Primer Foro Virtual: Programa Marco de Investigación e Innovación Horizonte 2020 y Programas Marco en CTI de la UE

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PROTEIN2FOOD

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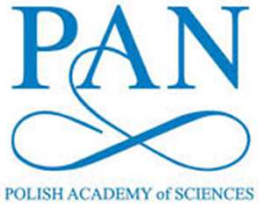
Project set-up

- An EU project under the Horizon2020 Work Programme *Sustainable Food Security (SFS) 15 – 2014: Proteins of the future.*
- Covers the whole food supply chain from 'farm to fork' of a range of plant-based protein sources of legumes and highly nutritious seed crops.
- 7 work packages: WP1: Crop production, WP2: Protein extraction and fractionation, WP3: Food processing, WP4: Market potential, WP5: Sustainability assessment, WP6: Dissemination, communication and social innovation, and WP7: Project management.
- A diverse consortium of 19 partners (breeders and farmers, food ingredient producers, and product manufacturers) from 13 different countries.

Partners F2P




GREENLAND (DENMARK)
ALASKA (USA)
CANADA
UNITED STATES OF AMERICA
MEXICO
RUSSIA
KAZAKHSTAN
MONGOLIA
CHINA
UKRAINE
ITALY
TURKEY
IRAQ
IRAN
ALGERIA
LIBYA
EGYPT
SAUDI ARABIA
INDIA
MALI
NIGER
CHAD
SUDAN
ANGOLA
BRAZIL
PERU
BOLIVIA
ARGENTINA
AUSTRALIA

Project objective

The overall PROTEIN2FOOD project concept is to improve the quality of plant-protein from a nutritional, economic, environmental and organoleptic point of view, by adopting a multi- disciplinary approach, covering the whole food supply chain (from 'farm to fork') of plant protein from legumes and new high-quality crops. These crops have been selected due to their potential as important food crops in the EU context for their protein quality and amount.

Project aim

- Develop innovative, cost-effective and resource-efficient plant proteins – rich food sources with positive impact on human health, the environment and biodiversity.
- Improve the quality of plant proteins produced in Europe, and of their sustainability of their production and processing.
- Enhance the quality and quantity of protein from selected highly nutritious seed crops (quinoa, amaranth and buckwheat), and legumes with high protein quality lupin, faba beans, pea, chickpea, lentil).

Project approach

A multi-disciplinary approach (genetic, agronomic, food process engineering, sensory, socio-economic, and environmental assessment):

- genetic mechanisms driving the protein formation and accumulation in the seed
- plant performance towards biotic and abiotic stresses
- protein interactions with other components in the food matrix and its sensory repercussions in the final food products.

