

PRESS RELEASE

1,3 million European Regional Development Fund granted to project EGGcited

Consortium of NIZO, FUMI Ingredients and Ruitenberg Ingredients is working on decrease of CO₂-footprint and increase of circularity of food production.

Ede – Management Authority Oost-Nederland has granted subsidy for the consortium project EGGcited under the “Operationeel Programma Europees Fonds voor Regionale Ontwikkeling (EFRO) 2014-2020 Oost-Nederland (OP Oost)”. In the project an innovative and scalable technology is developed to extract functional proteins and protein fibre complexes from yeast used in breweries (Brewers Spent Yeast; BSY). The protein from BSY replaces egg protein, milk proteins and other animal proteins in the food industry to decrease the CO₂-footprint of food and to increase the circularity of the food production.

In the EGGcited project three Small and Medium Enterprises (SMEs) from the province of Gelderland in the Netherlands work together to accelerate the protein transition and circularity of food production. NIZO, a privately owned research centre (CRO) with expertise and facilities for the development and upscaling of new food products and ingredients, is project leader of the project. In this project NIZO works together with start-up company FUMI Ingredients, a spin-off of Wageningen University and the inventor of the technology for the extraction of functional proteins from BSY, and with Ruitenberg Ingredients, a family-owned company discovering creative and innovative solutions for the food industry and as launching customer can accelerate market introduction. The three companies work closely together with beer brewery AB InBev, which supplies the raw materials. Also after the execution of the project, the parties will collaborate within the ecosystem on innovation, new business models, other micro-organisms and production. This will create a permanent ecosystem of companies and research centres in the field of sustainable proteins in the eastern part of the Netherlands.

Our current food production system is not in accordance yet with the Transition Agenda Circular Economy (2018) to decrease the carbon footprint of proteins produced in the Netherlands by 50% in 2050. Optimal use of biomass and side streams towards circular, bio-based food products and transition from animal proteins towards more sustainable protein sources are two essential routes to reach that target. The project EGGcited combines both routes and thereby contributes considerably to the intended CO₂ reduction.

Ingredients of animal origin, such as meat, milk and eggs are the main sources of protein used in the food industry. However, the production of animal proteins is not sustainable. Due to need of more sustainable production, the global demand for vegan alternatives for egg and dairy is growing exponentially. However, many manufacturers find it difficult to produce plant proteins with the specific properties of animal proteins. Due to their functionality, the proteins from BSY offer great opportunities as egg and milk protein replacers.

BSY contains high levels of nutritional and functional components. Currently, the yeast is only used in feed. Valorisation of this “rest material” with innovative technology can deliver valuable ingredients with excellent functional properties, enabling the switch to animal-free proteins.

Corjan van den Berg, CEO FUMI Ingredients: “In previous years the technology to extract functional proteins from BSY has been developed by FUMI Ingredients at lab-scale (proof-of-concept). In the EGGcited project, the technology will be further developed and up-scaled to large pilot scale. The resulting protein production will have a significant lower CO₂-foot print as compared to production of egg protein or milk protein. By extracting protein from a side stream of the breweries, the use of raw material will decrease, which contributes to the circularity of the human food production. The process will be developed for BSY, but it can also be applied to other types of biomass (algae, bacteria, etc)”.

The parties in the consortium cover the whole innovation funnel. Gisella Frijlink, CEO NIZO: “By their collaboration, they can develop new ingredients and start commercial production of these sustainable and functional proteins after execution of the project. It will accelerate innovation in the field of sustainable food production. It also fits well with the ambitions of EFRO and the province of Gelderland that more SMEs generate more revenue from innovative products. Furthermore, this project contributes to the ambition of Food Valley regarding strengthening the innovation ecosystem and the national strategy in the Netherlands regarding the protein transition”.

About NIZO:

The comprehensive expertise of NIZO helps food industries successfully address their challenges: from protein transition to substantiation of health benefits, to food safety or to upscaling to industrial production. With multidisciplinary teams and the largest food-grade contract research (CRO) pilot plant, NIZO brings all expertise together to lower costs and time-to-market for new products. NIZO can support the whole innovation process: from R&D to food-grade pilot production.

About FUMI Ingredients:

FUMI Ingredients has developed a unique process to extract ingredients from food-grade micro-organisms. These ingredients show excellent techno-functional properties, allowing the replacement of animal ingredients in foods.

About Ruitenberg Ingredients:

Ruitenberg Ingredients is (more than simply) a family-owned business and pioneer in discovering creative and innovative solutions for the food industry. Here, ideas, ingredients and processes all come together. These three fundamentals form the basis for successful development of functional concepts and applications. Whenever possible, we work in close collaboration with our customers, and even go one step further. Our application technologists will supervise commissioning of the solutions developed for you, at your premises. Because we are only happy when you are!

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