

**Working Group on Biochemical and Molecular Techniques
and DNA-Profiling in Particular**

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OECD SEED SCHEMES AN INTERNATIONAL SEED VARIETAL CERTIFICATION SYSTEM

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1. The OECD Schemes for the Varietal Certification of Seed promotes the use of certified agriculture seed that is of consistently high quality. These seeds are produced and officially controlled according to a set of harmonised procedures put in place in the 61 participating countries.
2. The varietal identity and purity is evaluated during field inspection and additionally there are pre- and post- control plots. It means that inspection is done only visually. OECD Seed Schemes do recognise that there are occasions where these traditional techniques limit the certainty of the varietal determination, and in certain cases varieties of some species cannot be identified with certainty using these traditional techniques. In these specific circumstances, it might be beneficial to use non-field based tests, which must be seen as supplementing and not replacing the more traditional techniques.
3. There were not possibility to use during seed certification process a biochemical and molecular techniques and to reject lot in accordance on those results. Participating countries use some methods but just to get additional information.
4. The OECD 2019 Annual Meeting approved the Revised draft proposal for the revision of Part III of the Guidelines for Control Plot Tests and Field Inspection of Seed Crops.

[Annex follows]



OECD SEED SCHEMES

AN INTERNATIONAL SEED VARIETAL
CERTIFICATION SYSTEM

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Summary

- General overview of the OECD Seed Schemes
- The eight Schemes
- The main instruments of the Schemes
- The goal of the OECD seed schemes
- BMT techniques
- Changes during OECD seed schemes 2019 AM



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General overview of the OECD Seed Schemes

Mission Statement: The OECD Seed Schemes facilitate the international trade of quality seed by applying harmonised seed varietal certification standards and procedures.

Mission Vision: Globally harmonised seed varietal certification supporting the wider development of a productive, sustainable and resilient agriculture and food system

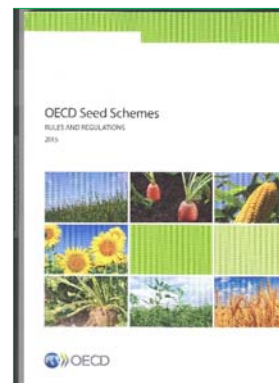
Quality seeds for world needs

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General overview on the OECD Seed Schemes 8 Seed Schemes

- Grasses and legumes;
- Crucifers and Other Oil or Fibre Species;
- Cereals;
- Fodder Beet and Sugar Beet;
- Subterranean Clover and Similar Species;
- Maize;
- Sorghum;
- Vegetables.



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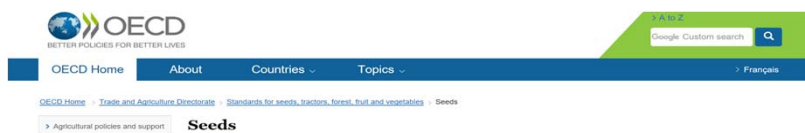


General overview on the OECD Seed Schemes Main Instruments of the Schemes

- OECD Seed Schemes Rules and Regulations 2019
- OECD List of Varieties (online)
- [Guidelines for Control Plot Tests & Field Inspection of Seed Crops](#)
- Guideline for authorization of certain activity

All of them are available from the official website:

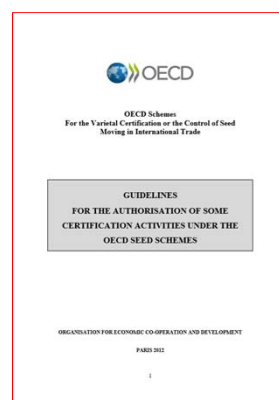
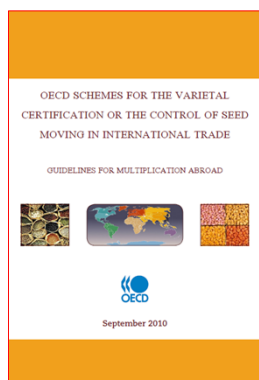
<http://www.oecd.org/tad/code/seeds.htm>



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General overview on the OECD Seed Schemes Main Instruments of the Schemes





The goal of the OECD seed schemes

- The OECD Schemes for the Varietal Certification of Seed promotes the use of certified agriculture seed that is of consistently high quality.
- These seeds are produced and officially controlled according to a set of harmonised procedures put in place in the 61 participating countries.



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Implementation: keystones of OECD Certification

Control of seed production (varietal identity and purity):

Seed producing fields



Post control on plots



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Changes during 2019 OECD AM

- The Annual Meeting of the Seed Schemes has agreed to develop a procedure how to approve biochemical and molecular techniques.
- The key principles:
 - reproducibility of data production between laboratories and detection platforms (different types of equipment);
 - repeatability over time;
 - discrimination power;
 - accessibility of methodology.



- "7.4.5 Other controls as appropriate
- Where field inspection and control plot testing have been fully implemented and still left some doubt as to the varietal identity of a seed lot, the National Designated Authority is entitled to make any other supplementary tests as recorded in the Annex to Part III of the Guidelines for control plot tests and field inspection of seed crops, as being appropriate to the variety concerned and to obtain any supplementary information required for the certification of each seed lot in support of the certification decision for the seed lot concerned including internationally recognised biochemical and molecular techniques performed by a an officially recognised laboratory as referred to in Rule 7.4.2.1.
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- 7.4.5.1 The National Designated Authority may authorise non-official laboratories to carry out the analysis. If the National Designated Authority decides to use this procedure, it must define its scope (activities, species, categories and persons concerned). The National Designated Authority shall satisfy itself of verifications and other requirements, and take all measures which guarantee equivalent operations by an authorised laboratory or by an official laboratory."



The list on biochemical and molecular techniques

- Annex III „BIOCHEMICAL AND MOLECULAR TECHNIQUES TO ASSIST WITH DETERMINING VARIETAL IDENTITY“ of Guidelines for control plot tests and field inspection of seed crop.
- The Annex (list of Biochemical and Molecular Techniques methods) would act as a stand-alone document
- The list will be updated in the regular basis to ensure that new methods are included

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Annex

- Part III additional testing methods for varietal identity and varietal purity

Glycine max (soyabean)	Seed: coloration due to peroxidase activity in seed coat	UPOV	Ad. 16: "Seed: coloration due to peroxidase activity in seed coat" to the UPOV 16/80/1 guidelines for the conduct of tests for Distinctness, Uniformity and Stability
	GMO Detection, Identification and Quantification	ISTA/ EURL	Internal methods validated with reference to EURL validation studies and to the standards ISO 21569, ISO 21570 and ISO 21571

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OECD Label



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<http://www.oecd.org/tad/code/seeds.htm>

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