

The BioValue Project - Rationale

Since the 1900s more than 75% of genetic food diversity has been lost. One of the reasons for it is the extreme monoculture farming on great spans of arable land and deforestation, that reduced genetic differences within varieties. As a result of this homogenization, thousands of food plants are no longer used, despite their beneficial nutritional value. Crop diversity is one of the foundations of a sustainable and resilient food system that actively supports healthy diets.

The consequences of a decrease in biodiversity and dependence on a few staple crops are threats to food security, unbalanced diets, and ultimate malnutrition, with the most vulnerable populations being children, women, and the elderly. World diets, based on a few staple crops, fail to meet the nutritional needs of most people, causing the development of a range of chronic diet related diseases and consequently contributing to poor quality of life, diminished social and emotional well-being of people, increased costs for public health systems, economic burden, socio-economic losses, increased morbidity, and mortality rates.



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Enhancing Biodiversity Using New Food Dishes and Innovative Food Products

In the framework of the BioValue project



Main Goals

- To provide evidence and promote the nutritional benefits of underutilized crop varieties, cultivars, and species.
- To bring back the tradition of preparing and pleasure of eating forgotten food plants.
- To design recipes for new dishes and innovative food products that improve diet and support health and biodiversity in different local contexts.
- The new food products will be used to introduce biodiversity concepts by adopting a demand-driven approach (multi-scale Fork-to-Farm conceptual framework).
- Innovative recipes will integrate biodiversity on the plate in a way that is desirable for consumers. The new foods will be evaluated by consumers to assess and improve their taste and appeal.
- To propose guidelines and nutritional recommendations for the food industry to increase biodiversity including the key steps for successful market launching of new food products.

Biodiversity for Food and Nutrition



The wealth of food biodiversity provides a natural richness of nutrients (macronutrients and micronutrients) and bioactive non-nutrients for healthy human diets and good nutrition.

The consumption of biodiverse foods is associated with a reduced risk of developing various diseases and is beneficial for maintaining good health and preventing malnutrition

Capnutra New Foods

The new foods will be nutritionally evaluated via CAPNUTRA Diet Assess & Plan, an advanced dietary assessment platform for standardized food consumption data collection, comprehensive dietary intake assessment, and nutrition planning.

Prototypes of new foods will be prepared in the experimental kitchen. Each recipe will be blind tasted, evaluated, and scored based on its intrinsic organoleptic quality. The taste assessments will be carried out by independent professional taste experts as well as lay public representatives.

Food Crops

- Buckwheat
- Eggplant
- Lentils
- Grass pea
- Tomato
- Sowthistle
- Armenian cucumber
- Green leafy vegetables

Outcomes

- Compiled recipes and completed nutritional analyses of newly created food dishes
- Creation of new dishes that improve diet and support health and biodiversity in different local contexts
- Sensory evaluation of the prototypes of new food dishes and evaluation of consumers' preferences
- Assessed nutritional qualities/characteristics of underutilized genetically diverse crops
- Designed recipes for new processed food products
- Compiled sensory evaluation and tested the usability of new food products
- Recommendations for the processing industry to increase biodiversity in processed food products