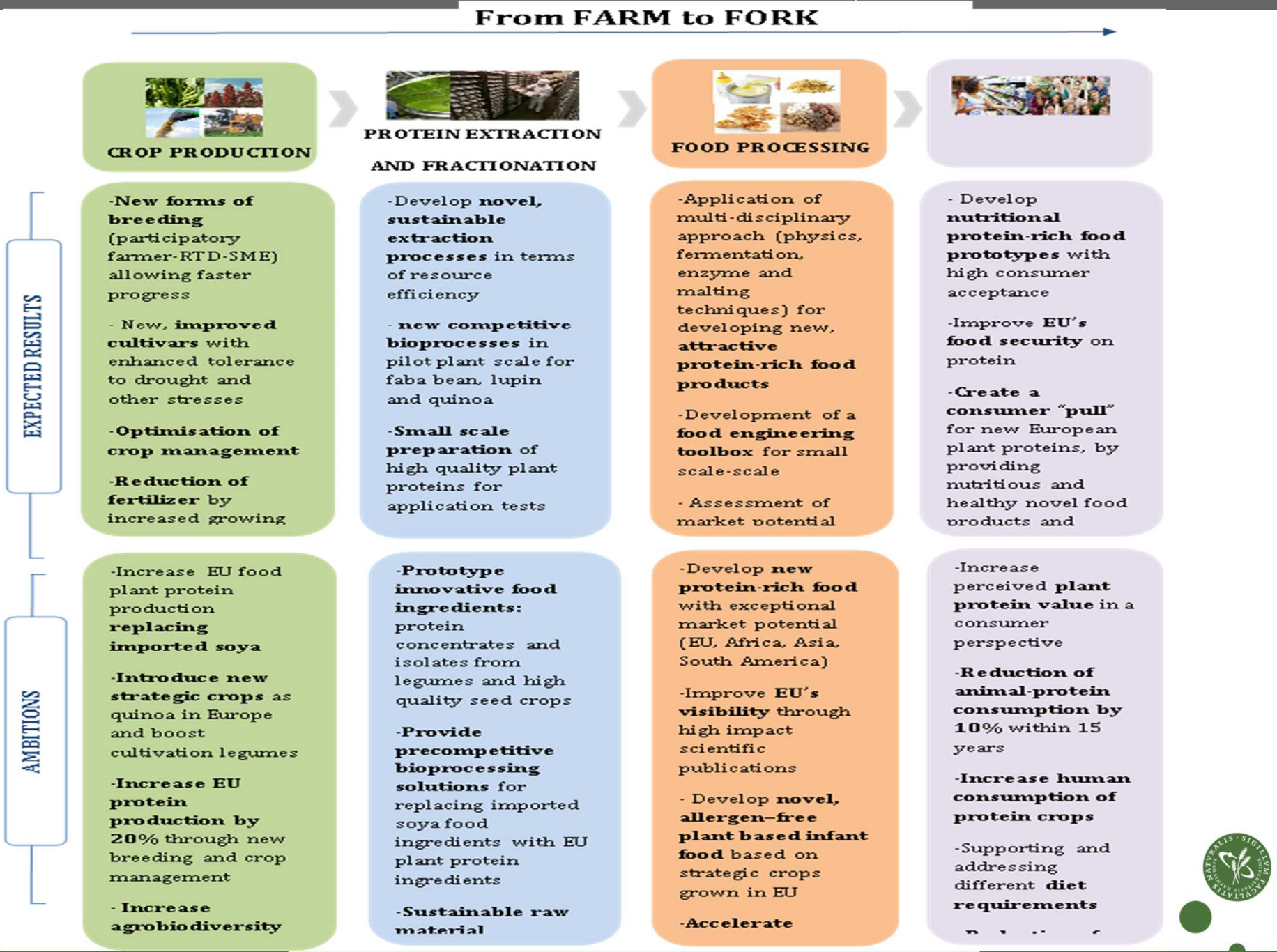


Fig.2. PROTEIN2FOOD Expected results and Ambitions

Work Packages

WP1: Crop production (CNR/ISAFOM)

WP2: Protein extraction and fractionation (FRAUNHOFER)

WP3: Food processing (UCC)

