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**COUNCIL**

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**PROGRESS REPORT OF THE WORK OF THE TECHNICAL COMMITTEE, THE  
TECHNICAL WORKING PARTIES AND THE WORKING GROUP ON BIOCHEMICAL  
AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR**

*Document prepared by the Office of the Union*

1. This document presents a progress report of the work of the Technical Committee (TC) and its Technical Working Parties (TWPs), including the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT).

<b>I. PROGRESS REPORT OF THE WORK OF THE TECHNICAL COMMITTEE.....</b>	<b>4</b>
PARTICIPATION .....	4
REPORT ON DEVELOPMENTS IN UPOV INCLUDING RELEVANT MATTERS DISCUSSED IN THE LAST SESSIONS OF THE ADMINISTRATIVE AND LEGAL COMMITTEE, THE CONSULTATIVE COMMITTEE AND THE COUNCIL.....	4
PROGRESS REPORTS ON THE WORK OF THE TECHNICAL WORKING PARTIES, INCLUDING THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR .....	4
MATTERS ARISING FROM THE TECHNICAL WORKING PARTIES .....	4
TGP DOCUMENTS .....	4
(a) TGP documents to which the Technical Committee has given highest priority:.....	5
(b) Other TGP documents: .....	5
Proposed Revision to document TGP/7/1 "Development of Test Guidelines" .....	6
Program for the Development of TGP Documents.....	6
UPOV INFORMATION DATABASES .....	6
GENIE Database .....	6
UPOV Code System.....	7
Plant Variety Database .....	7
MOLECULAR TECHNIQUES .....	8
Document "Situation in UPOV Concerning the Possible Use of Molecular Markers in DUS Examination" .....	8
Guidelines for Molecular Marker Selection and Database Construction (BMT Guidelines) .....	8
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 .....	8
Ad Hoc Crop Subgroups on Molecular Techniques (Crop Subgroups) .....	8
VARIETY DENOMINATIONS .....	9
PUBLICATION OF VARIETY DESCRIPTIONS .....	9
PREPARATORY WORKSHOPS .....	9
TEST GUIDELINES .....	9
LIST OF GENERA AND SPECIES FOR WHICH AUTHORITIES HAVE PRACTICAL EXPERIENCE IN THE EXAMINATION OF DISTINCTNESS, UNIFORMITY AND STABILITY .....	11
PROGRAM FOR THE FORTY-THIRD SESSION .....	11
AWARD OF UPOV MEDAL.....	12
<b>II. PROGRESS REPORT OF THE WORK OF THE TECHNICAL WORKING PARTIES AND THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR.....</b>	<b>13</b>
TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS (TWA).....	13
Participation.....	13
Molecular Techniques .....	13
Preparation of documents .....	13
UPOV Information Databases.....	14
Variety Denominations.....	14
Project to Consider the Publication of Variety Descriptions .....	14
Project for exchanging seed of selected varieties between interested countries .....	14
Test Guidelines .....	14
Date and Place of Next Session.....	14
Program for the Next Session.....	15
TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS (TWC) .....	15
Participation.....	15
Molecular Techniques .....	15
Project to Consider the Publication of Variety Descriptions .....	15
TGP Documents.....	16
Statistical methods.....	16
Database of TWC documents .....	17
Date and Place of Next Session.....	17
Program for the Next Session.....	17
Award of UPOV Medal .....	17
TECHNICAL WORKING PARTY FOR FRUIT CROPS (TWF) .....	17
Participation.....	17

