

Technical Committee

TC/57/INF/6

**Fifty-Seventh Session
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MOLECULAR TECHNIQUES

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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 2021, and at the twentieth 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 documents TC/57/8 and TC/57/8 Add. “Molecular techniques” and TC/57/24 “Progress reports on the work of the Technical Working Parties, including the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT)”.

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
- TWM: Technical Working Party on Testing Methods and Techniques
- TWO: Technical Working Party on Ornamental Plants and Forest Trees
- TWPs: Technical Working Parties
- TWV: Technical Working Party for Vegetables

CONFIDENTIALITY & OWNERSHIP OF MOLECULAR INFORMATION

5. The TWPs and the BMT, at their sessions in 2021, received a presentation on “Confidentiality & Ownership of Molecular Information” by an expert on behalf of the African Seed Trade Association (AFSTA), the Asia and Pacific Seed Association (APSA), the International Community of Breeders of Asexually Reproduced Horticultural Plants (CIOPORA), CropLife International, Euroseeds, the International Seed Federation (ISF) and the Seed Association of the Americas (SAA). A copy of the presentation is provided in document TWV/55/4 (see documents TWV/55/16 “Report”, paragraphs 56 to 61; TWO/53/10 “Report”, paragraphs 62 to 64; TWA/50/9 “Report”, paragraphs 91 to 93; TWF/52/10 “Report”, paragraphs 16 and 17; and BMT/20/12 “Report”, paragraphs 25 to 27).

6. The TWV, TWO and TWA considered the proposal to revise document TGP/5, Section 3: Model Application Form, to include a request for confidentiality of molecular information of candidate varieties as follows:

“/We request that molecular information pertaining to the variety remains confidential and exchange to another UPOV member or examination office is subject to approval by the applicant.”

7. The TWV noted that some authorities were creating databases with molecular information and using this information for selecting similar varieties and organizing the growing trial.

8. The TWV agreed to request information on whether the proposal could prevent the authority receiving an application from obtaining molecular information from the candidate variety for DUS purposes and whether the proposal was only aimed at preventing the receiving authority from passing on molecular information of the variety to other authorities without approval by the applicant.

9. The TWV noted that a further discussion with breeders will be needed to find a pragmatic solution to address the concerns of the breeders but to prevent unnecessary administrative burden for authorities.

10. The TWV noted that the same presentation would be scheduled for other TWPs at their sessions in 2021, which would allow further consideration of the proposal.

11. The TWO agreed that further discussion would be needed to find a suitable solution to address the concerns of the breeders while preventing unnecessary administrative burden for authorities.

12. The TWA noted the importance of confidentiality of molecular information for breeders and agreed that further discussion would be required on the topic. The TWA noted that confidentiality of molecular information could be subject to legislation in different UPOV members and agreed to invite presentations at its fifty-first session. The TWA noted the expression of interest from Argentina to make a presentation on the topic at the fifty-first session of the TWA.

13. The TWF noted that the matter of confidentiality and ownership of molecular information had not been considered in any detail in the fruit sector and agreed that further discussion was required. The TWF agreed to invite presentations from members and observers on this topic under the agenda item “Presentation on the use of molecular techniques in DUS examination” at its fifty-third session.

14. The BMT noted that discussions on confidentiality, ownership and access to molecular data had been held at the Technical Working Parties, at their sessions in 2021. The BMT noted that the TWPs had invited further discussions on this topic for their next sessions.

15. The BMT agreed to invite presentations on current practices on confidentiality and access to molecular data to be made at the first session of the TWM. The BMT agreed that current practices in UPOV members and observers could provide a suitable basis for further discussions on the topic.

REVIEW OF DOCUMENT UPOV/INF/17 “GUIDELINES FOR DNA-PROFILING: MOLECULAR MARKER SELECTION AND DATABASE CONSTRUCTION (‘BMT GUIDELINES’)

16. The TWPs, at their sessions in 2021, agreed with the revision of document UPOV/INF/17/1 on the basis of document UPOV/INF/17/2 Draft 5 and document TWP/5/7, Annex II (see documents TWV/55/16 “Report”, paragraph 50; TWO/53/10 “Report”, paragraph 58; TWA/50/9 “Report”, paragraph 87; TWF/52/10 “Report”, paragraph 12; and TWC/39/9 “Report”, paragraph 71).

