

OATPRO final workshop

Oatpro is an ERANET- Susfood project which runs from 2015 to 2018. The aim of the project is to evaluate the potential of oat protein concentrate as food ingredient and to develop its use in different food matrices.

www.oatpro.eu



The final international workshop of OATPRO took place on February, 28 2018 at the National Institute of Research & Development for Food Bioresources - IBA Bucharest headquarters, Romania, preceded by the final project meeting.

The event was attended by over 40 specialists from Romania, Denmark, Finland and Germany representing research institutes, universities, industry, ingredients manufacturers, laboratories, sales chains, various associations and authorities.



The participants highly appreciated the novelty and importance of the project theme and they showed interest in the results obtained as well as in the possible applications of oat protein fractions.

Newsletter no. 6

In order to get a complex picture of main concerns of the working groups established within the project, two special guests pointed out in their interventions the scientific premises and the present picture of the Romanian bakery industry:

- *The impact of High Pressure Processing on Functional and Nutritional Quality of Oat Based Products* – presented by professor Daniela Borda, Faculty of Food Science and Engineering, Dunarea de Jos University of Galati
- *Classic - Diversified - Healthy - Functional* presented by Georgian Fuduli, Managing Partner – Forbake Systems



The funding agencies and research authorities have been with us at the final project conference as they have supported us over the three years of the project:

- *ERA-NET projects as a tool to increase European cooperation in R&D*-presented by Viorel Vulturescu, Director, Department for International and European Relations, Ministry of Research and Innovation, Romania
- *ERA-Net Cofund on SUSTainable FOOD production and consumption*-presented by Dr. Nikola Schulz, Project Management Juelich, Division Bioeconomy, EU & International Affairs



OATPRO Final International Conference presentations:

- *OATPRO Introduction* - Kaisa Poutanen, Project coordinator VTT Finland
- *Oat: a sustainable alternative resources for health promoting products* - Denisa Duta, National R&D Institute for Food Bioresources-IBA Bucuresti, Romania
- *Engineering of oat proteins towards improved functionality* - Nesli Sozer, VTT Finland
- *Try it you'll like it: Consumer acceptance of products enriched with plant protein* - Marija Banovic, MAPP Centre, School of Business and Social Sciences, University of Aarhus, Denmark
- *Oat protein as an alternative protein source for semi-solid foods* - Monika Brueckner-Guehmann, Technische Universitaet Berlin, Germany
- *Environmental sustainability of plant proteins* - Hannele Pulkkinen, Luke Natural Resources Institute Finland
- *Remarkable climate impact reduction potential with oat protein rich diet* - Lisbeth Mogensen, Department of Agroecology-Agricultural Systems and Sustainability, Aarhus University, Denmark.

(all the presentations are available on the OATPRO project website: www.oatpro.eu section Events).



Project Engineering of Oat Proteins:
Consumer Driven Sustainable Food Development Process



Conclusions:

WP2

- Key drivers of plant-protein enriched product acceptance are:
 - o familiarity – closeness to the conventional products used in everyday diet,
 - o naturalness – positive perception of plant protein naturalness and how this protein has been added to the product,
 - o plant protein-product carrier type compatibility, and finally
 - o information about enrichment with associations to overall health and wellness together with positive product experience.
- Launch strategy of the plant-protein enriched products should be with focus on point-of-sale promotions and the distribution of free product samples.

WP3

- Oat protein can be used as gelling agent, in foams and emulsions
- Oat protein is surface-active but low solubility under acidic conditions restricts functional properties
- Several modifications (enzymatic, microbial and mechanical) can be used to improve the functionality

WP4:

- Acidified milk gels:
 - Compatibility of oat protein in the form of oat protein isolate with milk proteins is low and strong sedimentation occurs
 - OPC enrichment combines: Nutritional benefits, sustainable use of the by-product of oat processing and improved product quality with respect to syneresis and mouthfeel
- Foams:
 - At pH 7, oat protein isolate forms strong viscoelastic interfacial films
 - Main stabilisation mechanism at pH 7: formation of a thick steric protein layer
 - Tryptic hydrolysis improves foaming properties at pH 4 more effectively than alcalase hydrolysis
 - Main stabilisation mechanism at pH 4: hydrophobic interactions

WP5

- Replacing animal-based products with plant-products rich in oat protein reduces environmental impacts. At the diet level carbon footprint can be reduced nearly by one fifth.
- Even though, environmental impacts are only reduced if novel oat protein rich products really replace animal products, and are not just consumed instead of conventional plant products.
- In addition, in Western countries the adult population could just reduce their surplus intake of animal based proteins in the first place.

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