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P1.1.037	<p>Milk-derived biopeptides: A potential strategy for hypertension treatment Cindy Stephanny Alvarado Molina¹, Bertha Viviana Ruales Guzmán² ¹Universidad Nacional de Colombia, Department of Chemical and Environmental Engineering, Bogotá, Colombia, ²Universidad Nacional de Colombia, Instituto de Ciencia y Tecnología de Alimentos, Bogotá, Colombia</p>	P1.2.011	<p>Impact of food side-stream based medium on nutrient composition and protein extractability in <i>Auxenochlorella protothecoides</i> Byron Perez^{1,2}, Alcine Chan³, Vivian Han³, Nicola Weber^{1,2}, Bruce Yong¹, Iris Haberkorn¹, Shao-Quan Liu^{3,4}, Alexander Mathys^{1,2} ¹Singapore-ETH Centre, Singapore, Singapore, ²Sustainable Food Processing Laboratory, ETH Zurich, Zurich, Switzerland, ³Department of Food Science & Technology, National University of Singapore, Singapore, Singapore, ⁴National University of Singapore (Suzhou) Research Institute, Suzhou, China</p>
P1.1.038	<p>Rational design of cereals for seniors: Fabrication, oral processing, palatability and digestibility of cereal prototypes Leehen Mashiah¹, Omer Medini², Andrea Araiza Calahorra³, Josefina Skaret⁴, Carmit Shani Levi¹, Lotti Egger⁵, Reto Portmann⁵, Paula Varela⁴, Anwesha Sarkar³, Uri Lesmes¹ ¹Technion, Haifa, Israel, ²The International Beer Breweries LTD, Kibbutz, Givat Haim, M.P. Hefer, Israel, ³Food Colloids and Bioprocessing Group, School of Food Science and Nutrition, University of Leeds, Leeds, England, ⁴Nofima, Tromsø, Norway, ⁵Institute for Food Science, Agroscope Switzerland, Bern, Switzerland</p>	P1.2.012	<p>Rheological and interfacial properties of next-generation plant-based foods Abraham Badjona¹, Robert Bradshaw¹, Caroline Millman¹, Martin Howarth, Bipiro Dubey¹ ¹Sheffield Hallam University, Sheffield, United Kingdom</p>
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P1.2.008	<p>Development of functional noodles with <i>Ulva australis</i> to control the glycemic response Seonghyeon Nam¹, Young-Ok Son², Jongbin Lim¹ ¹Department of Food Bioengineering, Jeju National University, South Korea, ²Department of Animal Biotechnology, Faculty of Biotechnology, Jeju National University, South Korea</p>	P1.2.019	<p>Transglutaminase crosslinking of pea protein: gelling potential to mechanistic insight through the use of proteomics Ankita Mukherjee^{1,2,3}, Jasper Van Pee^{4,5}, Florian Weiland³, Ilse Van de Voorde³, Tara Grauwet², Ilse Fraeye¹ ¹Meat Technology and Science of Protein-rich Foods (MTSP), Department of Microbial and Molecular Systems, KU Leuven, Ghent, Belgium, ²Laboratory of Food Technology, Department of Microbial and Molecular Systems, KU Leuven, Leuven, Belgium, ³Laboratory of Enzyme, Fermentation and Brewing technology, Department of Microbial and Molecular Systems, KU Leuven, Ghent, Belgium, ⁴ILVO Flanders Research Institute for Agriculture, Fisheries and Food, Technology and Food Science Unit, Ghent, Belgium, ⁵Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Sciences and Aquatic Ecology, Ghent University, Ghent, Belgium</p>
P1.2.009	<p>Aqueous extraction of proteins and other components from microalgae during High Pressure Homogenisation treatment Astrid Penicaut^{1,2}, Sarah Abidh², Rohit Srivastava³, Isabelle Chambaud², Paul Menu¹, Veronique Bosc¹ ¹UMR Sayfood (AgroParisTech, INRAE, Université Paris-Saclay), Palaiseau, France, ²Olala!, Malakoff, France, ³UMR CSGA (AgroSup Dijon, CNRS, INRAE, Université Bourgogne Franche-Comté), Dijon, France</p>	P1.2.010	<p>Drying of microalga (<i>Porosira glacialis</i>) derived from an industry-scale bioreactor: Energy-efficiency, product quality & stability Sophie Kendler¹, Tom Ståle Nordtvedt¹ ¹Sintef Ocean As, Trondheim, Norway</p>

Wholemeal pasta: Impact of drying temperature on the molecular features of macro/micro components

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Testo max 350 words

Aim: This study applies a multidisciplinary approach to investigate at the molecular level the relationship between product structure (defined by composition and processing) and nutritional functionality, an issue only marginally addressed in literature.

Method: Wholemeal semolina of different protein content (12% and 15%) was used to produce pasta in a pilot-scale plant. Two different drying diagrams (low and high temperature) were applied to each semolina sample. The overall protein organization and the phenolics profile were investigated as described by Borgonovi et al. (10.3390/foods12102047). Differential scanning calorimetry and thermogravimetric analysis were used to assess the conformational stability changes and solvation state of macromolecules as in Emide et al. (10.1016/j.foodchem.2022.134675), whereas pasting properties were assessed as in Marti et al (10.1016/j.lwt.2013.05.008).

Results: Proteins in the two raw materials share a similar macromolecular organization, if not for a very different distribution of hydrophobic patches on the protein surface. The drying diagram had a significant impact on the aggregation state of proteins. Increasing temperatures facilitated covalent cross-linking between storage proteins and induced thermal coagulation in cytoplasmic ones. The phenolics profile was also similar between the raw materials and was essentially insensible to changes in the drying diagram. Instead, starch gelatinization properties and water distribution among phases already appeared to be different in the two raw materials, and such thermal properties were further affected by the different drying diagrams.

Conclusion: These results represent a first step towards a holistic view of the role of ingredients and processing in the definition of pasta sensory and nutritional properties. This study is part of PRIN 2020 project (Grant Number 2022SCYHWK) “Combined Approaches to expLOre the Impact of wholemeal semolina and pasta processing on MEtabolic RespOnses (CALIMERO)”