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“Transforming Food Systems”:
A Newly Established HAMK’s Food Research Group

Minh Thao Ho, PhD
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12.03.2026
LAB, Lahti

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HAMK's Food Research Group

Established the group

Susanna Peltonen
Senior Lecturer
Group Leader

Minh Thao Ho
Principal Research Scientist

Sanna Lento
Project Manager

Annika Michelson
Lecturer

Outi Vahtila
Project Manager

Jonna Jaakola
Project Worker

Emma Taalikka
Project Worker

Sara Syvälahti
Project Coordinator

- **Collaborate with companies for research funding applications**
- **Provide services for product development and analyses**

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HAMK's Food Research Group

Mustialan campus, Mustiala

Lepaan campus, Lepaa

Visamäki campus, Hämeenlinna

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Our Research Focuses


Sanna Lento


Outi Vahtila


Annika Michelson


Susanna Peltonen


Minh Thao Ho

Natural, organic and local foods; and security of supply

Technology and digitalizations in food industry

Sustainable food innovations

Research in next 1-3 years

Valorize and upcycle underutilized **agricultural, food processing, and forest by-products**, **raw materials** into functional ingredients/products, and packaging materials

Enhance the techno-functionality, digestibility, and sensory quality of **plant-based foods**

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Our Research Projects

Projects		Aims
Research/innovation	**HÄMILIS**	Minimizing waste, side-stream innovations for SMEs
	Kasvis-TKI	Plant-based food innovations
	F3	Developing alternatives for endangered ingredients
	Kaunis Kaura	Promoting heritage grains for sustainable farming
	RuokaSyke	Strengthening regional food identity and networks
Education/training	**Luomuope**	Enhancing teachers' organic food expertise
	eVerkosto	Increasing cooperation and digital learning in food engineering bachelor programs

- Industry partners throughout the food system
- Academic and research partners with other University of Applied Sciences, Natural Resources Institute Finland (LUKE), University of Helsinki (HY)

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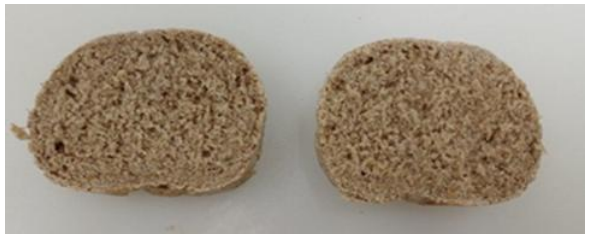
HÄMILIS Project

Brewing by-products

Spent grain

Spent yeast



1). Production

- Spent grain powders
- Spent yeast powders
- Bread fortified with spent grain and spent yeast powders

2). Analyses

- Yeast activity
- Bitter compounds in spent yeast and beer
- Remove bitter compounds from spent yeast
- Alcohol and methanol in beer
- Sugar in worth
- Proteins and fibres (total, soluble, and insoluble)
- Total phenolic content and antioxidant activity
- Sensory evaluation, including ethical review

HÄMILIS Project

Difference in properties of their fibers and proteins

Differences	Spent grain	Spent yeast
Protein	○ Lysine-limited ○ Mostly insoluble (low digestion and absorption)	○ Complete, rich in essential amino acids ○ Mostly soluble
Fiber	○ Mostly insoluble (cellulose, arabinoxylans) ○ Supports digestion by helping food move smoothly through the intestines and promoting regular bowel movements	○ Mostly soluble (beta-glucans, mannans) ○ Acts as prebiotic materials (modulate the gut microbiota), provides immunomodulatory effects and supports cholesterol reduction.

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THANK YOU FOR YOUR ATTENTION !!!

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