

After a welcome by Miguel de Porras (FiBL Europe) and a short introduction to the history and mission of [ECO-PB](#), Monika Messmer (FiBL Switzerland and President of ECO-PB) also explained the results and impact of the [LIVESEED](#) Horizon2020 project (2017-2021) on boosting organic seed and plant breeding and the positive influence of engaging policy makers along the process. Moderators of the morning session presented the outcome of the workshop discussions. Clara Behr (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 (OV)” has been published and a temporary experiment is foreseen to ease the market access of such varieties. Barbara Maria Rudolf (Saat:gut e.V.) emphasized that clear legal definition and guidelines are needed on what organic breeding is. Organic varieties resulting from organic breeding activities conducted at least 3 to 5 years under certified organic conditions, utilizing only parental material that are in compliance with the organic principles and refrain from genetic engineering techniques and ionizing radiation.

The main benefit of Organic Heterogeneous Material (OHM) with high phenotypic and genotypic diversity is its evolving nature and adaptability to local conditions and diverse stresses. From the year 2022 onwards OHM can be commercialized without DUS (Distinctness, Uniformity and Stability) or VCU (Value for Cultivation and Use) testing. Legal basis and delegated acts for the notification of OHM are developed, 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 (Dottenfelder Hof).

Fulya Batur (Kybele) presented the opportunities and mutual benefits of the new organic regulation and the present 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 legal ground for more diversity not only for organic agriculture. Infrastructure for Organic VCU 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 during the afternoon in an inclusive and interactive way, using the fishbowl technique, moderated by Fulya Batur. The first question the participants could reflect on was “*How to make organic breeding mainstream*”. Eric Gall (IFOAM Organics Europe) highlighted the efforts of stakeholders and their success achieved to include organic breeding and diverse genetic materials in the new organic regulation, as well as how the Farm to Fork (F2F) and Biodiversity Strategies of the EU Green Deal are a historic recognition of organic agriculture and its potential to pave the way for more sustainable food systems. The Commission is committed to support organic, by earmarking 30% of the research budget for organic agriculture at EU level. Challenges like the implementation of the Common Agricultural Policy (CAP) by Member States (MS), the new genetic engineering techniques and climate change are still present, but we have also noticed an unprecedented awareness of the society and policy makers, therefore adequate actions and mobilisation is needed to change how we produce food. Mainstreaming organic farming will also lead to mainstreaming organic breeding and organic seed production.

César González (Euroseeds) confirmed that in order to engage breeding and seed companies in organic, they need legal sustainability with clear and stable definitions. There is a positive trend on the market, certain crops are already picked up by companies for organic seed production, appropriate seed databases might have a supportive effect, therefore it would be beneficial to promote them.

Dagmar Urban (Arche Noah) emphasized the benefits of the new [EU Organic Regulation \(2018/848\)](#) allowing notification of [Organic Heterogeneous Material \(OHM\)](#) and the seed marketing reform on

bringing more diversity back on the field and in the whole food system. Additionally, an overall strategy is needed on funding and research level, including also breeding to mainstream diversity. Thinking on a farm level, we need to bring back breeding as an activity for farmers in the form of participatory breeding, this could give local solutions to the challenges of climate change, provide farmers with adapted cultivars to local microclimate as well as consumer's needs. In order to mainstream organic breeding, we also have to think about ourselves as actors, who are all able to contribute on a certain level to enhance diversity.

Monika Messmer accentuated the opportunity the legal text is bringing for mainstreaming organic plant breeding. It gives a good opportunity to shape the seed marketing reform. The Green Deal with F2F and Biodiversity Strategies are good opportunities to recognize the advantages of [Organic varieties suitable for organic production \(OV\)](#) under low input conditions in sustainable food systems. This could also have a positive impact on VCU testing in the future, shifting it towards organic.

Monika added that for the climate change adaptation, we will certainly need a harmonized threshold of criteria across the MS (with certain traits varying from country to country), which a candidate variety has to fulfil in order to get access to the market. The new organic regulation will hopefully support the implementation of these goals and will provide better monitoring on the uptake by the MS. To have a fast and efficient transition towards 100% organic seed use, we need more projects like LIVESEED, providing resources to support research and policy activities, recruiting a new generation of breeders and creating opportunities to collaborate with authorities.

According to Stefan Haffke (DG Sante) we have the right tools in our hands to provide farmers with diverse cultivars, like OHM and OV. 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.

