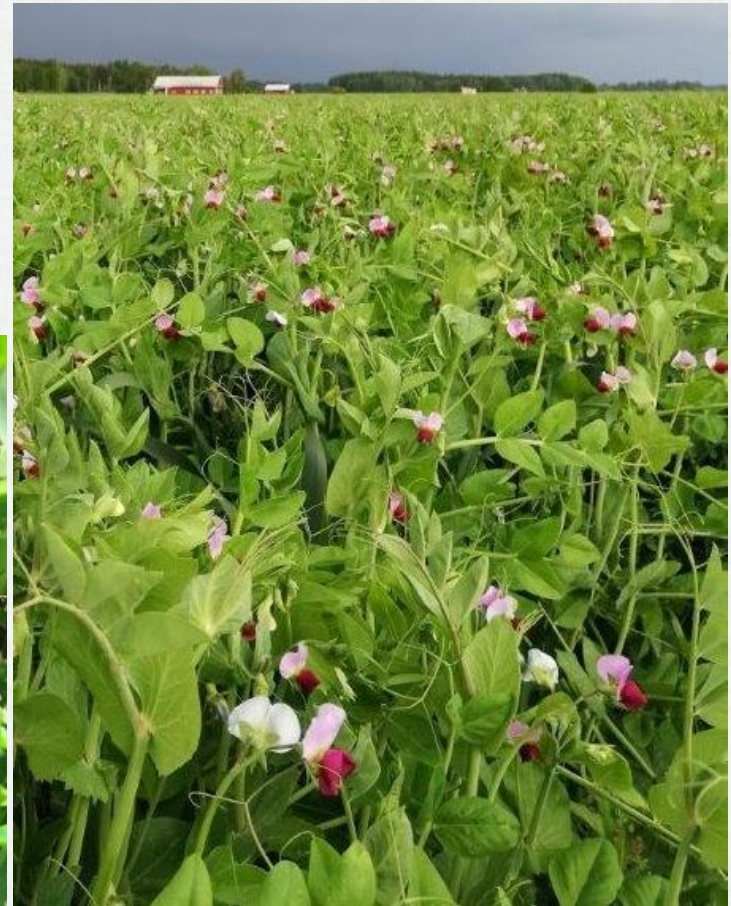


Raw materials



# In the future, a large part of proteins for food will come from **legumes**

- Self-supplying with nitrogen
- High protein content
- Suitable for organic farming





# Yellow Pea and Faba Bean are good crops in Northern Europe





# Different options with proteins from Yellow Pea and Faba Bean

- **Without processen (native)** – 20-25% protein
- **Protein-isolat** - 80-90% protein
  - **Highly processed** with a **high climate footprint**, high water consumption and a lot of chemistry
  - **Dietary fibers are lost**
  - Dominating the global market for alternative proteins
- **Protein-koncentrat** – 55-65% protein
  - **Mild processing** with a **low climate footprint** and a pure and dry mechanical process without any use of chemicals
  - **Dietary fibers are retained**
  - Used by **Organic Plant Protein** for the production of textured plant proteins

The technology



# The proteins are textured in an extruder (Dry texturing)



Our technical expert, *Mr. Per Lang Sørensen*,  
has developed the technology



# Well-known physical processes applied in a unique new way

*The raw material is **protein-concentrate** from pea and faba bean. (> 55% protein) and 1% salt (NaCl)*

## Processes in the twin-screw extruder:

1. Mixing of the dry ingredients
2. Addition of a little water
3. Kneading the dough
4. The dough is briefly heated to a high temperature where the proteins
5. Shaping and defining the texture in a the end of the extruder tube



After the processing in the extruder, the products are dried in a long drying tunnel to a moisture content below 8%, which ensures a long shelf life at room temperature (at least 1 year i big bags and 2 years in sealed bags for foodservice and retail)

The climate impact is much lower than most other products on the market, based on wet texturing and protein-isolates



# THE PRODUCTS

# WIDE RANGE OF PRODUCTS

This is just a few examples:

CHUNKS	FLAKES	MINCE	SLICES - <i>NEW</i>	SHREDS- <i>NEW</i>
				

- Mild and pure taste
- Texture like tender meat
- Soy free
- Gluten free
- No additives
- Perfect for replacing meat and Tuna
- **Organic**
- **Low climate impact: 0,9 kg CO2e/kg hydrated product**
- **Cheaper than meat**

Organic  
Plant Protein



# Nutrition values

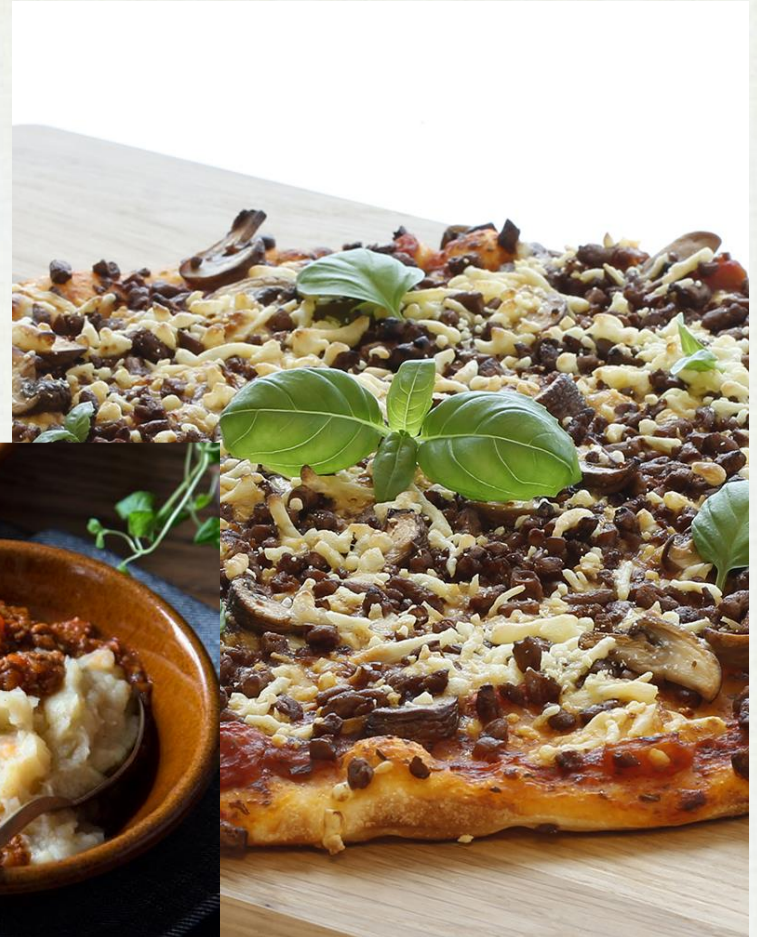
**Ingredients:** 80% organic pea proteinconcentrate, 19% organic fava bean proteinconcentrate and salt

	DRY PRODUCT Pr. 100g	HYDRATED PRODUCT Pr. 100g
Energi	339 kcal	109 kcal
Fat	4,1 g	1,4 g
Carbohydrate	15 g	5,0 g
Dietary fiber	15 g	5,0 g
Protein	53 g	18 g

- *The high temperature in the extruder improves the digestability of the proteins from peas and fava beans, and anti-nutritional substances like lectins are inactivated.*
- *The proteins contain all essential amino acids*

**The products can replace meat 1:1 in most of the dishes that people are used to eat.**

We develop recipes and offer advice on implementing the production





# Huge potential in hybrid products

It is very easy to replace fx. 50% of the meat with *PlantMate* textured plant proteins. - We can supply the total solution.



- Same protein content and functionality as the meat product
- Cheaper than meat products
- "Half & half" is easy to communicate
- The climate impact is reduced by up to 48%



# Packaging



**Ingredients for  
Food industry**



## Food Service



**Retail – PlantMate or private label**

Please find more information, recipes and videos on our website:

[www.organicplantprotein.dk](http://www.organicplantprotein.dk) – in English

*or feel free to contact:*



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