17. The BMT agreed with the revision of document UPOV/INF/17/2 on the basis of document UPOV/INF/17/2 Draft 5 and the Annex to document BMT/20/3 (see document BMT/20/12 "Report", paragraphs 10 to 12).

18. The BMT noted the comments provided by ISF in advance of the session in relation to possible improvements to document UPOV/INF/17 regarding certain technical matters. The BMT agreed to invite ISF to make a presentation on these matters at the first session of the TWM.

DEVELOPMENTS AT THE TECHNICAL WORKING PARTIES AT THEIR SESSIONS IN 2021

19. At their sessions in 2021, the TWV¹, TWO², TWA³, TWF⁴ and TWC⁵ considered document TWP/5/7 "Molecular Techniques" (see documents TWV/55/16 "Report", paragraphs 43 to 55; TWO/53/10 "Report", paragraphs 54 to 61; TWA/50/9 "Report", paragraphs 82 to 90; TWF/52/10 "Report", paragraphs 7 to 15; and TWC/39/9 "Report", paragraphs 64 to 76).

Developments at the nineteenth session of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular

20. The TWPs noted the papers presented at the nineteenth session of the BMT, held in 2020, as set out in document TWP/5/7, paragraph 12.

21. The TWPs noted that the BMT would hold its twentieth session jointly with the TWC, during the week of September 20, 2021.

22. The TWPs noted the draft agenda for the BMT at its twentieth session, to be held in 2021, as set out in document TWP/5/7, paragraph 14.

Merger of the Working Group on Biochemical and Molecular Techniques and DNA-profiling in Particular (BMT) and the Technical Working Party on Automation and Computer Programs (TWC)

23. The TWPs noted that the Council had established the Technical Working Party on Testing Methods and Techniques (TWM) encompassing the work of the TWC and BMT, to take effect from 2022.

24. The TWPs noted the terms of reference for the TWM, as reproduced in document TWP/5/7, paragraph 17.

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

25. The BMT held its twentieth session hosted by the United States of America and organized by electronic means, from September 22 to 24, 2021 (see document BMT/20/12 "Report", paragraph 1).

Papers presented

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

Reports on developments in UPOV concerning biochemical and molecular techniques (document BMT/20/2)

¹ at its fifty-fifth session, hosted by Turkey and held via electronic means, from May 3 to 7, 2021

² at its fifty-third session, hosted by the Netherlands and held via electronic means, from June 7 to 11, 2021

³ at its fiftieth session, hosted by the United Republic of Tanzania and held via electronic means, from June 21 to 25, 2021

⁴ at its fifty-second session, hosted by China and held via electronic means, from July 12 to 16, 2021

⁵ at its thirty-ninth session, hosted by the United States of America and held via electronic means, from September 20 to 22, 2021

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)

Report of work on molecular techniques in relation to DUS examination

Update on IMODDUS activities (documents BMT/20/7)

*Identifying levels of diversity and developing markers to assist in managing the DUS reference collection of field beans (*Vicia faba*) (document BMT/20/8)*

Developing a strategy to apply SNP molecular markers in the framework of winter oilseed rape DUS testing (documents BMT/20/9)

Review of document UPOV/INF/17 “Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction” (“BMT Guidelines”) (documents BMT/20/3 and UPOV/INF/17/2 Draft 5)

Cooperation between international organizations (document BMT/20/4)

OECD Seed Schemes (document BMT/20/10)

ISTA report on biochemical and molecular techniques (document BMT/20/11)

Confidentiality, ownership and access to molecular data, including model agreement template (document BMT/20/5)

Session to facilitate cooperation (document BMT/20/6)

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

27. The BMT noted the intervention from France that a training course on the use of molecular techniques in support of DUS examination would be organized by GEVES in March 2022 (see document BMT/20/12 “Report”, paragraph 6).

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