<i>Molecular Techniques</i> .....	18
<i>TGP Documents</i> .....	18
<i>Other items</i> .....	18
<i>Test Guidelines</i> .....	18
<i>Date and Place of Next Session</i> .....	18
<i>Award of UPOV Medal</i> .....	19
TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES (TWO).....	19
<i>Participation</i> .....	19
<i>Molecular Techniques</i> .....	19
<i>Criteria for Determining Off-type Plants</i> .....	19
<i>TGP Documents</i> .....	20
<i>Variety Denominations</i> .....	20
<i>Project to Consider the Publication of Variety Descriptions</i> .....	20
<i>Impact of Phytoplasma Strains on Phenotypical Expression of Poinsettia Varieties</i> .....	20
<i>Test Guidelines</i> .....	20
<i>Date and Place of Next Session</i> .....	21
<i>Award of UPOV Medal</i> .....	21
TECHNICAL WORKING PARTY FOR VEGETABLES (TWV) .....	21
<i>Participation</i> .....	21
<i>TGP Documents</i> .....	21
<i>Molecular Techniques</i> .....	21
<i>Project to Consider the Publication of Variety Descriptions</i> .....	22
<i>UPOV Information Databases</i> .....	22
<i>Test Guidelines</i> .....	22
<i>Date and Place of Next Session</i> .....	22
<i>Award of UPOV Medal</i> .....	22
WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR (BMT) .....	23
<i>Participation</i> .....	23
<i>Reports on work of Crop Subgroups</i> .....	23
<i>Report of work on molecular techniques on a crop-by-crop basis</i> .....	23
<i>BMT Guidelines</i> .....	24
<i>Date and Place of Next Session</i> .....	24
<i>Award of UPOV Medal</i> .....	24
<i>Technical visit</i> .....	24

## I. PROGRESS REPORT OF THE WORK OF THE TECHNICAL COMMITTEE

2. The Technical Committee (TC) held its forty-second session in Geneva from April 3 to 5, 2006.

### Participation

3. The meeting was attended by 91 participants from 45 members of the Union, five observer States and five observer organizations.

### Report on Developments in UPOV Including Relevant Matters Discussed in the Last Sessions of the Administrative and Legal Committee, the Consultative Committee and the Council

4. The Vice Secretary-General provided an oral report on the fifty-first and fifty-second sessions of the Administrative and Legal Committee (CAJ), the sixty-ninth and the seventieth sessions of the Consultative Committee and the twenty-second extraordinary session and the thirty-ninth ordinary session of the Council.

### Progress Reports on the Work of the Technical Working Parties, Including the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular

5. The TC received oral reports, from the Chairpersons, on the work of the Technical Working Party for Agricultural Crops (TWA), the Technical Working Party on Automation and Computer Programs (TWC), the Technical Working Party for Fruit Crops (TWF), the Technical Working Party for Ornamental Plants and Forest Trees (TWO), the Technical Working Party for Vegetables (TWV) and the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT).

### Matters Arising from the Technical Working Parties

6. The TC considered document TC/42/3.

7. The TC agreed to request the relevant Technical Working Parties (TWPs) to consider the results of the information provided by members of the Union responding to a questionnaire on probability levels used in COY, as presented in document TWC/23/10, and to explain the reasons where different probability levels are used to those indicated in the COY recommendations.

8. The TC agreed that the TWPs should be informed that the TWC is working on a questionnaire seeking information on population standards used in the assessment of uniformity by off-types, in particular when tests from more than one year were used.

### TGP Documents

9. The TC discussed the development of the TGP documents on the basis of document TC/42/5.

(a) *TGP documents to which the Technical Committee has given highest priority:*

*TGP/4: Constitution and Management of Variety Collections*

10. The TC agreed on amendments to document TGP/4/1 Draft 6.

*TGP/9: Examining Distinctness*

11. The TC agreed on amendments to document TGP/9/1 Draft 6.

*TGP/10: Examining Uniformity*

12. The TC agreed on amendments to document TGP/10/1 Draft 3.

(b) *Other TGP documents:*

*TGP/8: Use of Statistical Procedures in DUS Testing (document TGP/8/1 Draft 3)*

13. The TC heard that consideration of the comments made by the TWPs at their sessions in 2005 and by the Enlarged Editorial Committee (TC-EDC) at its meeting on January 10, 2006, had led the Chairperson of the TWC and Coordinator of TGP/8, Mrs. Sally Watson (United Kingdom), in conjunction with the Office of the Union (Office), to conclude that a re-structuring of the document and a review of the content in conjunction with the TWC would be appropriate before the document was considered in detail by the TC. Therefore, in order to avoid unnecessary cost and with the agreement of the Chairperson of the TC, Mrs. Julia Borys (Poland), document TGP/8/1 Draft 3 had not been translated into all UPOV languages. The TC agreed that Mrs. Watson and the Office should prepare a new draft for consideration by the TWC, taking into account the comments of the TWPs and the TC-EDC, on the basis of the notes in document TGP/8/1 Draft 3.

14. The TC did not consider document TGP/8/1 Draft 3 in detail, but agreed that, as a result of its broadened scope, the title of TGP/8 should be changed to “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability”. It also agreed that consideration should be given to splitting the document into two separate documents (Part I document and Part II document) in order to facilitate its consideration.