A public consultation will be available in the beginning of 2022 for all stakeholders to contribute to the development of the seed legislation, with the possibility to harmonise the coming marketing legislation with the delegated act on OHM as well as the OV.

Dirk Theobald (CPVO) emphasized that ECO-PB is an official observer, attending the technical meetings of CPVO, which gives the opportunity to the organic sector to give input during the technical protocol (e.g. DUS protocol) development. Regarding the question, how to make organic breeding mainstream, there are three keywords, namely: i) legal framework, ii) market demand and iii) innovation. As it was already mentioned the legal framework is given, the temporary experiment will help to adjust DUS protocols to the needs of the organic varieties. The market demand is a very important aspect, farmers/users are requesting good performing (stable yielding, resistant, etc.) varieties, which breeders have to deliver. While the innovation comes from the breeders, who are developing suitable varieties for specific market demands.

Edith Lammers van Bueren (WUR, ECO-PB) underlines that both the supply side from breeders and the demand side from farmers, processors, retailers and consumers need to be addressed. We also need to raise awareness on the added value of organic breeding, which is easier if the organic sector is organised in a circular instead of linear way, where all the stakeholders of the food system can be involved and share commitment for the whole sector.

Eric Gall adds that to mainstream and to further develop organic breeding a whole value chain approach is needed. There are good examples in France and in The Netherlands how retailers can boost OV use.

César González, regarding the organic action plan, added that it contains one specific action on breeding, namely the earmark of research fund and crop yield. Yield is important also in organic, although there are many important traits, the farmers are looking for good performing varieties in yield, disease and drought resistance and in many other aspects. One trait will not qualify in case of a variety, many traits need to be taken into consideration, it's the variety itself not a specific trait that it counts.

The next question addressed to the participants was *"Can variety testing under organic drive the change?"*

According to Dirk Theobald we have to distinguish between DUS and VCU testing, we cannot handle them in the same way. CPVO is responsible for DUS testing which, according to him, was not an obstacle up to now in variety registration, however they are not informed if a candidate variety originates from organic or conventional breeding. In terms of uniformity, open pollinated varieties are always compared with other open pollinated varieties and not hybrids, therefore it is not seen yet that it's necessary to adapt DUS requirements to OV. The temporary derogation now gives the opportunity to explore these possibilities, but we have to look for a basic procedure that applies for most of the cases and applies modifications only when it's necessary.

Barbara Maria Rudolf (Saat:gut e.V.), as a farmer breeder, emphasized that the market does not solve everything, the seed market is too concentrated, with a few companies providing varieties and not fulfilling the needs of organic farmers and organic food system. For example, it is still very difficult to find CMS free varieties in case of cabbage family. The market itself will also not bring solution to the 100% organic seed use, being a political decision, therefore it needs policy and public support with reliable laws for the companies and sufficient funding for organic breeding.

César González agreed that as a basis, companies need legal certainty and the market cannot solve everything, sustainability issues need to be supported with tax money in order to produce varieties with added value.

Stefan Haffke highlighted again the possibilities which the already available tools are providing, like the marketing of amateur and conservation varieties are possible for several years now. The impact assessment, related to the revision of the seed marketing legislation, collected feedback from different stakeholders, bringing up the common need of "diverse varieties" with easier access, which might be implemented in the new regulation. In the light of the Green Deal, sustainability aspects need to be addressed and a framework developed that is suitable for all stakeholders, while keeping the functional parts of the current system.

Regarding the seed marketing reform Magdalena Prieler (Arche Noah) emphasized that with the challenges of climate change and biodiversity crisis we cannot continue business as usual, the reform gives the opportunity to deliver solutions, like one easy entrance for diverse varieties is needed in order that the regulation is not hindering diversity.

Carl Vollenweider (Dottenfelder Hof) added that climate change is affecting not only production but also breeding, due to the exceptional weather conditions this year, half of their breeding programme has been lost. According to Carl, market forces are not enough, conditions are changing fast, thus self-criticism and real solutions are needed. Performance is relevant but stability, diversity, resilience and climate adaptability are more important than yield maximalization.

Martin Sommer (IFOAM OE) explained although the delegated act on OHM has been adopted, efforts are needed for the implementation and mainstreaming. Carl Vollenweider added that the legal framework is important but not sufficient, support on coordination level from the MS as well as funding from national and EU authorities and stakeholder networking are crucial.

