



BMT/14/3

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES AND DNA PROFILING IN PARTICULAR

Fourteenth Session

Seoul, Republic of Korea, from November 10 to 13, 2014

INTERNATIONAL GUIDELINES ON MOLECULAR METHODOLOGIES

Document prepared by the Office of the Union

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1. This documents reports on developments concerning the Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction ("BMT Guidelines") and cooperation with other organizations in relation to molecular methodologies.

BMT GUIDELINES

2. At its forty-fourth session, held in Geneva, Switzerland, October 21, 2010, the Council adopted document UPOV/INF/17/1 "Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction" ("BMT Guidelines") (see document C/44/17 "Report", paragraph 34).
3. It is recalled that the purpose of the BMT Guidelines is to provide guidance for developing harmonized methodologies with the aim of generating high quality molecular data for a range of applications as follows.

"A. INTRODUCTION

The purpose of this document (BMT Guidelines) is to provide guidance for developing harmonized methodologies with the aim of generating high quality molecular data for a range of applications. The BMT Guidelines are also intended to address the construction of databases containing molecular profiles of plant varieties, possibly produced in different laboratories using different technologies. In addition, the aim is to set high demands on the quality of the markers and on the desire for generating reproducible data using these markers in situations where equipment and/or reaction chemicals might change. Specific precautions need to be taken to ensure quality entry into a database."

COOPERATION WITH OTHER ORGANIZATIONS

4. At its thirteenth session, held in Brasilia, Brazil, from November 22 to 24, 2011, the BMT noted the information provided in document BMT/13/3 "International Guidelines on Molecular Methodologies". The BMT took note of the report from the Office of the Union that contact had been made between UPOV and International Seed Testing Association (ISTA) to explore the possibility of a coordinated meeting of the BMT and the Working Group on DNA Methods of the Variety Committee of ISTA for the fourteenth session of the BMT to be held in 2013 (see document BMT/13/36 "Report", paragraph 55 and 56).

5. The TC, at its forty-eighth session, held from March 26 to 28, 2012, agreed that it would be appropriate for the Office of the Union to investigate the possibility of a coordinated meeting of the BMT and the Working Group on DNA Methods of the Variety Committee of ISTA, for the fourteenth session of the BMT (see document TC/48/23 "Report", paragraph 221).

6. The TC, at its forty-ninth session, held in Geneva, from March 18 to 20, 2013, received the following presentations from relevant international organizations (see document TC/49/41 "Report on the conclusions", paragraphs 131 to 133), copies of which are posted on the UPOV website at http://upov.int/meetings/en/details.jsp?meeting_id=28343:

Situation with regard to the use of molecular techniques in relation to seeds in the International Organization for Standardization (ISO)	Presented by Mr. Paul Zankowski (United States of America) (Prepared by Mr. Michael Sussman (ISO))
Situation with regard to the use of molecular techniques in the International Seed Testing Association (ISTA)	Ms. Rita Zecchinelli (ISTA)
Situation with regard to the use of molecular techniques in the Organization for Economic Co-operation and Development (OECD)	Mr. Michael Ryan (OECD)

7. The TC, at its forty-ninth session, recalled that the BMT is a group open to DUS experts, biochemical and molecular specialists and plant breeders, whose role is as reproduced in Annex II to document TC/50/13 "Molecular Techniques" (see Annex to this document). In that regard, it endorsed the initiative for a joint meeting with ISO, ISTA and OECD and including breeders, as a means of supporting the role of the BMT in relation to (i), (ii), (iv), (vi) and particularly (viii) of the role of the BMT (see document TC/49/41 "Report on the Conclusions", paragraphs 134 and 135). Item (i), (ii), (iv), (vi) and (viii) are reproduced below for ease of reference.

- (i) Review general developments in biochemical and molecular techniques;
- (ii) Maintain an awareness of relevant applications of biochemical and molecular techniques in plant breeding;
- (iv) If appropriate, establish guidelines for biochemical and molecular methodologies and their harmonization and, in particular, contribute to the preparation of document TGP/15, "New Types of Characteristics." These guidelines to be developed in conjunction with the Technical Working Parties;
- (vi) Develop guidelines regarding the management and harmonization of databases of biochemical and molecular information, in conjunction with the TWC;
- (viii) Provide a forum for discussion on the use of biochemical and molecular techniques in the consideration of essential derivation and variety identification.