*TGP/12: Special Characteristics: Section 1: Characteristics Expressed in Response to External Factors*

15. The TC agreed on amendments to document TGP/12 Section 1 Draft 2.

*TGP/13: Guidance for New Types and Species*

16. The TC agreed on amendments to document TGP/13/1 Draft 5.

17. In response to a request for clarification of how to address a single application for a plant breeder’s right for a combination of different lines, the TC agreed that a document should be prepared for consideration at the forty-third session of the TC.

*Proposed Revision to document TGP/7/1 “Development of Test Guidelines”*

18. The TC noted the proposals made with regard to the revision of document TGP/7/1 as set out in Annex I to document TC/42/5.

19. It was observed that Additional Standard Wording ASW 9 “(TG Template: Chapter 4.3.2) – Stability assessment: general” needed to be modified because it would not be appropriate to test stability by growing a further generation for cross-pollinated varieties. It was proposed that the text “...to ensure that it exhibits the same characteristics as those shown by the previous material supplied.” should be amended to read “...to ensure that it exhibits the same characteristics as those shown by the initial material supplied.”

*Program for the Development of TGP Documents*

20. The TC approved the program for the development of TGP documents, as set out in Annex II to document TC/42/5, with the following amendments:

(a) the title of document TGP/4 to be confirmed as “Constitution and Management of Variety Collections” (without brackets); and

(b) the title of document TGP/8 would be changed to “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability”;

21. The TC noted, in particular, that:

(a) the Administrative and Legal Committee Advisory Group (CAJ-AG) would be invited to consider the development of document TGP/3 and the revision of document TGP/5, in preparation for submission of documents to the CAJ;

(b) documents TGP/4, TGP/9 and TGP/10 were scheduled to be approved in parallel;

(c) revision of document TGP/5 was scheduled to allow a review of Section 10 in parallel with revisions of Sections 1 to 7;

(d) revision of document TGP/7 was scheduled to start in 2008, after document TGP/9 has been approved by the TC and in anticipation of document TGP/14 attaining a good level of agreement; and

(e) finalization of document TGP/13 was scheduled after the approval of documents TGP/4, TGP/9 and TGP/10.

UPOV Information Databases

22. The TC considered document TC/42/6.

*GENIE Database*

23. The TC agreed that the following features would be introduced into the GENIE database when available on the UPOV website:

(i) a link from the Test Guidelines references in the GENIE database to the relevant UPOV Test Guidelines on the UPOV website;

(ii) a link to the relevant e-mail or website address for authorities in relation to experience and protection information;

(iii) a field for “Family”;

(iv) attribution of each genus to a “Category”: Plant; Plant/Fungus; or Plant/Algae within the administrative features of the database;

(v) the possibility for a UPOV code to have more than one denomination class; and

(vi) the variety denomination classes to be updated according to any revision of document UPOV/INF/12 Rev.

24. The TC noted that the design of the web-based version of the GENIE database was underway and its launch on the freely accessible area of the UPOV website was planned for later in 2006. It noted that it was hoped that the new variety denomination classes would be finalized before GENIE was launched.

#### *UPOV Code System*

25. The TC agreed the guiding criteria for identifying the most appropriate authorities to check UPOV code amendments, as set out in paragraph 7 of document TC/42/6, and agreed that the procedure for the introduction and amendment of UPOV codes should be updated accordingly. It also agreed that the checking of the 2005 amendments to the UPOV code should be combined with the checking of the 2006 amendments, to be considered by the TWPs in 2006.

#### *Plant Variety Database*

26. The TC noted the developments and planned program concerning improvements to the UPOV-ROM and the plans for the development of a web-based Plant Variety Database, as set out in paragraphs 12 to 14 of document TC/42/6. With regard to the development of a common searching platform for certain databases relevant for variety denomination searching purposes, the representative of the Organisation for Economic Co-operation and Development (OECD) indicated that the OECD website contained the List of Varieties Eligible for Certification which would be a relevant database for those purposes.

27. The TC noted the updating of the general notice and disclaimer in the UPOV-ROM User Guide, as reproduced in document TC/42/6, paragraph 15, and noted the situation concerning the development of a web-based Plant Variety Database, as set out in paragraph 17 of document TC/42/6. The representative of the European Seed Association (ESA) suggested that the general notice and disclaimer might be revised to indicate that members of the Union were encouraged to supply data to the UPOV-ROM.