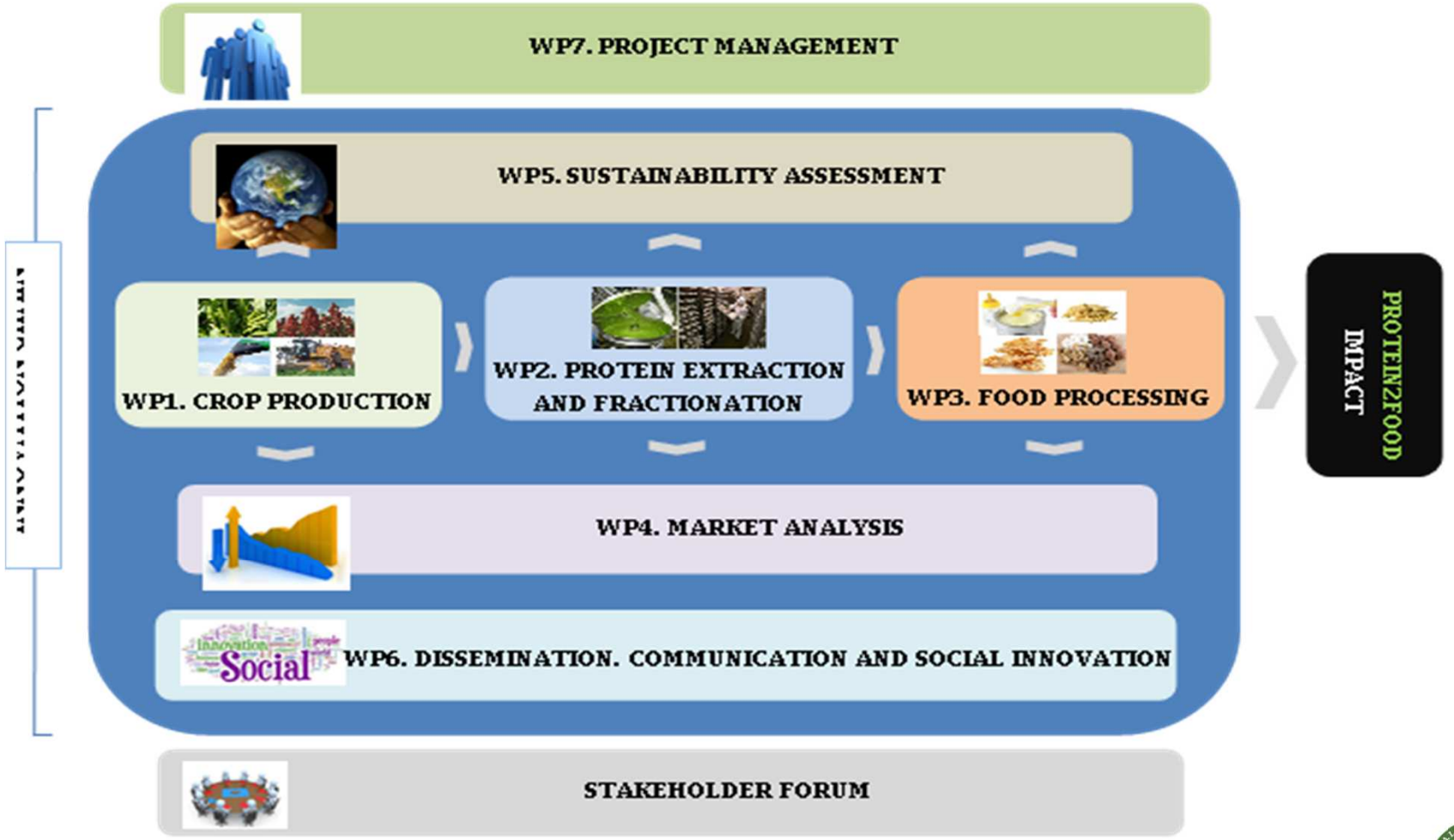
WP4: Market potential (UPM)

WP5: Sustainability assessment (IEFU)

