How to make organic plant breeding mainstream

The European Consortium for Organic Plant Breeding celebrates its 20th anniversary

Organic plant breeders celebrated their 20th anniversary in Brussels to discuss with stakeholders and policymakers the necessary changes to boost organic plant breeding to support the European Green Deal Strategy and climate change adaptation.

On 9th November 2021, the conference "How to make organic plant breeding mainstream" was organised by the European Consortium for Organic Plant Breeding (ECO-PB) in close collaboration with IFOAM Organics Europe, Arche Noah, Biodynamic Federation Demeter International, the project Engagement.Biobreeding of the Research Institue of Organic Agriculture FiBL and hosted by FiBL Europe. In total, 37 on-site and 69 online participants followed the exchange between organic breeders, seed savers, seed companies, competent authorities, offices entrusted with responsibility for the technical examination of varieties (examination offices) and policymakers on the potential of organic plant breeding to pave the way towards more sustainable food systems as stipulated in the European Green Deal and to tackle the challenges of climate change.

After a welcome by Miguel de Porras (FiBL Europe), the history and mission of ECO-PB were presented by Monika Messmer (FiBL Switzerland and President of ECO-PB). She highlighted the results and impact of the Horizon2020 project LIVESEED (2017-2021) on boosting organic seed and plant breeding and the importance of engaging policymakers along the process.

Clara Behr of Biodynamic Federation stressed that the key points to make organic plant breeding mainstream are: i) supporting farmers in participatory breeding and seed production, ii) funding organic breeding and breeding research, as well as iii) improving knowledge transfer and education. It is very appreciated that with the new EU Organic Regulation (2018/848), for the first time, a legally binding definition for "Organic

varieties suitable for organic production" has been published, and a temporary experiment, as described in the new organic regulation (2018/848) is foreseen to ease the market access of such varieties.

Barbara Maria Rudolf of Saatgut e.V., the Association for the Development of Ecological Plant Breeding, emphasised that a clear legal definition and guidelines are needed for organic breeding. Organic varieties resulting from organic breeding activities must be managed for at least three to five years under certified organic conditions. Only parental material that complies with the organic principles, avoiding the use of genetic engineering techniques and ionising radiation, may be utilised.

Organic heterogeneous material is a new category of plant propagation material introduced by the EU organic regulation (2018/848). The main benefit of this material with its high phenotypic and genotypic diversity is its evolving nature and adaptability to local conditions and diverse stresses. From 2022 onwards, organic heterogeneous material can be commercialised without DUS (Distinctness, Uniformity and Stability) or VCU (Value for Cultivation and Use) testing. A legal basis and delegated acts for the notification of organic heterogeneous material have been developed by the European Commission; however, the procedure for the implementation in each EU Member State should be supported, and synergies among examination offices should be used as presented by Carl Vollenweider from the biodynamic farm Dottenfelder Hof in Germany.

Fulya Batur of Kybele, an office that provides training and consultancy on biodiversity and seeds, presented the opportunities and mutual benefits of the new organic regulation and the current revision of the directives on plant and forest reproductive material. The results of the temporary experiment on organic varieties should feed timely into the reform and lay the legal ground for more diversity in European agriculture. Infrastructure for organic VCU testing should be made available in each Member State and include sustainability criteria, true cost accounting and address challenges of biodiversity decline and climate change. Regarding new genomic techniques, transparency and traceability are key.

These recommendations were discussed in more detail with representatives from Euroseeds, the Community Plant Variety Office (CPVO), the European Commission's Directorate-General for Health and Food Safety (DG Sante), IFOAM Organics Europe, organic breeders, farmers, and seed savers in a fishbowl. The Farm to Fork and Biodiversity Strategies of the European Union's Green Deal provide a historic recognition of the role of organic agriculture to achieve more sustainable food systems. It was stressed that we cannot continue business as usual with the challenges of climate change

and the biodiversity crisis. The regulation of conservation and amateur varieties and organic heterogeneous materials are the first steps in the right direction. The current revision process of the seed directives provides the opportunity to deliver unbureaucratic solutions.

According to Stefan Haffke of DG Sante, we have the right tools in our hands to provide farmers with diverse cultivars, like organic heterogeneous material and organic varieties suitable for organic production. The temporary experiment will open the way to adapt DUS and VCU protocols together with competent authorities and organic breeders to the needs of the organic sector while keeping the functional parts of the current system. In the light of the Green Deal, sustainability aspects need to be addressed in VCU testing.

The growth of the organic seed market is also supported by appropriate organic seed databases. However, companies need a legal framework with clear and legally binding definitions. Bringing back breeding activities to farmers via participatory breeding will improve local adaptation, maintain biodiversity and strengthen rural areas by establishing local value chains and linking farmers with consumers. In the future, cities might play an important role in the transformation of food systems. Several participants emphasised that enabling and promoting diversity for a more resilient, sustainable food system and healthy diet is key not only on variety level but also on species, cropping systems, value chain and business model level. Furthermore, we need a diversity of solutions on a legal level.

The participants agreed that there is a good legal framework to make organic breeding mainstream. Still, to implement the Farm to Fork and Biodiversity strategies and the new organic regulation, more funding (e.g., by linking the Strategic Plans under the Common Agricultural Policy to strong National Organic Action Plans) and targeted research projects are needed, enabling a fruitful and close collaboration with authorities and policymakers.

Further information:
https://www.eco-pb.org/eco-pb-events/policy-event-how-to-make-organic-plant-breeding-mainstream.html

https://www.eco-pb.org/about-eco-pb.html
https://www.organicseurope.bio/
https://www.arche-noah.at/english/about-arche-noah/the-seed-network
https://www.demeter.net/
https://www.biobreeding.org/about.html
https://www.fibl.org/en/locations/europe
https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

https://www.liveseed.eu/
https://www.liveseed.eu/wp-content/uploads/2021/02/D2.4-LIVESEED-Guidelines-for-adapted-DUS-and-VCU-testing-of-organic-varietie.pdf
https://www.liveseed.eu/wp-content/uploads/2020/10/LIVESEED_D2.8_Toolbox-on-heterogeneous_materials.pdf
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1189&from=EN
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