

Tools to identify genetically heterogeneous cultivars 2: traceability

Problems

In a variety, one individual plant can represent the whole plant grouping, making univocal identification possible, whereas in organic heterogeneous material (OHM) an individual plant cannot represent the population, and therefore a range of description and identification metrics is needed. Hence, seed registration and certification of OHM relies on information on the constitution, traceability and description of the OHM seed.

Solutions

A temporary experiment on the marketing of genetically diverse populations of wheat, barley, oats and maize was granted under the EU implementing decision 2014/150/EU, where tools to identify and describe genetically diverse populations were tested. Tools to document the traceability were set out as (i) the region of production, (ii) the registration of actors / "paper trail", and (iii) the representative sample. A SWOT analysis of these tools was performed to inform future developments of the legality of OHM (Table 1).

Table 1: Summary of the SWOT analysis conducted on tools documenting the traceability of population in 2014/150/EU: 'region of production'; 'paper trail'; 'representative sample'

STRENGTHS – Information on traceability can:	WEAKNESSES – Information on traceability can:
<ul style="list-style-type: none"> provide evidence of a population's history in the light of natural selection help end-users understand the optimal context of production guarantee certain qualities and be of reference in case of commercial conflicts 	<ul style="list-style-type: none"> be confusing in terms of 'region of production' – spatial and temporal variation in environment does not relate to geographical boundaries provide insufficient information to understand population performance be inappropriate, relying on a sample, to represent the whole population
OPPORTUNITIES – Information on traceability might:	THREATS – Information on traceability might:
<ul style="list-style-type: none"> outline the agro-climatic context of a populations' breeding and multiplication and inform what environment it might be better fit to provide a paper trail to guard against development of parallel market help tracking of individual seed lots, rather than entire populations 	<ul style="list-style-type: none"> limit the evolutionary potential of a population and limit access to material if the region of production is too restrictive generate high administrative burden and lack of clarity on who is responsible for record keeping leave room for development of fraudulent paper work if only relying on this mechanism

Practical recommendations

- Traceability tools are necessary to provide evidence of population development and history and to prevent parallel markets.
- Keeping a record of region of production for seed lots can inform understanding of the evolutionary history of a population.
- Documenting where a seed lot was multiplied should not limit where the seed lot can be grown.

Further information

- [Text of the Commission Implementing Decision 2014/150/EU](#)
- [Main outcomes and SWOT of experiences from marketing populations under the Temporary Experiment into the commercialisation of heterogeneous populations in the European Union](#)

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