## Molecular Techniques

### *Document "Situation in UPOV Concerning the Possible Use of Molecular Markers in DUS Examination"*

28. The TC considered document TC/42/7, paragraphs 2 to 9. It 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)*

29. The TC considered document BMT Guidelines (proj.5) and document TC/42/7, paragraphs 11 to 15.

30. The TC agreed on amendments to document BMT Guidelines (proj.5).

31. The TC agreed to request the BMT to review a new draft of the BMT Guidelines, incorporating the agreed amendments of the TC, at its tenth session, to be held in Seoul, Republic of Korea, from November 21 to 23, 2006, and 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.

32. The TC agreed to investigate the possibility of a practical exercise, involving a small number of crops, in the development of an exchangeable database, as set out in paragraphs 14 and 15 of document TC/42/7. It agreed that it would be necessary to set clear terms of reference for that work and agreed that such terms of reference should be considered at its forty-third session. In the meantime, it agreed to invite the BMT, at its tenth session, to suggest suitable crops where such a practical exercise might be appropriate.

### *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*

33. The TC noted the developments 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, as reported in document TC/42/7, paragraphs 17 to 20.

### *Ad Hoc Crop Subgroups on Molecular Techniques (Crop Subgroups)*

34. The TC considered document TC/42/7, paragraphs 22 to 29, and agreed to the establishment of a crop subgroup for vegetatively propagated varieties, 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.



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

### Variety Denominations

36. The TC considered document TC/42/8 and noted the comments made by the TWPs to the CAJ concerning variety denomination classes and the developments in the CAJ.

### Publication of Variety Descriptions

37. The TC noted the information provided in document TC/42/9 and, in particular, the aspects, set out in paragraph 31, which might be considered as part of a revision of document TGP/7/1 “Development of Test Guidelines”.

### Preparatory Workshops

38. The TC noted the report of the Preparatory Workshops held in 2005 and agreed the proposed program for 2006, as set out in document TC/42/10.

### Test Guidelines

39. The TC adopted the Test Guidelines listed in the table below on the basis of the amendments, as specified in Annex II to document TC/42/11 Report on the Conclusions, the linguistic changes recommended by the TC-EDC, and the following amendments:

Dokument Nr.	English	Français	Deutsch	Español	Botanischer Name
TG/4/8(proj.3)	Ryegrass	Ray-grass	Weidelgras	Ballico, Raygrás	<i>Lolium perenne</i> L.; <i>Lolium multiflorum</i> Lam. ssp. <i>italicum</i> (A. Br.) Volkart; <i>Lolium multiflorum</i> Lam. var. <i>westerwoldicum</i> Wittm; <i>Lolium boucheanum</i> Kunth; <i>Lolium rigidum</i> Gaudin.
TG/11/8(proj.5)	Rose	Rosier	Rose	Rosal	<i>Rosa</i> L.
TG/13/10(proj.2)	Lettuce	Laitue	Salat	Lechuga	<i>Lactuca sativa</i> L.
TG/26/5(proj.3)	Chrysanthemum	Chrysanthème	Chrysantheme	Crisantemo	<i>Chrysanthemum ×morifolium</i> Ramat. ( <i>Chrysanthemum ×grandiflorum</i> Ramat.); <i>Chrysanthemum pacificum</i> Nakai ( <i>Ajania pacifica</i> Bremer and Humphries) and hybrids between them
TG/29/7(proj.4)	Alstroemeria, Herb Lily	Alstroèmère, Lis des Incas	Inkalilie	Alstroemeria	<i>Alstroemeria</i> L.
TG/35/6 (Rev.) TG/CHERRY-SW(proj.4)	Sweet cherry	Cerisier doux	Süßkirsche	Cerezo dulce	<i>Prunus avium</i> L. ( <i>Cerasus avium</i> (L.) Moench)
TG/35/6 (Rev.) TG/CHERRY-SO(proj.4)	Sour cherry; Duke cherry	Cerisier acide; Griotte	Sauerkirsche; -	Cerezo ácido, Guindo; Cerezo Duke	<i>Prunus cerasus</i> L.; <i>Prunus ×gondouinii</i> (Poit. & Turpin) Rehder