Monika Messmer also added that examination offices have an important role in the implementation process, they need support, clear guidelines and templates to know how to work with these heterogeneous materials. On national level seed expert groups could have a role to help and promote OHM notification and use. OHM is picked up and adopted by farmers when there is a connection between breeding, processing, direct marketing (short value chains). On one hand OHM has a big advantage to specifically adapt to very local conditions, which on the other hand makes them less suitable for big breeding programs, favouring cultivars that can perform well under very different conditions. Additionally, if we want to change our food system, we have to change our diets as well, which needs communication, as well as awareness needs to be raised on the higher costs of sustainable agriculture, animal welfare, etc. We need to take into consideration that breeding is a long-term process, needing a long-term breeding strategy on national and EU level.

Hannes Lorenzen (Greens/EFA) agreed that communication is a key issue, we need to communicate more what the added values of OV and OHM are. Communication and good arguments are needed within the MS towards the responsible administration to create funding structure for organic breeding within the Rural Development Program. The market development will be too slow, it will

follow only when there are clear rules and materials bred for OA. Therefore, we need public discussion and action to push organic breeding forward.

Stefan Haffke added that competent authorities not always have the experience with OHM, guidelines would be necessary to be able to deal with these propagation materials. Concrete proposals are welcome, even if they are not all picked up, they will help to understand the stakeholder's point of view.

Dirk Theobald mentioned as a concrete example for stakeholder contribution the temporary derogation, where they have received two proposals (carrot and Kohlrabi) for adapted DUS protocols. He also emphasized that authorities are welcoming these concrete proposals. Monika Messmer added that there are seven proposals under preparation for the adjusted DUS protocols. Abco de Buck (Luis Bolk Institute) underlined breeders are not convinced that there should be an alternative DUS protocol in case of all species, as there is also no blueprint for all species. We have to look in a broader way at the specific species and keep the discussions open in the next 7 years. Furthermore the participants answered *"What will happen if the VCU rules change in 2022 with the new seed marketing regulation? It might contain sustainability aspects, true cost accounting, etc. How will that affect the temporary experiment?"*

Stefan Haffke emphasized that they will take into consideration the input from all stakeholders, while the results of the temporary experiment will be only one part of it. He also added that we have to avoid linking too much the temporary experiment and the revision of the seed marketing legislation. There is always a possibility to make derogations later to the regulation in case it's needed.

The participants agreed that OHM is a great opportunity and will be easily picked up by farmers, but the processors are not ready and flexible yet to work with these heterogeneous materials, concerns were raised that the market will be not able to follow the evolution, prices are not acceptable for the consumers. We need coordinators to facilitate communication between farmers, processors, retailers and consumers, and to support local collaborations.

The last question of the session was *"How can the organic regulation and the reform of the seed marketing legislation contribute to the Green Deal and F2F strategy and how can they be translated into concrete steps?"*

Martin Sommer pointed out that the organic movement is a diverse movement, now provided with multiple opportunities for variety registration with or without plant breeders right as well as OHM notification. The seed legislation has an important facilitating function to develop the market for organic seed and organic breeding. When it comes to F2F and the Green Deal, the most important will be the Organic Action Plan and its national implementation, including general measures to improve the organic seed market and providing funding for organic breeding.

Hannes Lorenzen highlighted that the Green Deal and the Biodiversity Strategy have arrived a bit late for the CAP, the 25% of organic agricultural land is a goal without any clear steps how to achieve it. The Commission needs to urge MS to put in practice their Strategic Plans, while it is still possible to influence the Rural Development Plans to support organic breeding, seed production and seed use with the help of dedicated project proposals.

The participants agreed that there is a good legal framework to make organic breeding mainstream, but in order to implement these strategies and regulations, more funding (e.g. Rural Development Program based on strong National Organic Action Plans, supporting local organic value chain development, organic processing, organic seed use and breeding) and targeted research projects are needed, which will also enable to continue a fruitful and close collaboration with authorities and policy makers.

Monika Messmer added that from a broader perspective more communication is needed, we need discussions with citizens about the type and origin of our future food, raising awareness of consumers on the importance of breeding in general as well as the added value of organic breeding. Potentially changes might come from the cities, where citizens are more flexible to design and implement policies. They are also easier to mobilise, e.g. linking organic breeding with the Milan Urban Food Policy Pact could give an extra trigger from a different perspective than usual. Several participants emphasized 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 as well we need a diversity of solutions on legal level.

The discussion started from a very general question "*How to make organic breeding mainstream*", continued with gathering very specific ideas on the legislative framework and technical discussion on the protocols regarding the organic regulation and the future seed marketing regulation and it concluded with the need for sustainable food systems and value chains of which sustainable seed systems are a key element.