

On the future of certified organic seed

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A great event that provides a glance into the future is an excellent reason to inform people about the prospects of developing the use of certified organic seeds and organic plant breeding in Hungary. This event is the establishment of the Organic Seed Working Group, within the Hungarian Seed Association (VSZT). VSZT has been devoted to discussing professional issues related to organic seeds for two decades, which were carried out initially in an individual organic seed section. Then, after the death of the last president of the section, Dr. Géza Kovács, they were conducted within the scope of multiple sections specific to plant groups. The Organic Seed Working Group, established on 3 March 2020, allows members to engage in technical questions and develops recommendations related to organic seeds as a separate cross-section topic. This form is less restrictive than a specialized section, which is a benefit.

Beginnings and goals

The path to this point has taken almost a year, and the first milestone was a workshop organized by the Research Institute for Organic Agriculture (ÖMKi). At this workshop, the most prominent representatives of organic agriculture worked together to reveal the current situation, shortcomings and possibilities of the organic seed sector, and to make recommendations for improving it. The framework of this workshop was an EU Horizon 2020 project (LIVESEED: www.liveseed.eu), the Hungarian participants of which are ÖMKi and the Agricultural Institute of the Centre for Agricultural Research (ATK MGI) located in Martonvásár. The goal of the project is to promote the development of organic agriculture in Europe by improving organic seed market and organic plant breeding via its network of 50 research partners in 17 countries. To achieve these goals, it is essential to perform a status analysis in each country that could be the basis for the elaboration of recommendations on developments. Seeing the possibilities and the enthusiasm of the participants of this workshop, we started working on specific answers to the relevant questions last autumn in the frame of a technical working group. This not only included research and breeding institutes, seed companies, Hungarian certifying bodies, VSZT, the National Food Chain Safety Office of Hungary (NÉBIH) and representatives from the Ministry of Agriculture, but also the Hungarian Bioculture Association (Biokultúra), which represents organic farmers. At the third session of this working group, the decision was made – thanks to an offer from VSZT – to include as many representatives of the Hungarian organic seed sector as possible in the discussions with the aim of increasing the efficacy of our work. In response to the invitations sent to the members of VSZT, many companies involved also in organic seed production indicated that they would like to participate in the working group. And at the first gathering, the Organic Seed Working Group of VSZT was formed. The participants of the former working group who are not members of VSZT can still participate in this working group, so we continue our work in this framework.

Quality seeds have been produced in Hungary for almost a hundred years. Using this tradition and technical knowledge as a basis, and by utilizing the excellent technology and our outstanding conditions for plant production, we can achieve great improvements in the production of certified and sealed organic seeds. Currently, both the supply and demand for organic seeds in Hungary are low. The reason for this is that, on the one hand, Hungarian organic farmers generally use their own, farm-saved seeds or conventional untreated seeds, and on the other hand, the otherwise large volume of organic seed production in Hungary is carried out for exporting purposes under contractual agreements. As a result, the working group has a two-fold goal as well: To promote the use of certified

organic seeds by organic farmers and to involve companies currently producing organic seeds for export in the Hungarian organic seed market.

Organic seed database

To meet the aims stated above, the first step is to improve the organic seed database operated by NÉBIH (<https://portal.nebih.gov.hu/oko-vetomag>), and to fill it with data on as many seed lots as possible. As of now, most of the seeds in the database come from one company that sells organic vegetable seeds, while arable crop seed lots are seldom found. As a consequence, organic farmers have every right to argue that due to this lack of supply, they are forced to use conventional untreated or farm-saved seeds, which could negatively affect the productivity of their farms. Each EU member state is obliged (according to Regulation (EC) No 889/2008) to maintain a database of organic seeds, as this is the basis for organic certifying bodies to approve derogation requests related to the use of non-organic seeds. The current EU regulation on organic products classifies cultivated plant species (or in some cases, groups of varieties) into three categories. Species with a comprehensive and broad selection of varieties grown and certified according to the requirement system of organic farming belong to Category I. No derogation requests can be approved for these species at all. However, species classified as Category III can receive a general approval, as farmers would not have been able to procure any of their varieties on the market. Currently, these two categories do not include any species or groups of varieties, because organic seeds are readily available for most species, although the number of varieties is low. As we can see, all plant species in Hungary are categorized as Category II. For these, individual special approvals need to be issued whenever a farmer wants to use non-organic seed. This creates quite an administrative burden for the two Hungarian organic certifying bodies and for organic farmers as well. In addition, this practice hinders certified organic seeds in gaining market share, which threatens the sustainability of plant breeding for organic farming and eventually the profitability of organic farms.

