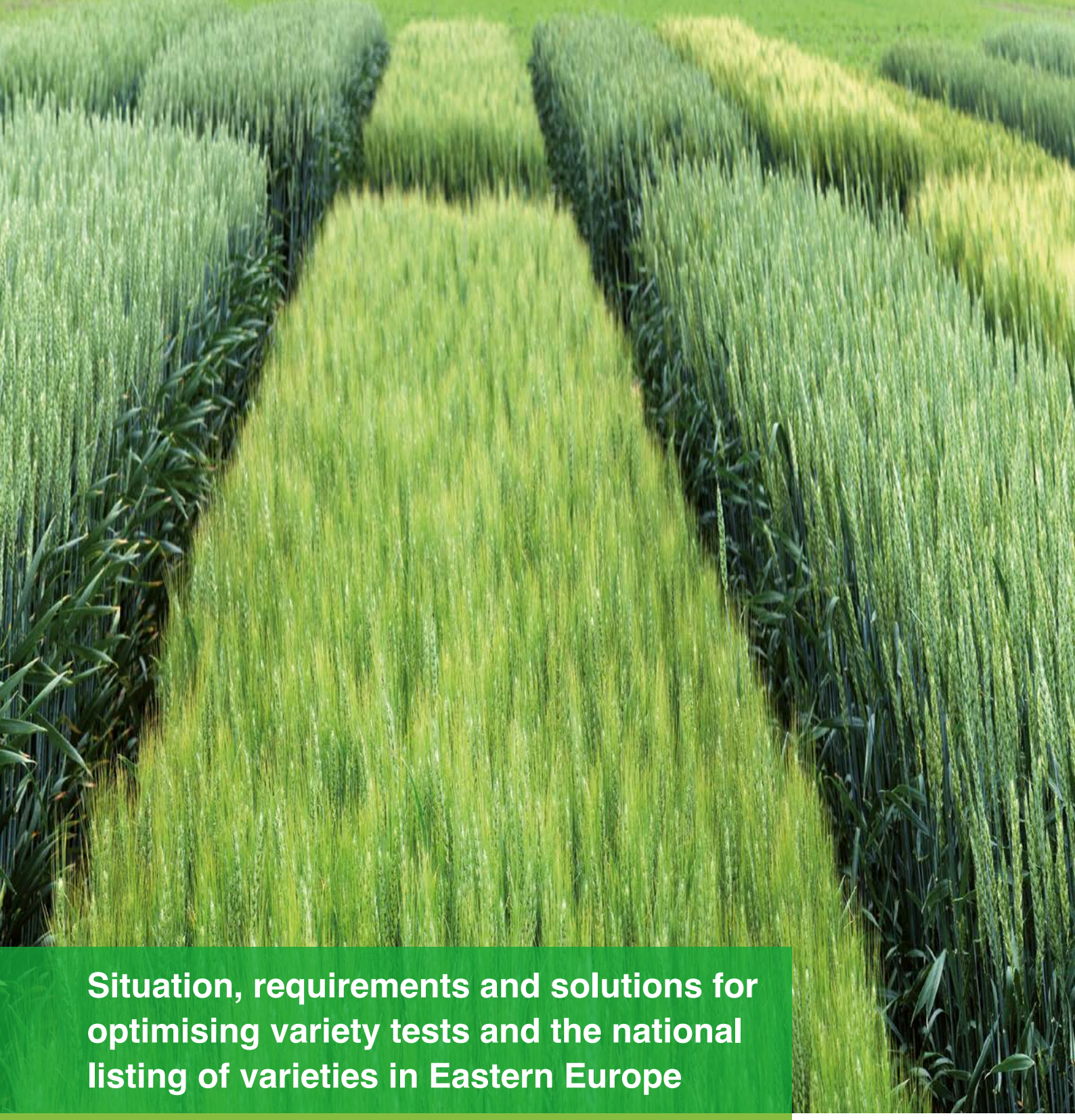


Situation, requirements and solutions for optimising variety tests and the national listing of varieties in Eastern Europe

A position paper by the
DLG Regional Working Group Eastern Europe
and the DLG Committee for Plant Breeding,
Varieties & Seeds

www.DLG.org

This position paper is aimed at farmers, particularly those interested in developing the on-farm variety test network, plant breeders, variety test sponsors, agricultural policy makers and financial backers of public-private partnership projects.

Initial

The Eastern European farmers essentially use three sources of information when selecting a variety:

- State variety tests
- Seed company variety tests
- Self-organised on-farm variety tests

These three sources are not sufficient to ensure high-quality and independent comparisons of the varieties available in the respective countries. The state variety testing authorities are often underfinanced and their technical and farm input equipment is sub-optimal, meaning that the cultivation technology cannot always be adapted to the level of the farms. Alongside these factors, transparency regarding the test results and approval criteria would boost confidence in the plant variety offices' decisions. The seed companies' variety tests are conducted primarily to describe their own varieties and do not provide a neutral and non-company-biased overview of varieties.

