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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

#### Fifteenth Session

**Moscow, Russian Federation, May 24 to 27, 2016**

COOPERATION BETWEEN OECD, UPOV, ISO AND ISTA

*Document prepared by the Office of the Union*

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#### EXECUTIVE SUMMARY

1. The purpose of this document is to report on cooperation between the Organization for Economic Co-operation and Development, UPOV, the International Organization for Standardization and the International Seed Testing Association in relation to molecular techniques.

2. The BMT is invited to:

(a) note the plans for the OECD Seed Schemes to organize a Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Techniques in Paris, France, on June 8, 2016;

(b) note that the TC, at its fifty-first session, agreed:

(i) to develop a joint document explaining the principal features of the systems of the OECD, UPOV and ISTA, subject to the approval of the Council and in coordination with OECD and ISTA;

(ii) to develop an inventory on the use of molecular marker techniques, by crop, with a view to developing a joint OECD/UPOV/ISTA document containing that information, in a similar format to UPOV document UPOV/INF/16 "Exchangeable Software", subject to the approval of the Council and in coordination with OECD and ISTA;

(iii) the proposal for the BMT, at its fifteenth session, to develop lists of possible joint initiatives with OECD and ISTA in relation to molecular techniques for consideration by the TC to be presented at the TC, at its fifty-third session; and

(c) consider the development of list of joint initiatives in relation to molecular techniques, including a list of terminology (definitions) used by OECD, UPOV and ISTA, for consideration by the TC, at its fifty-third session.

3. The following abbreviations are used in this document:

AOSA: Association of Official Seed Analysts  
BMT: Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular  
TC: Technical Committee  
OECD: Organization for Economic Co-operation and Development  
ISO: International Organization for Standardization  
ISTA: International Seed Testing Association

4. The structure of this document is as follows:

EXECUTIVE SUMMARY.....	1
BACKGROUND .....	2
OECD/UPOV/ISTA JOINT WORKSHOP ON MOLECULAR TECHNIQUES .....	3
DEVELOPMENTS AT THE TECHNICAL COMMITTEE .....	4

## BACKGROUND

5. The TC, at its forty-eighth session, held in Geneva, 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 fifteenth 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](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 recalled that 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.”

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).

8. The TC 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. 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 (see document TC/50/13 “Molecular Techniques”, paragraph 16).

10. After consultation with the Republic of Korea, ISTA and OECD, it was proposed that the fourteenth session of the BMT be held from November 11 to 14, 2014, in Seoul, Republic of Korea, with its preparatory workshop on November 10, 2014. In consultation with ISTA and OECD, and as appropriate, the fourteenth session of the BMT would be coordinated with meetings of those international organizations (see document TC/50/13 “Molecular Techniques”, paragraph 17).

11. The TC, at its fiftieth session, held in Geneva, from April 7 to 9, 2014, 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 (see document TC/50/37 “Report”, paragraph 175).

#### OECD/UPOV/ISTA JOINT WORKSHOP ON MOLECULAR TECHNIQUES

12. The OECD, UPOV, ISTA Joint Workshop (Workshop) was held in Seoul, Republic of Korea, on November 12, 2014 (see document BMT/14/20 “Report”, paragraph 44). The following matters were discussed at the workshop.

#### Introduction to the OECD Seed Scheme and the situation with regard to molecular techniques (document BMT/14/Joint/6)

13. The Workshop received a presentation by Mr. Gerald Hall (OECD), a copy of which is reproduced in document BMT/14/Joint/6 (see document BMT/14/20 “Report”, paragraph 46).

14. The Workshop noted that the requirements for Distinctness, Uniformity and Stability (“DUS”) and for variety identification were different and that the use of molecular markers would not necessarily be the same (see document BMT/14/20 “Report”, paragraph 47).

15. The Workshop noted that it could be possible to use molecular markers as the basis for alternative methods whilst retaining the possibility for authorities to use existing methods where molecular methods were not appropriate for their circumstances. For example, it was recalled that, in UPOV, the use of characteristic-specific molecular markers and combining phenotypic and molecular distances in the management of variety collections, always enabled UPOV members to use alternative methods that did not involve molecular techniques. It was agreed that UPOV methods could be relevant for OECD and that

coordination and exchange of information between UPOV and OECD would be beneficial (see document BMT/14/20 "Report", paragraph 48).

Introduction to UPOV and the situation with regard to molecular techniques (document BMT/Joint/4)

16. The Workshop received a presentation from the Office of the Union, a copy of which is reproduced in document BMT/Joint/4 (see document BMT/14/20 "Report", paragraph 49).

Introduction to ISTA and the situation with regard to molecular techniques (document BMT/14/Joint/3 Rev.)

