



BMT/10/2

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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**

Tenth Session
Seoul, November 21 to 23, 2006

**REPORT ON DEVELOPMENTS IN UPOV CONCERNING BIOCHEMICAL AND
MOLECULAR TECHNIQUES**

Document prepared by the Office of the Union

1. The purpose of this document is to report on developments concerning:
 - (a) the document “Situation in UPOV concerning the possible use of molecular markers in DUS examination” (Annex to document TC/40/9 Add.);
 - (b) “Guidelines for molecular marker selection and database construction (BMT Guidelines)”;
 - (c) the proposal of the Technical Committee (TC) for matters concerning the possible use of molecular tools for variety identification in relation to the enforcement of plant breeders’ rights, technical verification and the consideration of essential derivation to be considered by the *Ad hoc* Subgroup of Technical and Legal Experts of Biochemical and Molecular Techniques (BMT Review Group); and
 - (d) proposals concerning the *Ad hoc* Crop Subgroups on Molecular Techniques (Crop Subgroups).
2. An overview of the UPOV bodies involved in the consideration of biochemical and molecular techniques can be found at http://www.upov.int/restrict/en/index_1.html.

Document “Situation in UPOV Concerning the Possible Use of Molecular Markers in DUS Examination” (Annex to document TC/40/9 Add.)

3. At its forty-first session, held in Geneva from April 4 to 6, 2005, the TC reconfirmed that the text of the Annex to document TC/40/9 Add. would be a suitable summary of the situation in UPOV concerning the possible use of molecular markers in DUS examination. That text was reproduced as the Annex to document CAJ/50/4, for consideration by the Administrative and Legal Committee (CAJ).

4. The Annex to document CAJ/50/4 (reproduction of the Annex to document TC/40/9 Add.), was considered by the CAJ at its fifty-first session, held in Geneva on April 7, 2005. At that session, some concerns were expressed regarding the Annex to document CAJ/50/4, and it was agreed that written comments should be sent to the Office of the Union (Office) by the end of April 2005. The CAJ agreed that, on the basis of those comments, a new draft would be prepared by the Office, in conjunction with the Chairperson of the TC, for consideration by the CAJ at its fifty-second session, held in Geneva on October 24 and 25, 2005.

5. Following the fifty-first session of the CAJ, Ms. Julia Borys, Chairperson of the TC, and the Office agreed that it would be important that any redrafting of the text in the Annex to document CAJ/50/4 should involve the other persons involved in the drafting of the original text, namely: Mr. Michael Camlin, former Chairman of the TC, and Mr. Gerhard Deneken, Chairman of Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT). Both Mr. Camlin and Mr. Deneken agreed to work with Ms. Borys and the Office (the “TC Chairperson’s group”) in relation to any redrafting of the text.

6. The comments received by the Office on the Annex to document CAJ/50/4 indicated that clarification was needed on:

(a) whether the document was intended to consider molecular markers in the form of characteristics and/or the use of molecular methods in the examination of DUS using existing characteristics;

(b) whether the document was intended to provide general guidance or guidance on the possible use of molecular markers in specific UPOV Test Guidelines, e.g. the Test Guidelines for the crops and species mentioned in the proposals; and

(c) the relationship and difference between the “options” and the “proposals”.

7. It was clarified that the concerns expressed at the fifty-first session, with regard to the Annex to document CAJ/50/4, did not relate to documents TC/38/14-CAJ/45/5 and TC/38/14 Add.-CAJ/45/5 Add., which presented the proposals developed in the *Ad hoc* Crop Subgroups, the recommendations of the BMT Review Group concerning those proposals and the opinion of the TC and the CAJ regarding the recommendations of the BMT Review Group.

8. The TC Chairperson’s group noted that the problems concerned the clarity of the explanation of the situation, rather than the situation as agreed by the TC and the CAJ in 2003. Having reviewed the comments received, the TC Chairperson’s group was of the view that those comments had identified important aspects where the text should be improved, but noted that it would not be possible to make the necessary improvements

without a substantial reworking of the text. The TC Chairperson's group also noted that there had been some important discussions at the ninth session of the BMT held in Washington, D.C., United States of America, from June 21 to 23, 2005, which could have a bearing on the situation in due course. In particular, it noted that there had been substantial progress in the drafting of the "Guidelines for molecular marker selection and database construction" (BMT Guidelines) and a good level of agreement on those at that BMT session, which could allow reference to that document in any new version of the Annex to document CAJ/50/4. In addition, it noted that new proposals concerning molecular markers might come forward for consideration and that, furthermore, some of those proposals might not fit completely within the framework of the three options previously discussed.