8. The TC, at its forty-ninth session, agreed to propose to hold a coordinated meeting of the fourteenth session of the BMT with meetings of other relevant international organizations in 2014, as set out in document TC/49/7 "Molecular techniques". It also agreed that, if it was not possible to organize a joint meeting with other organizations in 2014, a meeting of the BMT should be organized in the meantime (see document TC/49/41 "Report on the Conclusions", paragraph 126).

9. In that regard, it endorsed the initiative for a joint meeting with ISO, ISTA and OECD and including breeders, as a means of supporting the role of the BMT in relation to (i), (ii), (iv), (vi) and particularly (viii) above (see document TC/49/41 "Report on the Conclusions", paragraph 134 and 135).

10. On May 3, 2013, the Office of the Union issued a letter to Mr. Michael Sussman, Chairperson of TC/34/SC16, ISO, Mr. Heinz Schmid, Secretary General *ad interim*, ISTA, and Mr. Michael Ryan, Head of Unit, Agricultural Codes and Schemes, OECD, respectively, requesting their consideration of the possibility to hold a coordinated meeting in conjunction with the fourteenth session of the BMT. In reply to the letter, the Office of the Union received a positive response from ISTA and OECD.

Mr. Michael Sussman (ISO) reported that ISO had formal requirements to establish liaisons and a framework with other international organizations with respect to its work, and that it might not be possible to establish such liaisons and a framework between the ISO TC 34/SC 16 and UPOV before the planned date of the coordinated meeting. Mr. Sussman expressed his willingness to continue the current practice in which he or his colleagues would attend the BMT upon invitation to provide presentations on their work.

11. At its fiftieth session, held in Geneva, Switzerland, from April 7 to 9, 2014, the TC agreed to the proposed plan for the fourteenth session of the BMT to be held in conjunction with the Joint Workshop with ISTA and OECD, to be held on November 12, 2014, as set out in document TC/50/13, paragraph 21 (see document TC/50/36 "Report on the Conclusions", paragraph 80).

12. The TC agreed that the progress of work of the BMT and the outcomes of the Joint Workshop with ISTA and OECD should be reported to the TC at its fifty-first session (see document TC/50/36 "Report on the Conclusions", paragraph 81).

13. The draft program for the Joint Workshop, to be held on November 12, 2014, is as follows:

1. Welcome and opening
2. Introduction to the OECD Seed Schemes and the situation with regard to molecular techniques
3. Introduction to UPOV and the situation with regard to molecular techniques
4. Introduction to ISTA and the situation with regard to molecular techniques
5. Introduction to ISO and the situation with regard to molecular techniques
6. Existing areas of cooperation between OECD, UPOV and ISTA
7. Opportunities for cooperation between OECD, UPOV, ISO and ISTA with regard to molecular techniques (Discussion)
8. Closing

[Annex follows]

ROLE OF THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES,
AND DNA-PROFILING IN PARTICULAR (BMT)

*(as agreed by the Technical Committee at its thirty-eighth session, held in Geneva,
from April 15 to 17, 2002 (see document TC/38/16, paragraph 204))*

The BMT is a group open to DUS experts, biochemical and molecular specialists and plant breeders, whose role is to:

- (i) Review general developments in biochemical and molecular techniques;
- (ii) Maintain an awareness of relevant applications of biochemical and molecular techniques in plant breeding;
- (iii) Consider the possible application of biochemical and molecular techniques in DUS testing and report its considerations to the TC;
- (iv) If appropriate, establish guidelines for biochemical and molecular methodologies and their harmonization and, in particular, contribute to the preparation of document TGP/15, "New Types of Characteristics." These guidelines to be developed in conjunction with the Technical Working Parties;
- (v) Consider initiatives from TWPs, for the establishment of crop specific subgroups, taking into account available information and the need for biochemical and molecular methods;
- (vi) Develop guidelines regarding the management and harmonization of databases of biochemical and molecular information, in conjunction with the TWC;
- (vii) Receive reports from Crop Subgroups and the BMT Review Group;
- (viii) Provide a forum for discussion on the use of biochemical and molecular techniques in the consideration of essential derivation and variety identification.

[End of Annex and of document]