

THE BREEDING VALUE SOLUTION

To address the challenges brought on by climate change, environmental preservation and the need for new cultivation systems as well as a high-quality produce, the project studies the current biodiversity of strawberry, raspberry and blueberry by applying advanced genotyping and phenotyping tools and identifying new pre-breeding materials for the creation of new resilient varieties with high quality fruit.

BreedingValue also strengthens connections within the GenRes-breeding-consumer chain, both nationally and across the EU, for the present and future benefit of berry breeders, nurseries, growers and consumers. To this end, berry breeders are also invited to participate in open calls for proposals to collaborate on specific project activities, such as marker-assisted selection, genomic selection, genome-wide association studies and the development of methodological tool kits for sensorial quality assessment of berry genetic resources.

“BreedingValue will greatly impact the competitiveness of the European berry production system - not only through consolidating the capacities of public and private European institutions for the evaluation and use of genetic resources to develop new cultivars in compliance with the new vision of the European Green Deal, but also through increasing the quality of the fruits in response to the specific requests of the European consumers.”

Bruno Mezzetti, Professor of Fruit Crop Breeding and Biotechnology at the Università Politecnica Delle Marche and BreedingValue Project Coordinator

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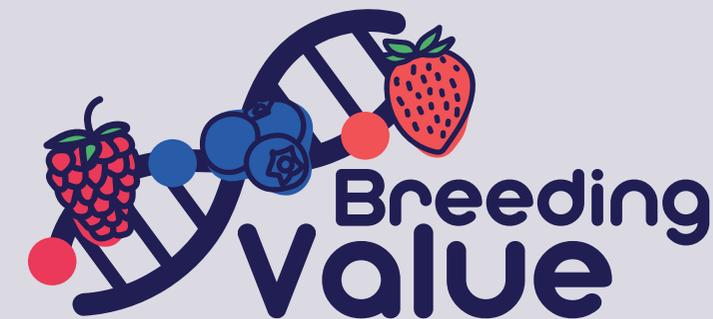
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Pre-breeding strategies for obtaining new resilient and added value berries



Start date
1 January 2021



Duration
4 Years



Budget
6.98 Mio €



20 Partner
8 Countries

www.breedingvalue.eu

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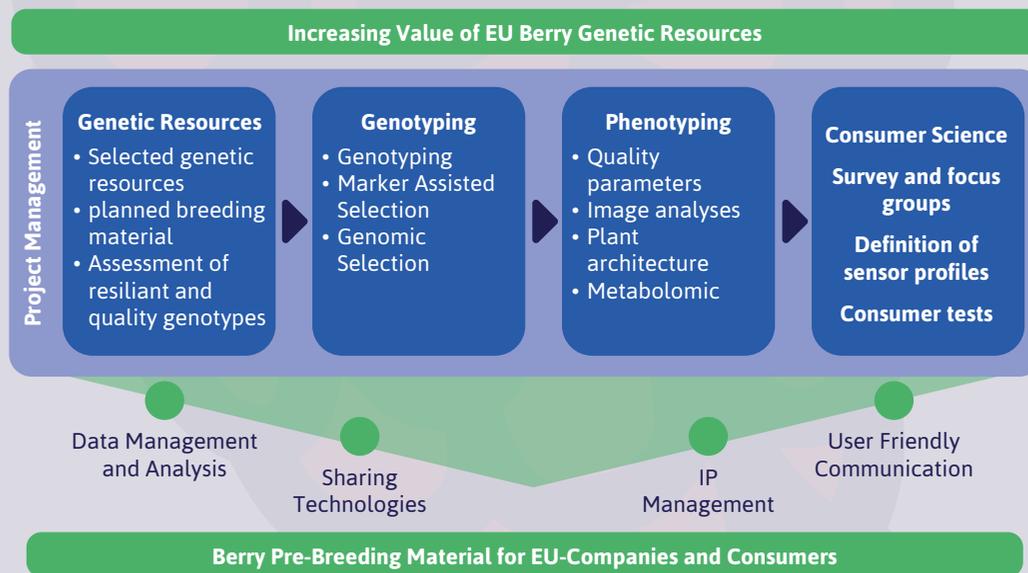
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THE BREEDING VALUE OBJECTIVES

- designing innovative breeding strategies providing berry producers with commercial varieties ensuring resilience and high fruit quality, across a broad range of geographic conditions.
- exploring berry germplasm with a particular focus on contemporary challenges in breeding, in order to assure genetic diversity and berry industry success across Europe.
- improving characterisation and selection efficiency among berry germplasm by providing new modern genotyping and phenotyping tools for identifying, sharing and disseminating results on factors controlling resilience, stress tolerance, yield stability and fruit quality.
- specifying and communicating sensorial quality factors and consumer quality preferences for different berry species in different parts of Europe.
- identifying and introducing superior germplasm for European berry breeding programmes as a valuable source to develop cultivars ensuring high-quality yield through sustainable production methods in different climatic conditions.
- developing concepts and user-friendly tools for documentation, communication and visualisation of berry germplasm at European level and even beyond, which will reduce conservation risks and improve the utilisation of berry GenRes in breeding programmes.
- consolidating networking on berry GenRes - breeding interface in Europe and provide participation, training and outreach to GenRes conservers, breeders, nurseries, growers, consumers and citizens.
- improving the capacity of the EU berry industry in order to maintain high competitiveness at national and international level.

THE BREEDING VALUE APPROACH

The project brings together key players of berry GenRes and breeding activities – from research, breeding and selection to value identification. BreedingValue enhances methodologies for GenRes and breeding material management, conservation, characterisation and evaluation. It increases the knowledge of berry GenRes value at European level and beyond by developing advanced phenotyping and genotyping platforms. Providing standardised research data on phenotypic and genotypic characterisation through a user-friendly database improves the quality and usability of GenRes breeding material, leads to quality improvements of collections and promotes their utilisation in breeding programs. Thus, BreedingValue will improve the competitiveness and sustainability of European berry industry in the long run.



THE BREEDINGVALUE BERRIES



STRAWBERRY

As the most important berry crop in the EU with widespread production across all EU countries and high-value both in the fresh market and processing industry, strawberry promises the development and economy of rural areas. For strawberry alone, there are more than 15 active private breeding programmes and about five public breeding programmes. BreedingValue recovers important traits of strawberry resilience as well as sensory and nutritional quality. This counteracts the existing narrow genetic base in cultivated strawberry resulting from the introduction of new genotypes with better agronomic characteristics while discarding many newly developed and even some old varieties, losing much of the initial strawberry variety in breeding.



RASPBERRY

Native to different European areas, red raspberry is rapidly gaining economic importance in the EU. This is reflected in their increased production and cultivation expansion. Extensive breeding activities include approx. ten active private breeding programmes as well as several public ones. BreedingValue enlarges the genetic pool for genetic diversity and shares new breeding tool strategies. New raspberry varieties or selections with high fruit quality adapted to the different geographic and changing climatic conditions within Europe, will also reflect European consumer preferences.



BLUEBERRY

Blueberries are the third most important berries in the EU. Its cultivation and production in the EU increased substantially due to growing consumer demand leading to the launch of multiple blueberry breeding programmes, the largest of which are based in the UK and Poland. BreedingValue combines the knowledge on GenRes sources for important resiliency and quality traits and new tools for genotyping and phenotyping. This will maintain and develop the capacity of the European breeding programmes and nurseries to market new blueberry cultivars adapted to different cultivation areas, market types and consumer demands.