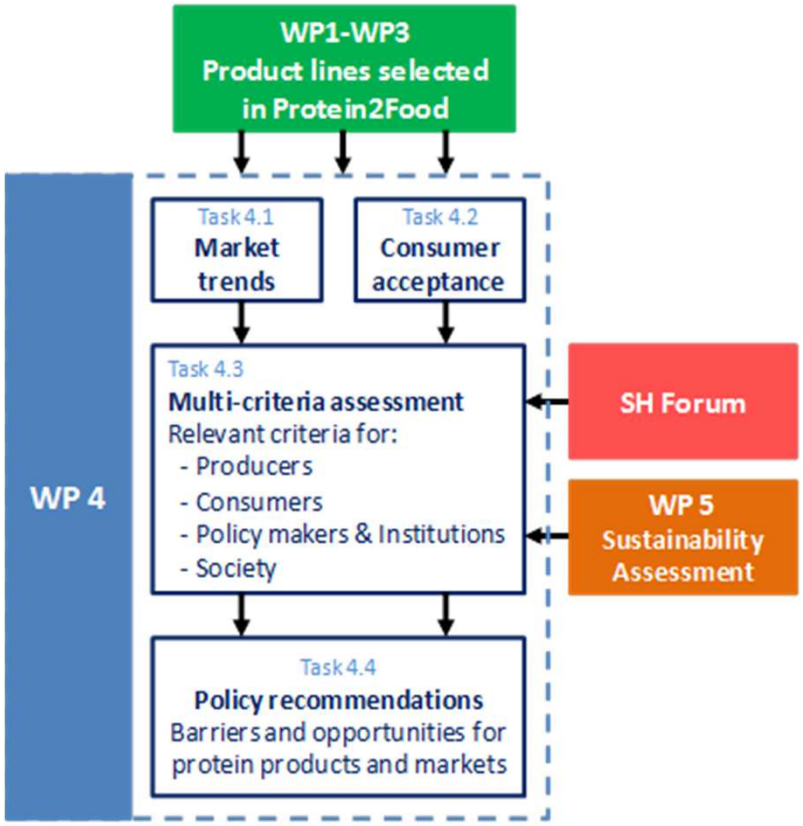
WP6: Dissemination, communication and social innovation (EUFIC)

WP7: Project management (UCPH)

WP Interaction



Decision-making processes



Project impact

1. Increase the availability and quality of proteins and the sustainability of their production and processing

    - Develop optimal cropping criteria for legumes and high quality protein crops well adapted for South and North Europen conditions.
    - Producing prototypes of plant-based high value protein food ingredients and innovative food products
    - Collaboration with third countries

Impact contined…

2. Support EU policies on agriculture, nutrition, health, environment, development, and sustainable food security by increased market uptake of existing and new proteins that contribute to a healthy diet.

    - Produce policy briefs, scientific papers covering assessments of life cycle, environment, sustainability etc., and for decision-making purposes.

    - Develop product outlines for decision-makers in EU industry and policy

Impact continued…

3. Strenthening international research, industrial cooperation and the EU economy by focusing on SME's and small-scale food processing.

    - As colloboration takes place across the entire food chain, it will benefit the innovation capacity of the participating SME's, and thus contribute to the European bio-economy, i.e. job creation as SMEs were responsible for 85% of totl employment growth in the EU between 2002 and 2010 (Jan de Kok et al., 2011).

4. Increase new market opportunities, in the short and medium term, as meassured in terms of market share, turnover, employment, and intellectual property.

    - Usage of market studies and economic analyses will assist in assessing potential market opportunities.

Impact continued…

5. A clear contribution to social innovation due to fairer trade and an increase in socio-economic and environmental sustainability.

    - Crop management seminars and training courses for farmers in rural areas of the EU and in third countries (Peru and Uganda) for the sustainable production of high value and high quality protein crops.
    - Provide marketing tools to increase farmers' knowledge and negotiation power along the food chain.
    - Consumer campaigns will be arranged to promote a change in the EU towards a reduction in the consumption of animal products, especially meat – reducing water and carbon footprints of food consumption in the EU
    - Strengthen fairer trade through solid partnerships.
    - A signed MoU among farmers' sssociations and food processing SMEs.

Expected results

Goal: research should lead to the development of adapted plant protein sources with positive impact on the environment and biodiversity as well as human life.

Specific results:

1. Enhance the protein production by 25% through new effective breeding techniques and optimised crop management with an increase by 10% of the EU's arable land destined to protein-crop production, using also marginal soils.
2. Accelerate protein transition from animal-based protein to plant based protein in Europe with clear impact on reduction of carbon footprint.
3. Increase EU agro-biodiversity by introducing promising high quality crops and legumes.
4. Prototypes of new protein-rich protein food with exceptional market potential.
5. Improve the EU's visibility in the area of food processing and technology through high impact factors scientific publications.