The on-farm variety tests do not reflect the available variety diversity and are very costly. On the one hand, the results are barely comparable or transferrable to other sites and on the other hand, the agricultural managers are usually unwilling to share their results readily with others. Small and medium-sized agricultural companies cannot afford to undertake their own on-farm variety tests.

However, neutral comparisons of the variety material available in each case and fast access to breeding progress in the form of high-performance varieties adapted to the site are important and particularly efficient measures in successful crop production, and they offer competitive advantages for agricultural operations in Eastern Europe.

As a result of this, the DLG Regional Working Group Eastern Europe has dealt with this topic in cooperation with the DLG Committee for Plant Breeding, Varieties & Seeds and has formulated requirements concerning variety tests and the national listing of varieties as well as possible solutions.

Requirements for variety tests and the national listing of varieties

- **Freedom** of choice of varieties for farmers.

- **Transparency:** Variety tests should be transparent and the results comprehensible. The needs of the respective regions and farms should be taken into consideration.

- **Reliable variety experimentation:** Reliable variety experimentation is required. It is immaterial whether this is undertaken privately or by the state.

- **Efficient overall system:** In addition to individual tests, the objective must be the establishment of an efficient overall system that is accepted by as many people as possible. A good central system is advantageous for all parties. It should be independent, objective and neutral.

- **Time advantage:** Test results must be made available quickly. This particularly concerns the exploitation of time-based optimisation potentials aimed at quickly accessing international genetics and thus ensuring competitive advantages.

- **Generation of breeding progress:** Yield progress, progress as regards resistances and general breeding progress are not only dependent on how varieties are tested but also on whether a breeder manages to recoup his breeding outlay.

- **Mandatory national listing** for new varieties is an important instrument for controlling and monitoring the seed market.

  Particularly in Eastern Europe, pronounced abiotic and biotic stress factors necessitate varieties adapted to the sites. Following initial negative experiences, the unimpeded influx of imported varieties would unavoidably lead first to genetic chaos and ultimately to renewed, increased pre-selection on site.

  Examples without national listing of varieties (USA) show that this consequently leads to ineffective intellectual property protection and low refinancing of the breeding outlay, particularly in the case of farm-saved seeds, and therefore ultimately to reduced breeding progress for the farmer. At the same time, it reinforces the cultivation of hybrid crops with varieties of only a few seed companies.

- **Variety protection** is very important for increasing the amount of breeding expenses that are recouped, particularly in the case of farm-saved seeds, and thus ultimately for investments in plant breeding and variety development as well as for access to breeding progress for the farmer.

Solutions

Possible solution approaches can include temporally and technically optimised state variety tests supplemented by technically correct on-farm variety tests as well as special training and further training programmes.

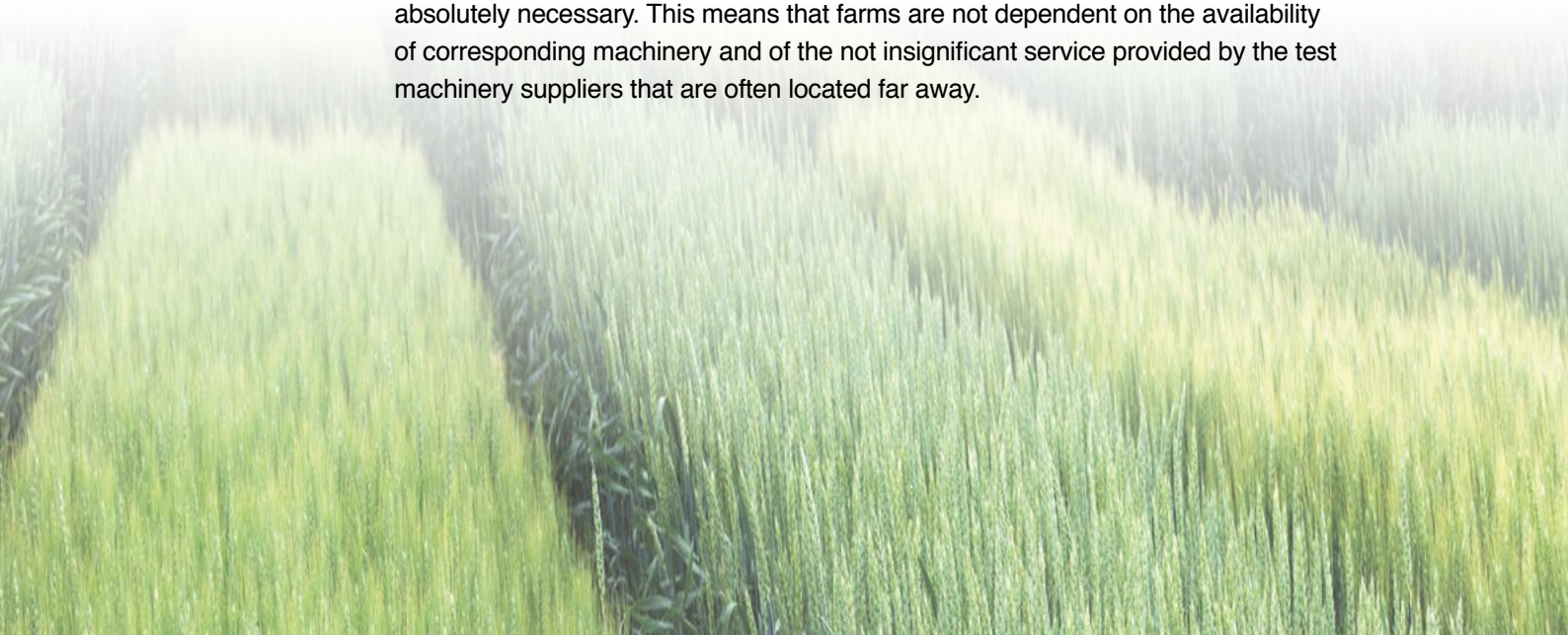
1. Temporally and technically optimised state variety tests and national listing of varieties

