

Understanding the **market potential** of **plant-based protein ingredients** and **food products** is vital for assuring uptake and demand across all relevant stakeholders. PROTEIN2FOOD analysed recent market trends in production and consumption of protein crops. With a strong focus on the **socio-economic** and **policy implications**, an understanding of opportunities and barriers for the PROTEIN2FOOD prototypes were developed. This combined with the analysis of **consumer behaviour** provided a forecast of routes for the future market of plant-based protein foods. Results have shown that factors such as the Common Agricultural Policy, low rates of investments in innovation and technology, and poor consumer awareness are behind the decrease of protein-crop production and consumption.

Main Achievements

PROTEIN2FOOD conducted quantitative analyses of the **market trends of selected protein rich products** at global, continental and EU-28 levels from 1961-2013 (Figure 1). At EU level, production and consumption patterns were identified and contextualised within policy frameworks, such as the Common Agricultural Policy (CAP) and socio-economic landscapes. Additionally, an econometric modelling assessment was developed to identify significant variables driving such patterns across EU-28 countries, whilst further identifying future perspectives.

The analysis demonstrated that PROTEIN2FOOD crops (quinoa, amaranth, buckwheat, lupin, fava bean, chickpea, lentil, grass pea, soybean, pea) have seen **considerable global decreases in per capita consumption**, and within historically important consuming continents like Asia and Europe since 1961. Furthermore, **CAP support** has influenced the production and consumption of vegetable proteins in Europe **unevenly between countries** pointing towards the importance of policy implementation at national level.

The suitability of different crops in Europe under future climate perspective was analysed, showing that quinoa will be the most suitable crop across 70% of European arable land, followed by blue lupin (23%).

“PROTEIN2FOOD crops have seen a per capita reduction in consumption globally since 1961”

A multi-criteria assessment toolkit was developed to assess the performance of PROTEIN2FOOD plant-based protein food prototypes as compared to the animal-based products according to six categories (economic, social, environmental, policy, organoleptic characteristics, and technological). This involved different participatory methods with various stakeholders of the agriculture and food supply chain, policy makers, researchers, and environmental NGOs. Preliminary results show that plant-based products are performing better, although they also show more variability than their animal-based counterparts.

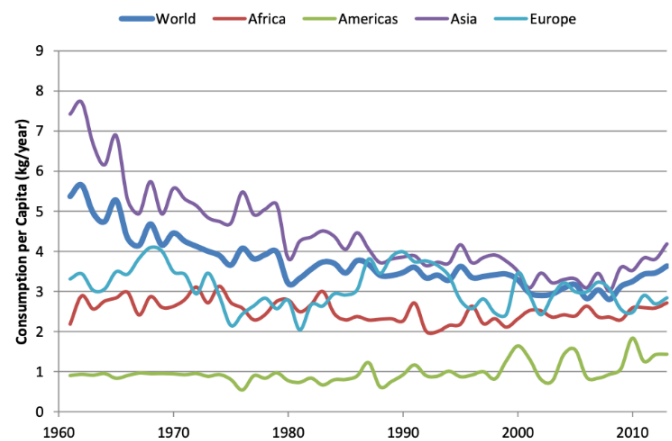


Image 1. Global and continental per capita Protein2Food crop consumption



Recommendations

- **Increase funds dedicated to agricultural research and development**, promote plant protein lobbying, crop breeding, and agricultural training.
- **Encourage, support and develop local supply chains**, increase CAP support to protein crops and improve value chain of protein rich products.
- **Improve consumer education and awareness** through advertisements, labelling and educational media.
- **Increase policy support for plant-based products** through increasing meat price through taxes, lowering tariffs on imported legumes, lobbying and policy support.
- **Support product processing sector expansion** by supporting companies and start-ups, improving production facilities and market availability.

[Go back to Infographic >>](#)

Impacts

Increasing knowledge of protein markets

The market analysis offers a comprehensive analysis of the historical global, continental and EU-28 trends of protein products' production and consumption and the main drivers behind these trends. This work has shed a light on which mechanisms are of importance when formulating policies for promoting protein crops.

Identifying policy strategies

Stakeholders identified that agronomic, supply chain, and consumer awareness barriers are likely to prevent greater consumption and production of plant-based protein products in the future. To overcome these, 5 robust policy strategies were identified. These policy recommendations are accompanied by different actions that will help reach an increase in plant protein consumption by 10% and production by 25% in Europe before 2030.

Analysing stakeholders' perception of PROTEIN2FOOD products

The multi-criteria assessment show that different interest groups have different perceptions of the PROTEIN2FOOD prototypes and their traditional counterparts, especially regarding consumers and the rest of the value chain.

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For more information visit: <https://www.protein2food.eu>



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