9. In conclusion, on the basis of the comments received and reflection on those comments, the TC Chairperson's group agreed that a substantial reworking of the Annex to document CAJ/50/4 (reproduction of the Annex to document TC/40/9 Add.) was required. It concluded, after consultation with the Chairman of the CAJ, that such a reworking would have gone beyond the intention of the CAJ at its fifty-first session and agreed that a decision to undertake such a reworking should be first considered by the CAJ and the TC. Furthermore, the TC Chairperson's group noted the developments at the ninth session of the BMT and considered that those developments might be taken into account in any revision of the text.

10. At its fifty-second session, held in Geneva on October 24 and 25, 2005, the CAJ reviewed the comments received by the Office following the fifty-first session of the CAJ and the conclusions of the TC Chairperson's group, as presented in document CAJ/52/2. Those comments and conclusions are set out in paragraphs 4 to 8, above. The CAJ noted that, on the basis of comments in the CAJ, the document on molecular techniques, contained in the Annex to document CAJ/50/4, required a substantial editorial reworking. It agreed that the comments of the CAJ should be reported to the TC, which could decide whether to undertake the reworking of the document (see document CAJ/52/5 Prov., paragraph 22).

11. At its forty-second session, held in Geneva from April 3 to 5, 2006, the TC concluded that it would not be appropriate to undertake a reworking of the Annex to document TC/40/9 Add. (Annex to document CAJ/50/4) on the basis of the comments made in the CAJ. It reaffirmed its support for the presentation of the situation, set out in documents TC/38/14-CAJ/45/5 and TC/38/14 Add.-CAJ/45/5 Add., which presented the proposals developed in the *Ad hoc* Crop Subgroups, the recommendations of the BMT Review Group concerning those proposals and the opinion of the TC and the CAJ regarding the recommendations of the BMT Review Group. In addition, it considered that any proposals to reconsider the situation should be referred to the BMT Review Group.

Guidelines for Molecular Marker Selection and Database Construction (BMT Guidelines)

12. The Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT) concluded at its eighth session in Tsukuba, Japan, from September 3 to 5, 2003, that there was an urgent need to harmonize methodologies for the generation of molecular data in order to ensure that the quality of the data produced would be universally acceptable for use in variety characterization. It was also noted that it would be useful to provide guidance on the planning of databases for molecular data based on different types of markers. On that basis, the BMT agreed that the Office should prepare a guidance document ("BMT Guidelines").

13. Document BMT Guidelines (proj.5), considered by the TC at its forty-second session in April 2006, reflected the comments made at the twenty-third session of the Technical Working Party on Automation and Computer Programs (TWC), the ninth session of the BMT and the Enlarged Editorial Committee (TC-EDC) meeting of January 10, 2006.

14. The TC agreed to request the BMT at its tenth session, to be held in Seoul, Republic of Korea, from November 21 to 23, 2006, to review a new draft of the BMT Guidelines (BMT Guidelines (proj.6)), incorporating the comments made at the forty-second session of the TC, and also agreed to invite the TWC to consider that draft at its twenty-fourth session, to be held in Nairobi, Kenya, from June 19 to 22, 2006.

15. The comments made by the TWC at its twenty-fourth session on document BMT Guidelines (proj.6) are presented in document BMT/10/3.

16. At the twenty-third session of the TWC and at the ninth session of the BMT, Mr. Sylvain Grégoire (France), drafter of Section 6 “Databases” of BMT Guidelines (proj.5), suggested that it would be useful to move forward with a practical exercise, involving a small number of crops, in the development of an exchangeable database. Developments concerning that initiative are presented in document BMT/10/4.

Possible Use of Molecular Tools for Variety Identification in Relation to the Enforcement of Plant Breeders' Rights, Technical Verification and the Consideration of Essential Derivation

17. At its fortieth session, with modification to the wording at its forty-first session, the TC agreed to propose to the CAJ that it consider the possible use of molecular tools for variety identification in relation to the enforcement of plant breeders' rights, technical verification and the consideration of essential derivation. In that respect, it proposed that those might be matters relevant for consideration by the BMT Review Group.

