

GreenProtein



Revalorisation of vegetable processing industry remnants into high-value functional proteins and other food ingredients

<http://greenproteinproject.eu/>

Summary

The economic costs of food waste are reckoned to total around € 705 bn globally. There are also significant hidden environmental and social costs. Meanwhile, the EU imports around 77 percent of its food and feed protein requirements, leaving it economically vulnerable and dependent on unsustainable and expensive animal protein. RuBisCO protein is found in all green vegetables and plants and represents around 50 percent of the total protein content of green leaves.

Type of Action:

Innovation Action -
Demonstration

Value Chain: VC3 – agro-based

Start date: 01 September 2016

End date: 28 February 2021

BBI JU contribution: €
4,246,122.50

GreenProtein is an industrial demonstration project that aims to produce high-added value, food grade proteins and other ingredients from vegetal food waste streams. The primary objective will be to extract and purify food-grade, fully functioning, RuBisCO protein isolate on an industrial scale using discards from the vegetal processing industry.

Objectives

GreenProtein project aims to process 1500 kg/h of green residue raw material into 28 kg of RuBisCO protein powder per hour. The protein has many valuable food industry applications based on functionalities like gelling, foaming and emulsifying, with excellent market projection in growing markets like high protein, vegan and halal foodstuff.

Expected impacts

- Construct a DEMO plant and fine-tune the biorefinery process in order to boost the industrial profits of vegetable agri-food industries, while contributing to decrease waste in Europe and increase protein availability
- Demonstration of a complete new value chain leading to higher added value products for new markets
- Improvement of environmental performance and cost efficiency of resulting products as compared to state of the art benchmarks
- Demonstration of an integrated process with more than 40% of the raw material to be valorised into high added value additives
- Demonstration of products with a 2-5 times higher value than the current applications of the raw material, leading to a significantly higher total valorisation of the agricultural crops so contributing to rural development and employment in rural areas

Novel protein product offers taste of success

09 July 2019

The BBI JU GreenProtein project is transforming by-products from green vegetables and field crops into high-grade protein for the food industry. The finished product is a viable alternative to egg whites and whey protein - and has huge commercial potential. [Read more](#)

Project coordination

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- Ruitenberg Ingredients (The Netherlands)
- Stichting Wageningen Research (The Netherlands)
- Bionet Engineering (Spain)
- French National Institute for Agricultural Research - INRA (France)

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Former members

- Pázmány Péter Catholic University - PPKE (Hungary)
- Provalor (The Netherlands)
- Netherlands Organisation for Applied Scientific Research - TNO (The Netherlands)
- Florette (France)