17. The Workshop received a presentation by Mr. Benjamin Kaufman (ISTA), based on document BMT/14/Joint/3 Rev (see document BMT/14/20 "Report", paragraph 50).

18. The Workshop noted that ISTA was developing molecular techniques for a range of applications. It was clarified that, to date, ISTA had not included molecular marker techniques in its Rules (see document BMT/14/20 "Report", paragraph 51).

Introduction to ISO and the situation with regard to molecular techniques (document BMT/14/Joint2)

19. The Workshop received a presentation by Mr. Paul Zankowski (ISO), based on document BMT/14/Joint/2 (see document BMT/14/20 "Report", paragraph 52).

Existing areas of cooperation between OECD, UPOV and ISTA (document BMT/Joint/5)

20. The Workshop received a presentation from the Office of the Union, a copy of which is reproduced in document BMT/Joint/5 (see document BMT/14/20 "Report", paragraph 53).

Opportunities for cooperation between OECD, UPOV, ISO and ISTA with regard to molecular techniques

21. The Workshop agreed that it would be useful to develop a joint document explaining the principle features (e.g. DUS, variety identification, variety purity, etc. ) of the systems of OECD, UPOV and ISTA. It was also agreed that it would be useful for mutual understanding, to repeat the joint workshop at relevant meetings of the OECD and ISTA (see document BMT/14/20 "Report", paragraph 54).

22. The Workshop agreed to propose an inventory by UPOV, OECD and ISTA of the use of molecular marker techniques, by crop, with a view to developing a document containing that information, in a similar format to UPOV document UPOV/INF/16 "Exchangeable Software". It was noted that OECD had already collected some information regarding the use of molecular techniques by its designated authorities (see document BMT/14/20 "Report", paragraph 55).

23. The Workshop further agreed to propose to invite UPOV, OECD and ISTA to develop lists of possible joint initiatives in relation to molecular techniques. It was noted that, in the case of UPOV, the list could be drafted by the BMT at its fifteenth session, subject to approval by the Technical Committee (see document BMT/14/20 "Report", paragraph 56).

## DEVELOPMENTS AT THE TECHNICAL COMMITTEE

24. The TC, at its fifty-first session, held in Geneva, from March 23 to 25, 2015, noted that the OECD/UPOV/ISTA Joint Workshop on Molecular Techniques had agreed that it would be useful to repeat the joint workshop at relevant meetings of the OECD and ISTA (see document TC/51/39 "Report", paragraph 178).

25. On April 5, 2016, the OECD issued document TAD/CA/S/A(2016)4 "Draft Agenda: Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Methods", which indicated that a Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Methods would be held in Paris, France, on June 8, 2016.

26. The TC, at its fifty-second session, held in Geneva, from March 14 to 6, 2016, recalled that, at its fifty-first session, it had agreed (see document TC/52/29 "Report", paragraph 129):

- (a) to develop a joint document explaining the principal features of the systems of the OECD, UPOV and ISTA subject to the approval of the Council and in coordination with OECD and ISTA;

- (b) to develop an inventory on the use of molecular marker techniques, by crop, with a view to developing a joint OECD/UPOV/ISTA document containing that information, in a similar format to UPOV document UPOV/INF/16 “Exchangeable Software”, subject to the approval of the Council and in coordination with OECD and ISTA; and
- (c) the proposal for the BMT, at its fifteenth session, to develop lists of possible joint initiatives with OECD and ISTA in relation to molecular techniques for consideration by the TC to be presented at the TC, at its fifty-third session.

27. The TC, at its fifty-second session, agreed that the BMT should include the development of a list of terminology (definitions) used by OECD, UPOV and ISTA in the list of joint initiatives in relation to molecular techniques, for consideration by the TC, at its fifty-third session (see document TC/52/29 “Report”, paragraph 130).

28. *The BMT is invited to:*

*(a) note the plans for the OECD Seed Schemes to organize a Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Techniques in Paris, France, on June 8, 2016;*

*(b) note that the TC, at its fifty-first session, agreed:*

*(i) to develop a joint document explaining the principal features of the systems of the OECD, UPOV and ISTA, subject to the approval of the Council and in coordination with OECD and ISTA;*

*(ii) to develop an inventory on the use of molecular marker techniques, by crop, with a view to developing a joint OECD/UPOV/ISTA document containing that information, in a similar format to UPOV document UPOV/INF/16 “Exchangeable Software”, subject to the approval of the Council and in coordination with OECD and ISTA;*

*(iii) the proposal for the BMT, at its fifteenth session, to develop lists of possible joint initiatives with OECD and ISTA in relation to molecular techniques for consideration by the TC to be presented at the TC, at its fifty-third session; and*

*(c) consider the development of a list of joint initiatives in relation to molecular techniques, including a list of terminology (definitions) used by OECD, UPOV and ISTA, for consideration by the TC, at its fifty-third session.*

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