

Technical Committee

TC/56/INF/6

**Fifty-Sixth Session
Geneva, October 26 and 27, 2020**

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MOLECULAR TECHNIQUES – MATTERS FOR INFORMATION

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EXECUTIVE SUMMARY

1. The purpose of this document is to report on developments at the Technical Working Parties, at their sessions in 2020, and at the nineteenth session of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT) for information purposes.
2. Matters for consideration by the Technical Committee (TC) on the use of biochemical and molecular techniques in DUS examination and molecular techniques in relation to the Technical Working Parties (TWPs) and the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT) are presented in document TC/56/7 “Molecular techniques”.
3. The structure of this document is as follows:

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4. The following abbreviations are used in this document:

BMT:	Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular
ISTA:	International Seed Testing Association
OECD:	Organization for Economic Co-operation and Development
TC:	Technical Committee
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
TWF:	Technical Working Party on Fruit Crops
TWO:	Technical Working Party on Ornamental Plants and Forest Trees
TWPs:	Technical Working Parties
TWV:	Technical Working Party for Vegetables

DEVELOPMENTS AT THE TECHNICAL WORKING PARTIES AT THEIR SESSIONS IN 2020

5. At their sessions in 2020, the TWV¹, TWO², TWA³, TWF⁴ and TWC⁵ considered document TWP/4/7 “Molecular techniques” (see documents TWV/54/9 “Report”, paragraphs 8 to 22; TWO/52/11 “Report”, paragraphs 79 to 91; TWA/49/7 “Report”, paragraphs 52 to 66; TWF/51/10 “Report”, paragraphs 8 to 20 and TWC/38/11 “Report”, paragraphs 61 to 73).

6. The TWA, at its forty-ninth session, noted the comment from CropLife International, Euroseeds, International Seed Federation and Seed Association of the Americas that the use of molecular techniques should be encouraged as far as authorities could continue to mutually recognize test results and take-over DUS test reports (see document TWA/49/7 “Report”, paragraph 53).

Presentation on the use of molecular techniques in DUS examination*Information on molecular markers in Test Guidelines explanations*

7. The TWV, at its fifty-fourth session, received a presentation on “Information on molecular markers in Test Guidelines explanations” from an expert from the Netherlands. A copy of the presentation is provided in documents TWV/54/7 and TWV/54/7 Add (see document TWV/54/9 “Report”, paragraph 21).

8. The TWV considered the proposal to determine essential criteria for describing molecular marker assays in Test Guidelines, as presented in documents TWV/54/7 and TWV/54/7 Add.. The TWV agreed to invite the experts from the European Union and France to work with the Netherlands to prepare a new draft proposal for consideration by the TWV, at its fifty-fifth session (see document TWV/54/9 “Report”, paragraph 22).

Developing a strategy to apply SNP molecular markers in the framework of winter Oilseed rape DUS testing

9. The TWA received a presentation on “Developing a strategy to apply SNP molecular markers in the framework of winter Oilseed rape DUS testing” from an expert from France. A copy of the presentation is provided in document TWA/49/5. The TWA agreed to invite France to report on developments on the project at its fiftieth session (see document TWA/49/7 “Report”, paragraph 66).

DEVELOPMENTS AT THE NINETEENTH SESSION OF THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR

10. The BMT held its nineteenth session hosted by the United States of America and organized by electronic means, from September 23 to 25, 2020 (see document BMT/19/15 “Report”, paragraph 1).

Papers presented

11. The papers presented under each of the agenda items of the eighteenth session of the BMT were as follows:

Reports on developments in UPOV concerning biochemical and molecular techniques (document BMT/19/2)

Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, plant breeders and relevant international organizations (oral reports by participants)

Report of work on molecular techniques in relation to DUS examination

vmDUS: Value-molecular linked distinctness determination (document BMT/19/6)

¹ at its fifty-fourth session, held from May 11 to 15, 2020.

² at its fifty-second session, held from June 8 to 12, 2020.

³ at its forty-ninth session, held from June 22 to 26, 2020.

⁴ at its fifty-first session, held from July 6 to 10, 2020.

⁵ at its thirty-eighth session, held from September 21 to 23, 2020.

CPVO report on IMODDUS: Update on R&D projects (document BMT/19/4)

Developing a strategy to apply SNP molecular markers in the framework of winter oilseed rape DUS testing (document BMT/19/11)

French strategy for access to molecular data and proof of concept for combining phenotype and genotype (document BMT/19/13)

Review of document UPOV/INF/17 “Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction” (documents BMT/19/3 Rev. and UPOV/INF/17/2 Draft 3)

Confidentiality, ownership and access to molecular data

Access to reference material and molecular data from CPVO Examination Offices (document BMT/19/5)

Survey on confidentiality and ownership of molecular information (document BMT/19/8)

Session to facilitate cooperation (document BMT/19/10)

Cooperation between international organizations (document BMT/19/9)

International Seed Testing Association (BMT/19/12)

International Organization for Standardization (BMT/19/14)

Organization of work of the TWC and the BMT (document BMT/19/7)

Date and place of next session

12. At the invitation of the United States of America, the BMT agreed to hold its twentieth session in Alexandria, Virginia, jointly with the TWC, during the week of September 20, 2021 (see document BMT/19/15 “Report”, paragraph 36).

Future program

13. During its twentieth session, the BMT planned to discuss the following items in 2021 (see document BMT/19/15 “Report”, paragraph 37):

1. Opening of the session
2. Adoption of the agenda
3. Reports on developments in UPOV concerning biochemical and molecular techniques (document to be prepared by the Office of the Union)
4. Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, plant breeders and relevant international organizations (reports by participants)
5. Report of work on molecular techniques in relation to DUS examination (papers invited)
6. Variety description databases including databases containing molecular data (papers invited)
7. Methods for analysis of molecular data, management of databases and exchange of data and material (papers invited)
8. The use of molecular techniques in examining essential derivation¹ (papers invited)
9. The use of molecular techniques in variety identification¹ (papers invited)

¹ Breeders' Day

10. Cooperation between international organizations (document to be prepared by the Office of the Union)
11. Confidentiality, ownership and access to molecular data, including model agreement template¹ (papers invited)
12. Session to facilitate cooperation
13. Date and place of next session
14. Future program
15. Report of the session (if time permits)
16. Closing of the session

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