- Clear, transparent, neutral processes and decisions – preferably digitally traceable.
- Respect of IP (Intellectual Property) rights incl. practically feasible possibility of collecting charges for farm-saved seeds in addition to the charges for certified seeds.
- Standardised and transparent guidelines for conducting variety tests incl. openness to UPOV guidelines for conducting technically correct tests.
- Less bureaucracy, digital database (English), sufficient staff, finances and technical capacities.
- Optimised time-based processes by the breeder (wherever possible, registration at the same time as e.g. application for listing in the EU, not afterwards – the quantity of test seed poses a challenge but is possible) and through the regulations (e.g. import of reproduction seed currently only possible following national listing, thus leading to a delay of at least one year).
- Modernisation of state variety experimentation, technical and scientific know-how in the design and analysis of precision tests.

On optimisation of the processes and framework conditions, it would be possible to introduce the breeding progress of effectively adapted materials with a maximum delay of one year compared to e.g. the introduction of new varieties in the EU area.

2. Professionalisation and standardisation of on-farm variety tests

- The available **large farming operation** machinery can be used to conduct on-farm variety tests. Investing in the special machinery required to cultivate small plots is not absolutely necessary. This means that farms are not dependent on the availability of corresponding machinery and of the not insignificant service provided by the test machinery suppliers that are often located far away.



- The **technical developments** in the area of sowing and harvesting technology as well as the increasing possibilities offered by digitalisation enable the implementation of technically correct large-plot tests according to the structures in Eastern Europe with the aid of existing farming technology.

- Comparability of the test results is important. The use of a uniform test design is ideal. Uniform evaluation methods are the prerequisite for this. The application of methods such as the Hohenheim-Gülzow method would also enable international data comparability differentiated according to climatic zones.

- The development and establishment of standards for technically correct, practically feasible on-farm variety tests in major structures and the development of a **test guideline** with the description of a correct test design, corresponding mapping and the correct field scale as well as random points with correct statistical offsetting would provide farmers with good orientation.

- **The training of test personnel** is a further prerequisite for successfully conducting on-farm variety tests.

- Establishment of a privately organised platform/interest group for exchanging variety test results between farmers who test varieties themselves.

- To increase the reliability of the on-farm variety test system, accompaniment by **certification** should be taken into consideration.

The objective should be feasible on-farm variety tests with technically acceptable test results instead of the typical strip demonstrations with very limited technical meaningfulness.

3. International expert dialogue, training and further training in variety experimentation as an instrument for fostering the national listing procedures and test methods

Date of issue: 3/2021

DLG – Open network and professional voice

DLG promotes progress in agriculture, agribusiness and the food industry globally by transferring knowledge, quality and technology, and contributes to sustainably securing basic needs and livelihoods worldwide.

As an open, international network, DLG develops forward-oriented solutions to the challenges of the industry together with experts from all over the world. It organizes internationally leading trade fairs and events in the fields of crop production, animal husbandry, agricultural and forestry machinery, energy supplies and food technology.

DLG's quality tests for food, agricultural machinery and equipment, as well as farm inputs, are international leaders. Through its professional work and its expert network, DLG continually supplies fresh impetus for practical farmers.

www.DLG.org

Publisher:

DLG Regional Working Group Eastern Europe

The DLG Regional Working Group Eastern Europe is focussed on the exchange of expert knowledge concerning issues of relevance to the countries of Eastern Europa amongst farmers, agribusiness representatives, consultants and scientists. Actors from the worlds of farming, industry, politics, science and agribusiness come together here. The Working Group's members include representatives from Belarus, Germany, Kazakhstan, Poland, Russia and Ukraine.

DLG Committee for Plant Breeding, Varieties & Seeds

This expert committee is focussed on resistances, variety diversity and breeding progress. Breeders, scientists, representatives of authorities and farmers discuss current issues at the DLG's 'round table' and publish their results via DLG events and publications. Close cooperation with the Committee for Crop Protection underpins the results because issues of resistance, in particular, are closely related to the optimisation of crop protection.

DLG e.V.
Eschborner Landstr. 122
60489 Frankfurt am Main, Germany
Tel. +49 69 24788-0
Fax +49 69 24788-110
Info@DLG.org · www.DLG.org