Dokument Nr.	English	Français	Deutsch	Español	Botanischer Name
TG/67/5(proj.3)	Red Fescue; Sheep's Fescue; Hair Fescue; Reliant Hard Fescue; Shade Fescue; Pseudovina	Fétuque rouge; Fétuque ovine, Fétuque des moutons, Fétuque durette, Poil de chien; -; -; Fétuque hétérophylle; -	Rotschwengel; Schafschwengel; Feinblättriger Schwengel, Haar-Schaf-Schwengel; Härtlicher Schwengel; Borstenschwengel, Verschiedenblättriger Schwengel; -	Cañuela roja, Festuca roja; Cañuela de oveja, Cañuela ovina, Festuca ovina; -; -; -; -	Festuca rubra L.; Festuca ovina L.; Festuca filiformis Pourr.; Festuca brevipila R. Tracey; Festuca heterophylla Lam.; Festuca pseudovina Hack. ex Wiesb.
TG/72/6(proj.3)	Willow	Saule	Weide	Sauce	Salix L.
TG/73/7(proj.5)	Blackberry & hybrids	Ronce fruitière et hybrides	Brombeere und Hybriden	Zarzamora e híbridos	Rubus L. subg. Eubatus sect. Moriferi et Ursini et hybridi
TG/75/7(proj.3)	Cornsalad; -	Mâche; -	Feldsalat; -	Hierba de los canónigos ; -	Valerianella locusta L.; Valerianella eriocarpa Desv.
TG/76/8(proj.6)	Sweet Pepper, Hot Pepper, Paprika, Chili	Piment, Poivron	Paprika	Aji, Chile, Pimiento	Capsicum annum L.
TG/97/4(proj.6)	Avocado	Avocatier	Avocado	Aguacate, Palta	Persea americana Mill.
TG/104/5(proj.5)	Melon	Melon	Melone	Melón	Cucumis melo L.
TG/112/4(proj.5)	Mango	Manguier	Mango	Mango	Mangifera indica L.
TG/115/4(proj.4)	Tulip	Tulipe	Tulpe	Tulipán	Tulipa L.
TG/151/4(proj.3)	Calabrese, Sprouting Broccoli	Broccoli	Brokkoli	Brócoli, Bróculi	Brassica oleracea L. convar. botrytis (L.) Alef. var. cymosa Duch.
TG/196/2(proj.3)	New Guinea Impatiens	Impatiens de Nouvelle-Guinée	Neuguinea-Impatiens	Impatiens de Nueva Guinea	Impatiens New Guinea Group
TG/217/2(proj.3)	Cactus Pear; Xoconostles	Figuier de Barbarie; Xoconostles	Feigenkaktus; Xoconostles	Chumbera, Tuna; Xoconostles	Opuntia Group 1; Group 2
TG/DAHLIA(proj.5)	Dahlia	Dahlia	Dahlie	Dalia	Dahlia Cav.
TG/HOP(proj.3)	Hop	Houblon	Hopfen	Lúpulo	Humulus lupulus L.
TG/MEDICS(proj.4)	Medics	-	-	-	Medicago L. (excl. M. sativa L.)
TG/PMINT(proj.2)	Peppermint	Menthe poivrée	Pfefferminze	Menta piperita	Mentha ×piperita L.

40. It was agreed that, in the French version of the Test Guidelines for Rose, document TG/11/8(proj.5), “feuille” should be changed to “fleur”. It was also agreed that the name for *Mentha ×piperita* L. in Spanish should be changed to “Menta piperita”.

41. The TC agreed the references for the Test Guidelines for Sour Cherry and Sweet Cherry, as set out in paragraph 2 of document TC/42/2.

42. The TC-EDC reported that there were technical issues to be resolved with the Test Guidelines for Marigold, document TG/TAGETE(proj.4), in particular in relation to characteristics concerning the florets, which it had not been possible to resolve, and recommended that the TC refer the Test Guidelines back to the TWO. The TC agreed with that recommendation.

43. The TC-EDC recommended that the characteristics in the Test Guidelines for Melon, document TG/104/5(proj.5), should not be included in document TGP/7 Annex 4 “Collection of approved characteristics” without further consideration. The TC agreed with that recommendation.

