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Launch of new EU Research Project BreedingValue: Developing new breeding strategies for resilient and highly nutritious berries

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Increased demand in berries across Europe meets the challenges brought on by climate change, environmental preservation and the need for new cultivation systems as well a high-quality product. The new research project BreedingValue, a European collaboration of 20 partners from eight countries, launches today and will explore the most promising berry genetic resources (GenRes) to address these challenges.



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Berry production is widely established throughout Europe. Especially strawberry as the most important crop, but also raspberry and blueberry now play a significant role in European agriculture: strawberry (Fragaria) with a harvest area of 105,798 ha and total production of 1,275,946 tonnes compared to raspberry (Rubus) with 41,436 ha and 219,112 tonnes and blueberry (Vaccinium spp.) with 15,395 ha and 95,674 tonnes. These berries offer valuable prospects for the development and economy of rural areas in

the EU due to their high-value, both in the fresh market segment and the processing industry. Considering the standard gross margins, they are far superior to crops such as wheat or corn and in response to an increasing market demand, cultivation has expanded continuously, mostly due to the recognition by the consumer of the higher sensorial and nutritional quality. Being the richest fruit in antioxidants, vitamins, minerals and fibre, they play a vital part of a healthy diet and are included in current dietary recommendations on the intake of fruits and vegetables. Growing these berries requires highly specialised knowledge and is, using the current cultivation systems, highly resource intensive. Current berry cultivars have a limited environmental tolerance which is determined by the plant's germplasm and reduces resilience to different environmental factors. At the same time, the quality of the fruits determines the success in the market by meeting consumers' expectations. Failure to produce high-quality berries carries the risk of reduced profitability and sustainability for individual farmers but also the market as a whole due to high wastage.

This is where BreedingValue intends to leave a mark. The project aims at bringing together public and private actors, internationally renowned scientists, GenRes managers and SMEs, with substantial experience in managing and characterising berry GenRes as well as berry consumers across Europe for the use and development of germplasm and new genetic and phenotyping tools. This will allow for studying the current biodiversity of these crops by applying advanced genotyping and phenotyping tools, and identifying new pre-breeding materials to be used for the creation of new resilient cultivars with high-quality fruit. In addition, BreedingValue intends to expand communication in the GenRes-breeding-consumer chain, both nationally and EU-wide, for the present and future benefit of berry breeders, nurseries, growers and consumers. Furthermore, in order to create a strong connection between public and private institutions, berry breeders will be 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.

"Central to the success of BreedingValue is the establishment of a large network of experts in conservation, genetics, genomics, breeding, biotechnology, biochemistry, phytopathology, bioinformatics, statistics and the production of berries. This unprecedented multidisciplinary structure will help us attain and develop new insights, information and concepts benefitting the berry GenRes community and reinforcing the connection between EU producers and consumers," says Prof. Bruno Mezzetti, Full Professor in Fruit Crop Breeding and Biotechnology in the Department of Agricultural, Food and Environmental and Crop Science at the Università Politecnica Delle Marche and coordinator of the BreedingValue consortium.

Partner institutions from Finland, France, Germany, Italy, Norway, Spain, Turkey and the United Kingdom will form the project consortium. The project will officially kick off its activities with a first virtual meeting from 20 to 21 January 2021.

Contributore

Contributo di

Progetti correlati



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