

Explaining the registration process for organic heterogeneous materials (OHM)

Problem

The threat that climate change poses to yield stability is increasing each year, with multiple abiotic and biotic stresses affecting crops all at the same time and much more frequently. Furthermore, the existing regulatory system for registering newly developed crop varieties is designed for uniform cultivars (i.e., homogeneous plant material) with little genetic diversity, obstructing the diversification in agricultural crop production. The process of variety breeding is by itself a lengthy, time and resource consuming, and expensive process. So is the registration of new varieties.

Solution

One solution to this is using organic heterogeneous materials (OHM), which is described as a plant grouping of a species that has common phenotypic characteristics but at the same time a high degree of genetic and phenotypic diversity (heterogeneity). OHM is not a variety, neither is it a mixture of varieties, therefore it is not a subject for variety registration, but a simpler process of notification. Within the SolACE project we found that farmers using OHM had no information on the notification procedure, hindering their uptake as a crop that can improve agrobiodiversity and resilience to climate change.

To solve the issue of a lack of available information on OHM notification, we formed a booklet on this within the SolACE project. This practice abstract summarises the key elements of this booklet for external stakeholders with an interest in OHM. OHM is a category introduced by the new organic regulation (EU) 2018/848. It is characterised by **a high level of genetic diversity and dynamic nature to evolve and adapt to certain conditions, for which DUS (distinctiveness, uniformity and stability) protocols are not applicable**. Furthermore, for marketing, they are not subject to registration, only to a simplified notification process.

Benefits

The simplified notification procedure allows for the marketing of OHM, fostering agrobiodiversity and giving farmers a valuable tool to overcome the challenges of climate change. Moreover, OHM notification is a faster, simpler and cheaper process, compared to variety registration.



Left: population of durum wheat crop grown in Hungary. Right: selected sample of wheat used for OHM notification. Source: ÖMKi

Applicability box

Which species?

All species are eligible for OHM notification.

What kind of breeding technique can be used?

Crossing of different parental material with bulking of progeny, on-farm management with selection or any other technique resulting in a high level of genetic diversity and complying with the organic regulation.

What is not an OHM?

Varieties or mixtures of varieties are not OHM.

Quality requirements

Identity, purity, germination rate, sanitary, traceability, packaging and labelling requirements are described in the delegated act. See further reading.

Are there quantity limitations in marketing?

Annex II of the delegated act contains the quantity limitations of small packages for each category.

Practical recommendation

- The OHM notification procedure is as follows:
 - The following data needs to be sent to the responsible competent authority of any Member State:
 - (a) the contact details of the applicant;
 - (b) the species (Latin name) and denomination (a cultivar name) of the organic heterogeneous material;
 - (c) the description of the main agronomic and phenotypic characteristics that are common to that plant grouping (agronomic aspects such as yield, yield stability, suitability for low input systems, performance, resistance to abiotic stress, disease resistance, quality parameters, taste or color), including breeding methods, any available results from tests on those characteristics, the country of production and the parental material used;
 - (d) a declaration by the applicant concerning the truth of the elements in points (a), (b) and (c); and
 - (e) a representative sample of seeds (e.g., in case of cereals, approx. 1 kg seed is sufficient).

Further information

Video

- Experience of the evolutionary participatory breeding strategy - a Case study from Hungary (English). https://youtu.be/_ws_YInWc1U

Further readings

- *How to produce seed of heterogeneous populations of inbred cereals (Liveseed Practice abstract)*. Authors: Petitti, Matteo und Bocci, Riccardo. Issuing Organisation(s): Rete Semi Rurali. Liveseed Practice Abstract, Nr. 52. (2020), available at <https://orgprints.org/id/eprint/39848/>
- *How to produce organic heterogeneous material for sweet corn (Liveseed Practice Abstract)*. Authors: Petcu, Victor. Issuing Organisation(s): NARDI - National Agricultural Research and Development Institute. Liveseed Practice Abstract, Nr. 47. (2020), <https://orgprints.org/id/eprint/39844/>
- Organic Heterogeneous Material, what is it and what are the potential benefits for the organic sector? Author: Matteo Petitti. Rete Semi Rurali (2020). Available at https://www.liveseed.eu/wp-content/uploads/2020/07/Session_3__Heterogenous_Material_MatteoPetitti_compressed.pdf

Weblinks

- Participatory breeding in the XXI. Century (Hungarian) <https://biokutatas.hu/hu/webshop/item/123/reszvetel-nemesites-a-xxi-szazadban>
- European Commission (2021): Commission Delegated Regulation (EU) 2021/1189 of 7 May 2021 supplementing Regulation (EU) 2018/848 of the European Parliament and of the Council as regards the production and marketing of plant reproductive material of organic heterogeneous material of particular genera or species.

About this practice abstract and SolACE

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