44. The TC agreed to the plans for the development of new Test Guidelines and the revision of existing ones, as shown in Annex II to document TC/42/2, subject to an amendment concerning the Test Guidelines for Grain Amaranth (TG/AMARA), which would not cover ornamental types and would not be discussed by the TWO. The TC noted, in particular, those Test Guidelines which were considered by the relevant TWPs to be at a final draft stage.

45. The TC noted the status of the existing Test Guidelines, as listed in document TC/42/2, Annex III.

46. The TC noted the corrections to be made to the Test Guidelines for Celeriac, Dendrobium and Petunia, as set out in paragraph 6 of document TC/42/2. It noted that the third sentence of paragraph 6 (b) should read “Therefore, characteristic 76 will revert to its original wording “Lip: type of curving” and characteristic 77 will be changed from “Lip: presence of eye” to “Lip: eye”.”

#### List of Genera and Species for which Authorities have Practical Experience in the Examination of Distinctness, Uniformity and Stability

47. The TC considered document TC/42/4 and noted that the title of the document had been amended, as agreed by the TC at its forty-first session. The TC further noted that the information received from members of the Union had been cascaded in the GENIE database and in document TC/42/4. For example, if an authority indicated experience for a genus, experience would be indicated for all species, within that genus, contained in the GENIE database. However, in such cases, it was indicated that the experience was “derived” through experience at a higher level.

48. The TC heard that the number of genera and species for which members of the Union had practical experience had increased from 1,721 in 2005 to 1,906 in 2006. It was agreed that the document should be updated for the forty-third session of the TC.

#### Program for the Forty-Third Session

49. The following draft agenda was agreed for the forty-third session of the TC to be held in Geneva in 2007:

1. Opening of the session
2. Adoption of the agenda
3. Report on relevant matters discussed in the last sessions of the Administrative and Legal Committee, the Consultative Committee and the Council (oral report by the Vice Secretary-General)
4. 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) and Crop Subgroups
5. Matters arising from the Technical Working Parties

6. TGP documents
7. Publication of variety descriptions
8. UPOV information databases
9. Molecular techniques
10. Variety denominations
11. Preparatory workshops
12. Applications covering a combination of lines
13. Test Guidelines
14. List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability
15. Program for the forty-fourth session
16. Adoption of the report on the conclusions reached in the session (if time permits)
17. Closing of the session.

#### Award of UPOV Medal

50. At the end of the session, the Vice Secretary-General awarded Mr. Luis Salaices (Spain) a UPOV bronze medal in recognition of his chairmanship of the TWA in 2004 and 2005.

## II. PROGRESS REPORT OF THE WORK OF THE TECHNICAL WORKING PARTIES AND THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR

51. The following reports were made by the Chairpersons, or their substitutes, on the work of the Technical Working Party for Agricultural Crops (TWA), the Technical Working Party on Automation and Computer Programs (TWC), the Technical Working Party for Fruit Crops (TWF), the Technical Working Party for Ornamental Plants and Forest Trees (TWO), the Technical Working Party for Vegetables (TWV) and the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT), at the forty-second session of the TC.

### Technical Working Party for Agricultural Crops (TWA)

52. The TWA held its thirty-fourth session in Christchurch, New Zealand, from October 31 to November 4, 2005. The report of the meeting is provided in document TWA/34/14.

#### *Participation*

53. The session was attended by 40 participants from 22 members of the Union, and one observer organization. The chairperson of the TWA, Mr. Luis Salaices (Spain), was not able to attend the session, and Mrs. Rucker was asked in her function as the next chairperson to chair the session. The preparatory workshop, held during the afternoon of Sunday, October 30, 2006, was attended by nine participants.

54. On the first morning, the TWA received a presentation on plant variety protection in New Zealand. The presentation was made by Mr. Maitland Maltby, Assistant Commissioner of Plant Variety Rights in the Plant Variety Rights Office. The TWA received short reports on developments in plant variety protection by the participants.

#### *Molecular Techniques*

55. The TWA discussed developments on molecular techniques and received a report from Mr. Michael Camlin (United Kingdom), Chairman of the Crop Subgroup for Ryegrass, on an ongoing ISF sponsored study assessing essential derivation relationships between ryegrass varieties. The TWA agreed that meetings of the crop subgroups could be considered in conjunction with the TWA session in 2006, subject to the availability of new results.