18. At its fifty-first session (see document CAJ/51/6, paragraphs 24 to 28), the CAJ considered the TC proposal and agreed to invite the BMT Review Group to examine the possible use of molecular tools for variety identification in relation to the enforcement of plant breeders' rights, technical verification and the consideration of essential derivation

19. In accordance with the agreement of the TC and the CAJ, a meeting of the BMT Review Group was held on April 6, 2006. At that meeting, the BMT Review Group suggested to clarify that the TC and the CAJ intended that the BMT Review Group should consider the possible use of molecular tools for variety identification in relation to the enforcement of plant breeders' rights, technical verification and the consideration of essential derivation by the assessment of possible application models proposed by the TC, on the basis of the work of the BMT and crop subgroups. The BMT Review Group noted that the role of the BMT in developing possible application models would make it necessary for the terms of reference of the BMT to reflect that role in order for the BMT Review Group to progress further in this area. On the above basis, the BMT Review Group developed a proposal concerning the terms of reference of the BMT Review Group. However, the BMT Review Group clarified that its proposal was subject to the outcome of the discussions in the Consultative Committee concerning the role of UPOV in matters concerning the enforcement of plant breeders' rights.

20. At its seventy-second session, held in Geneva on October 18, 2006, the Consultative Committee noted that the role of the BMT included the following:

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

[...]

“(viii) Provide a forum for discussion on the use of biochemical and molecular techniques in the consideration of essential derivation and variety identification.”

21. The Consultative Committee noted that this provision enabled the BMT to provide a forum for discussion on the use of biochemical and molecular techniques in the consideration of variety identification.

Ad Hoc Crop Subgroups on Molecular Techniques (Crop Subgroups)

22. At its ninth session held in Washington, D.C., United States of America, from June 21 to 23, 2005, the BMT invited the relevant Technical Working Parties (TWPs) and the TC to consider:

(a) Crop Subgroup for Vegetatively Propagated Crops:

the establishment of a crop subgroup for a range of vegetatively propagated crops which, in conjunction with all interested parties and breeders in particular, could formulate proposals for consideration by the TC and BMT Review Group;

(b) Crop Subgroup for Wheat and Barley:

the extension of the Crop Subgroup for Wheat to cover both wheat and barley;

(c) Crop Subgroup for Grapevine:

in relation to proposal (a), in the absence of the establishment of a crop subgroup for vegetatively propagated crops, consideration should be given to the establishment of a specific Crop Subgroup for Grapevine.

23. At its forty-second session, the TC agreed to the establishment of a crop subgroup for vegetatively propagated crops, which was expected to meet in conjunction with the sessions of the BMT to consider horizontal matters concerning vegetatively propagated crops. It agreed that the existing Crop Subgroups for Potato, Rose and Sugarcane might continue to meet as individual crop subgroups, in particular in conjunction with the sessions of the relevant Technical Working Parties, where considered useful.

24. In agreement with the Chairman BMT, a meeting of the Crop Subgroup for Vegetatively Propagated Varieties is scheduled to be held on the evening of November 22, 2006, immediately after the BMT session.

25. The TC agreed to the extension of the Crop Subgroup for Wheat to cover both wheat and barley.

26. A list of the current Crop Subgroups is presented in the Annex to this document.

[Annex follows]

AD HOC CROP SUBGROUPS ON MOLECULAR TECHNIQUES
(BMT CROP SUBGROUPS)

<u>Crop Subgroup for:</u>	<u>Chairperson</u>	<u>TWP</u>
Maize	Mrs. Beate Rücker (Germany)	TWA
Oilseed Rape	Mrs. Françoise Blouet (France)	TWA
Potato	Mrs. Beate Rücker (Germany)	TWA
Rose	Mr. Joost Barendrecht (Netherlands)	TWO
Ryegrass	Mr. Michael Camlin (United Kingdom)	TWA
Soybean	Mr. Marcelo Labarta (Argentina)	TWA
Sugarcane	Mr. Luis Salaices (Spain)	TWA
Tomato	Mr. Richard Brand (France)	TWV
Wheat and Barley	Mr. Robert Cooke (United Kingdom)	TWA

Vegetatively Propagated Crops

(considers horizontal matters relating to vegetatively propagated crops, including horizontal matters relating to the Crop Subgroups for Potato, Rose and Sugarcane and matters concerning other vegetatively propagated crops)

[End of Annex and of document]