# Pioneering crops for future generations

January 18 2016

By 2050, the global population is expected to increase to 9.6 billion people. The world will need more nutritious, affordable, and environmentally sustainable food—exactly what the EU funded project PROTEIN2FOOD has committed to. Led by the University of Copenhagen, a team of 19 partner institutions from 13 countries, Universidad Politécnica de Madrid (UPM) among them, will create innovative, high quality, protein-rich food crops, to sustain human health, the environment, and biodiversity.

Proteins from animal sources have a large impact on the planet in terms of greenhouse gas emissions and usage of land and water. Therefore PROTEIN2FOOD will develop attractive food protein from crops of high protein quality (quinoa, amaranth and buckwheat) and grain legumes (lupin, faba bean, chickpea and lentil) through sustainable production and processing methods. These crops have a high nutritional value, and increased consumption will positively impact biodiversity and climate change. Current consumption and use of these crops as food ingredients and raw materials is, at present, almost negligible in the European diet.

PROTEIN2FOOD has set the ambitious goal to increase the protein production by 25% with novel and improved breeding techniques and crop management, while also increasing Europe's arable land intended for protein-crop production by 10%. This will improve European protein self-sufficiency, positively impact the bioeconomy (the parts of the economy using renewable biological resources), and accelerate the transition in consumption of animal-based to plant-based protein in

Europe with a clear impact on reducing the carbon footprint and on increasing more sustainable food consumption patterns.

"PROTEIN2FOOD will put Europe on the map in terms of innovative food processing and technology, and increase agro-biodiversity by introducing crops for new protein-rich foods with a viable market potential", said Sven-Erik Jacobsen, coordinator of the project at the University of Copenhagen.

As part of PROTEIN2FOOD, UPM will contribute to the assessment of market trends, patterns and potential of protein crops, whilst also evaluating the relevant socio-economic impacts of the proposed protein food solutions. Prof. Escuela Técnica Superior de Ingenieros Agrónomos, Consuelo Varela-Ortega (Dep. Economía Agraria, Estadística y Gestión de Empresas) is the Principal Investigator of this Project in UPM.

As an end results PROTEIN2FOOD will make prototypes of a new product range of vegetarian products with high consumer acceptance, such as protein rich, gluten-free pasta and bakery products, vegan spreadable meat alternatives, extruded products (breakfast cereals and meat analogues), protein bars for sports nutrition, and infant food.

Provided by Universidad Politécnica de Madrid