

## Environmental sustainability of oat proteins

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

[www.oatpro.eu](http://www.oatpro.eu)



### Final international workshop of OATPRO

- Save the date: February 27 – 28, 2018 - Bucharest , Romania
  - National Institute of Research & Development for Food Bioresources  
- IBA Bucharest headquarters ; 5, Baneasa Ancuta St., Bucharest
- Contact: [denisa.duta@bioresurse.ro](mailto:denisa.duta@bioresurse.ro); [office@oatpro.eu](mailto:office@oatpro.eu); [asmp@bioresurse.ro](mailto:asmp@bioresurse.ro)

### Environmental sustainability of oat protein using Life Cycle Assessment (LCA)

(For more information, please contact: [Hannele.Pulkkinen@luke.fi](mailto:Hannele.Pulkkinen@luke.fi))

- Oat protein concentrate has significantly lower carbon footprint (greenhouse gas emissions) compared to animal based proteins, and the footprint is of similar magnitude as of other plant proteins (Figure 1).
- Oat protein looks as a good option to replace other protein sources and to diversify raw material sources of plant proteins.

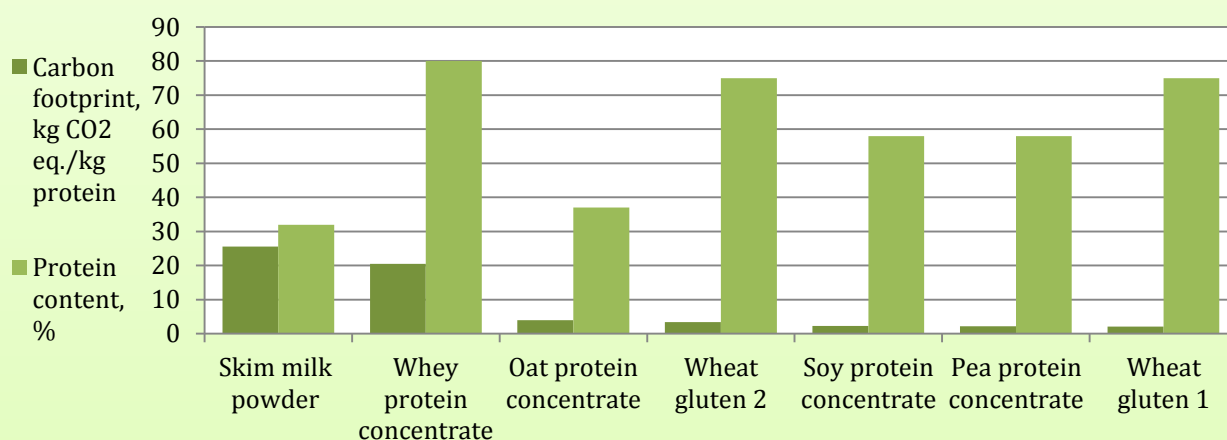


Figure 1. Carbon footprints and protein contents of different protein ingredients.

- However, it should be remembered, that the low carbon footprint is due to the fact that oat protein concentrate is a side stream of lower economic value from a production system that provides other valuable components. Thus, most of the greenhouse gas emissions of the production system are allocated to other products than oat protein based on the economic values of the products.
- Also, greenhouse gas emissions of our food consumption as a whole will only reduce if we accept plant proteins as real substitutes to animal proteins and we reduce the intake of animal proteins.

- To ensure that also the use of oat proteins in foods results in reduction of greenhouse gases, carbon footprints of products enriched with oat protein were compared to carbon footprints of conventional products.
- Pasta and bread enriched with oat protein and protein rich oat yogurt are very effective to provide proteins compared to animal based proteins and slightly better compared to conventional bread and pasta from greenhouse gas point of view (Figure 2).

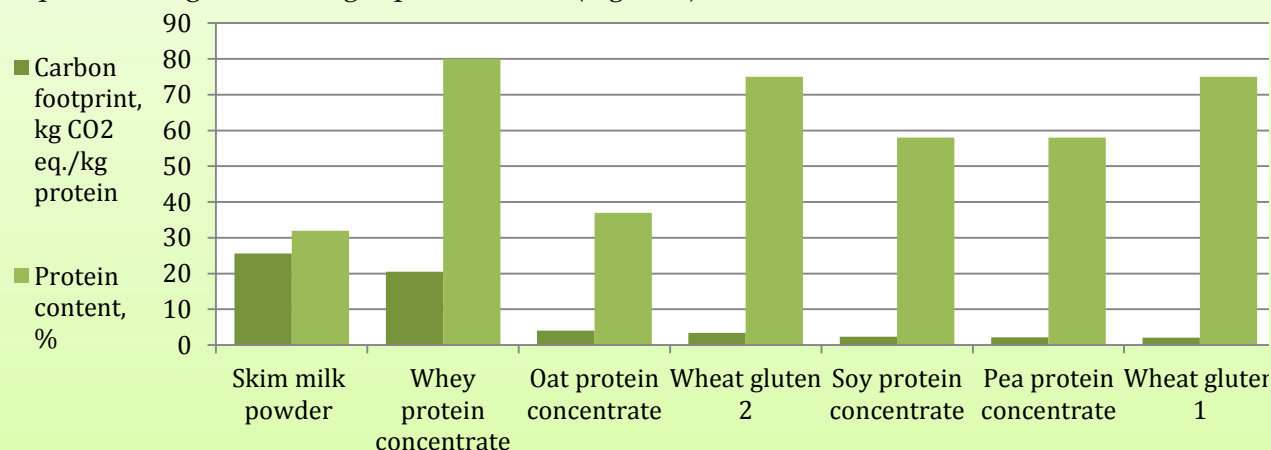


Figure 2. Carbon footprints and protein contents of different food products.

#### Selected dissemination actions:

Oral presentation: Grenzflächeneigenschaften und Schaumbildung von Haferprotein und Modifikation durch gezielte Hydrolyse (Hecht et al.)	Jahrestreffen der ProcessNet-Fachgruppen February 14 <sup>th</sup> 2017, Bruchsal, Germany
Oral presentation: Oat protein enriched by-products support structure formation in yoghurt (Brückner-Gühmann et al.)	The 19th Gums & Stabilisers for the Food Industry Conference, June 27 <sup>th</sup> - 30 <sup>th</sup> 2017 Berlin, Germany
Poster: Future of protein foods: Co-creating plant-protein enriched foods with consumers (Banovic et al.)	XV EAAE Congress - Towards Sustainable Agri-Food Systems: Balancing between Markets and Society, August 28 <sup>th</sup> - 1 <sup>st</sup> September 2017, Parma, Italy
Oral presentation: Oats protein engineering: Developing sustainable products based on consumer preference (Duta et al.)	Annual Symposium of Milling and Baking Specialists Association, September 2017, Bucharest, Romania
Oral presentation: OATPRO - Engineering of oat proteins: Consumer driven sustainable food development process (Sozer et al.)	31 <sup>st</sup> EFFoST International Conference, November 14 <sup>th</sup> 2017, Sitges, Spain
Poster: Nutrient Composition and in vitro Digestibility of Protein Enriched Pasta with Oat and Faba (Culetu et al.)	6 <sup>th</sup> Whole Grain Summit, November 13-15 <sup>th</sup> 2017 Vienna, Austria

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