A network for testing organic varieties

The members of the working group agreed that the work should begin with a few species or groups of species, and that the scope should be extended later based on the experiences gained. The first step is to increase the supply of seeds of small grain cereals. Therefore, the seed producing and trading companies – the majority of the working group members – will enter at least part of their organic seed batches produced in Hungary into the database, thus motivating farmers to try new varieties as well. In the case of the national organic seed production, these will most likely be varieties that already performed well in cultivation tests in previous years in Hungary, which is a less risky choice than building the plant production upon conventional untreated seeds of varieties that are available but less known in organic farming. To help farmers make the right choice, the members of the working group will initiate small-scale field testing of varieties country-wide from this year, in cooperation with NÉBIH variety certification sites and Hungarian research institutions. These variety tests will complement the large-scale on-farm variety tests that ÖMKi has been carrying out since 2012. Based on the results of the first few years, the network will be able to provide much more precise recommendations for organic farmers about the use of specific varieties, the seed supply for which will be secured in advance by the relevant companies. According to the plans, the organic variety testing network will launch this year with winter wheat varieties on approximately 10 sites, representing every characteristic wheat producing region of Hungary.

Organic breeding of varieties

An important long-term goal of the working group is for the experimental network, after it becomes well-established within the variety testing systems of Hungary, to host organic variety registration

activities to be introduced in the future. Within this, the performance of variety candidates developed by breeding companies and research institutions for organic production will be tested for VCU (value for cultivation and use), with the best being officially registered as organic varieties. We do hope that the financial resources for breeding new varieties that increase the competitiveness of organic farmers could at least partly be covered by the royalties for breeders originated from increased sales of organic seeds. To develop a comprehensive and well-established certification system for organic varieties, it is essential to perform experiments first. The new EU organic regulation that is going to enter in force soon (No. 2018/848/EC) also encourages member states to participate in a seven-year temporary experiment on the certification of organic varieties, which Hungary is also planning to join. This step can provide effective contributions to increase the market share of organic varieties, and in light of this, the working group, with the active participation of ATK MGI and ÖMKi in the preparation work, will support this motion.

In addition to organic varieties, the EU is also investigating the possibility of introducing and certifying organic heterogeneous propagation materials in a similar framework, ending in February 2021. Unfortunately, Hungary only joined this other seven-year temporary experiment for the last year, but we can also learn from the experiences of other participating member states, and during the inspection of wheat (ATK MGI) and durum (ÖMKi) composite populations registered for the last year, NÉBIH will be able to familiarize itself with this type of propagation material. Heterogeneous propagation materials are plant populations with high environmental stability (due to their increased adaptability resulting from the heterogeneous genetic background), which means their yield and quality are also more stable in terms of production years and geographical regions compared to varieties with a homogeneous genetic background. This is a characteristic that is primarily useful for those involved in organic agricultural activities under increased environmental exposure. Therefore, these propagation materials would be officially launched on the seed market within a few years (after registration) providing that they comply with the requirements on seed quality and traceability.

Until now, the research institution at Martonvásár (ATK MGI) was the only one in Hungary to register organic varieties (einkorn and emmer), although without official certification as organic varieties, these officially cannot be indicated as organic, even though the whole breeding process took place in certified organic nursery. Both certified organic varieties and organic heterogeneous propagation materials enhance the efficiency of organic plant production in Hungary, so breeders should be supported to carry out such activities. The most practical way to do this, which is favorable for all parties involved, is to use sealed certified organic seeds. An improvement in this use promotes organic breeding as a positive feedback, thus generating an even broader selection of species and varieties for organic farmers.

On the regular sessions of the Organic Seed Working Group, the aim is to establish a common standing ground in issues related to the organic seed market (e.g. encouraging the active use of the database or recommendations on variety use), which in the future can be beneficial not only for breeders and seed traders but for organic farmers, processing companies and for ourselves, consumers as well.