European Cooperative Programme for Plant Genetic Resources
ECP/GR

EVA
European Evaluation Network

Federal Ministry of Food and Agriculture

EVA Boost Project

Implementation of the ECPGR European Evaluation Network on legumes and preparatory actions for the creation of a new network on perennial plants (berries and fruit trees)

Background

European genebanks conserve over 2 million accessions of plant genetic resources, essential for breeding crops that are more nutritious, productive and resilient to pests, diseases and climate change. However, there is limited information on these resources, such as their agronomic characteristics, quality traits, pest or disease resistance, and performance in different environments. This information is crucial for leveraging plant genetic resources in breeding and cultivation practices, making European agriculture more sustainable and climate-resilient.

To address this, the **ECPGR European Evaluation Network (EVA)** has united public and private sector actors since 2019 to generate standardized evaluation data for crop accessions, including landraces, conserved in European genebanks. EVA builds on prior projects, develops new tools and protocols, and relies on partner contributions.

Through existing crop-specific networks for carrot, lettuce, maize, pepper, wheat and barley, EVA has so far collected over 500,000 phenotypic data points for 5,000+ accessions.

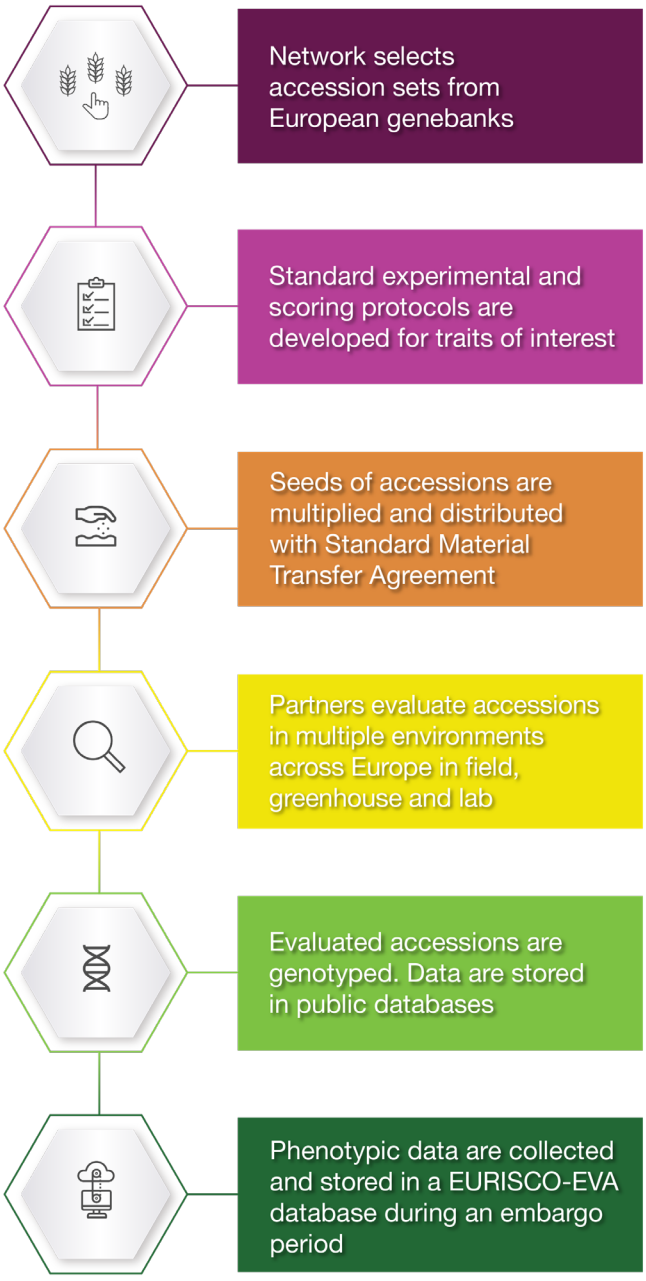
The project

Building on this legacy, EVA Boost aims to expand the initiative by establishing a new legume network and laying the groundwork for one on perennial plants (fruit trees and berries).

The **EVA Legumes** network, launched in 2024, focuses on seven crops: common bean, chickpea, faba bean, lentil, lupin, orphan legumes and pea. The network targets key traits such as disease resistance, drought tolerance, and nutritional quality. Standardized experimental and scoring protocols will ensure comparable results across multilocation field trials conducted at around ten locations per crop annually across Europe. This initiative brings together 51 partner organizations from 23 countries to share resources and data for characterization and evaluation. It will also generate purified lines – suitable for genotyping and field evaluation – from underutilized genebank resources, enhancing knowledge of genetic diversity.

EVA Boost also aims to establish a roadmap for the **EVA Perennials** network, focusing on berries and fruit trees. Leveraging insights from past European projects and fostering public–private partnerships, the network will identify sources of disease resistance to address the intensifying biotic and abiotic stresses caused by climate change. It also aims to increase diversity in marketed fruit varieties, making valuable genebank materials and research data accessible to breeders and growers across Europe.

How the EVA crop networks operate



Impact

EVA Boost marks a significant expansion of the EVA Networks, building on past achievements to increasingly **unlock the potential of Europe's plant genetic resources**. This initiative will help identify genetic material useful to strengthen **agricultural resilience**, offering breeders and eventually farmers access to traits that could meet future challenges while promoting **sustainable food production**.

In particular, EVA Legumes will play a crucial role in increasing the availability of plant-based proteins, in line with the EU's Farm to Fork strategy. Similarly, EVA Perennials aims to identify resistance traits that could reduce the reliance on phytochemicals, supporting the European Green Deal's sustainability objectives.

Budget
€ 353,740

Funding
Federal Ministry of Food and Agriculture, Germany

Partners
The EVA networks include partners from 34 European countries, including genebanks, universities, research institutes, public and private breeding companies and farming cooperatives.
For the full list of partners see:
https://www.ecpgr.org/eva/eva-partners/overview

Duration
1 September 2024 – 31 December 2027

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