

Mid-term results

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.net



The midterm meeting was held in Berlin (September 26-27, 2016), at Technische Universität Berlin - Department of Food Technology and Food Material Science. Some important aspects of the midterm meeting were:

RECENT RESULT HIGHLIGHTS

- Oat protein concentrates (OPC) with protein contents of 45-51% were obtained and characterized towards techno-functional properties.
- Oat protein was similar to soy glycinin and other legumin like storage proteins with a denaturation temperature of around 111 °C .
- Oat protein has limited solubility around neutral and slightly acidic pH range.
- Various food models were developed within the project, such as protein gels (VTT & TUB), yoghurt, ice-cream (TUB) and pasta (VTT & IBA)
- Heat induced OPC gels were more stable than acid induced gels.
- Low solubility of OPC adversely affected the foam and emulsion formation.
- Oat protein isolate (OPI) had better water and fat holding capacities compared to OPC. Protein solubility of OPI was improved further with hydrolysis at pH 4.5, and more homogenous foam formation occurred
- Focus group studies were completed in all partner countries and a joint paper was written. Second part of the consumer studies (Acceptance of product prototypes) will be completed in 2017 autumn.
- The first results of LCA on oat grain showed that greenhouse gas emissions of oat cultivation was the highest for Romania and Finland and least for Germany.



Oat drink



Oat foam



Oat yoghurt



Oat pasta

2 Webinars were organized:

- Oat as sustainable resource as health promoting ingredients (October 2016)
- Consumers as co-creators in engineering of oat protein enriched products (November 2016)

The webinars are available on ISEKI food platform and as PP presentation on the project website.

8 Master degree students from VTT and TUB are trained in the project.

At least 10 presentations in national and international events.

Selected dissemination actions:

Mäkinen et al., Oat protein ingredients – processing and applications	10 th Int Oat Conference, 11-15 July 2016, St Petersburg
Chandrakusma et al., The impact of heat treatment and microfluidization of oat protein concentrate on techno-functional properties	EFFOST 2016, 28-30 November 2016, Vienna
Duta et al., Project OatPro - Engineering of oat proteins: Consumer driven sustainable food development process-poster	Annual Symposium of Milling and Baking Specialists Association, Bucharest, Romania, 15-16 June 2016
Culetu et al., Oat- a sustainable alternative resources for health promoting bakery products-oral presentation	Conference: Diaspora in Romanian Research and Higher Education, Timisoara, Romania, 25-28 April 2016
Duta et al., Textural and gelatinization properties of oat fractions-poster	B-Fost Congress, Ohrid, Macedonia, 22-24 September 2016
Duta et al., Sensory characteristics of oat-based pasta products- oral presentation	2 nd IMEKOFOODS Conference, Benevento, Italy, 2-5 October 2016
Brueckner-Guehmann et al., Oat protein as an alternative protein source for semi-solid foods-oral presentation	4 th International ISEKI_Food Conference, Vienna, 7 th July 2016
Brueckner-Guehmann et al., Das Potential von Haferproteinisolat und -hydrolysat in Lebensmittelschäumen (Potential of OPI and OPIhydrolysates in foams)- oral presentation	GDL-Kongress Lebensmitteltechnologie, 22-22. Oktober 2016, Lemgo, Germany
Banovic, M., 2015, OATPRO: Consumer Knowledge, Perceptions and Preferences of Oat Protein-Enriched Food Products.	MAAP Seminar, Arrhus University Denmark, 27 th of April 2015
Banovic, M., 2015, Consumer Knowledge, Preferences and Perceptions of Food Products Enriched with Plant Proteins	Network meeting on Plant Proteins at Teknologisk Institut on 7 th of May 2015, Aarhus, Denmark.

OATPRO promoted in RO.aliment - the site is accessed by approximately 1,200 visitors/day; the newsletter is sent daily to 7,700 email addresses, with an average opening of 16% and click rate of 2.6%.

Save the date for final international workshop of OATPRO :

- February 27 – 28, 2018 - Bucharest, Romania
- Venue: National Institute of Research & Development for Food Bioresources - IBA Bucharest headquarters
 Address – 5, Baneasa Ancuta St., Bucharest
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