#### *Preparation of documents*

56. The TWA considered the use of TGP/7 in the preparation of Test Guidelines and received a presentation from the Office on the use of the Test Guidelines drafters' kit. The group recalled the importance of respecting the deadlines for submission of documents and agreed that any document received after the deadline for submission to the Office should not be considered by the TWA session. All draft Test Guidelines and TGP documents would be required to be made available to the members of the working group at least four weeks prior to the session.

*TGP Documents*

57. The TWA discussed a number of draft TGP documents according to the program agreed by the TC. It proposed that the program set out in document TC/41/5 Add. be amended to allow an opportunity for the TWA to see new drafts of TGP/9/1, TGP/10/1, TGP/8/1 and TGP/13/1 at its session in 2006. It noted that there were practical advantages to adopting TGP/9, TGP/10 and TGP/8 at the same time.

*UPOV Information Databases*

58. The TWA discussed developments concerning UPOV information databases and agreed that the participants at the session should check the UPOV code amendments.

*Variety Denominations*

59. The TWA considered document TWA/34/5 on variety denomination classes and agreed on the proposals for Helianthus, Brassica and grasses as set out in the Annex of that document.

*Project to Consider the Publication of Variety Descriptions*

60. The TWA discussed the project to consider the publication of variety descriptions and received presentations on progress in the model study on barley, from Mr. Gerhard Deneken (Denmark), and on potato, from Mr. Henk Bonthuis (Netherlands). It concluded that published variety descriptions might be used in a limited way for selecting varieties for the growing trial, but if the user of such an approach did not have detailed knowledge of the level of harmonization of descriptions there would be a high risk of making an incorrect assessment of distinctness.

*Project for exchanging seed of selected varieties between interested countries*

61. The TWA noted progress in the development of regional sets of example varieties for the Test Guidelines for Rice and was informed of ring tests for other crops, involving various members of the Union.

*Test Guidelines*

62. The TWA agreed to submit to the TC for adoption the draft Test Guidelines for Ryegrass and Sheep's Fescue/Red Fescue, both of which were revisions, and for Medics and Hop, both of which were new. The Test Guidelines for Hop were developed jointly with the TWF. As agreed during the session, the Test Guidelines for Ryegrass and Fescues were modified by correspondence after the meeting. The TWA planned to continue discussions on eleven Test Guidelines in 2006, three were revisions and eight were new. Five Test Guidelines were expected to be at the final stage in 2006.

*Date and Place of Next Session*

63. At the invitation of the experts from China, the TWA agreed to hold its thirty-fifth session in Beijing, China, from July 3 to 7, 2006.

*Program for the Next Session*

64. The TWA proposed to discuss the following items at its next session: Short reports on developments in plant variety protection from members and observers; Reports on developments within UPOV; Developments on Molecular Techniques; TGP documents; UPOV Information Databases; Project to consider the publication of variety descriptions; Project for exchanging seed of selected varieties between interested countries; Development of regional sets of example varieties for the Test Guidelines for Rice; Discussion on draft Test Guidelines; Recommendations on draft Test Guidelines; Date and place of the next session and Future program.

Technical Working Party on Automation and Computer Programs (TWC)

*Participation*

65. The TWC held its twenty-third session in Ottawa, Canada, from June 13 to 16, 2005. The session was attended by 29 participants from 15 members of the Union. The TWC was welcomed by Mr. Garry Koivisto, Executive Director of the Canadian Food Inspection Agency. He described how, following its joining of UPOV in 1991, Canada had experienced positive impacts of membership, and explained the plans to move towards ratifying the 1991 Act of the UPOV Convention. The TWC meeting was chaired by Mr. Uwe Meyer. The report of the meeting is provided in document TWC/23/21. On the afternoon of June 12, 2005, prior to the TWC meeting, a preparatory workshop was held, and was attended by seven participants.

66. Mr. Mike Burvill, Examiner of the Plant Breeder's Rights Office, made a presentation on the plant breeder's right system in Canada, which was based on a breeder testing approach.

*Molecular Techniques*

67. The TWC received a short report from the Office on new developments in the Council, the Administrative and Legal Committee, the Technical Committee, and other Technical Working Parties. Discussions followed an update on the possible use of molecular techniques in UPOV. There was emphasis on the need for databases to store and to help exchange data on molecular techniques, and to help develop statistical techniques. The database structures needed for inter-country data exchange were discussed, as well as the data to be exchanged, the importance of agreeing the data structure at the start, who should have access to the data and for which markers data would be included. It was noted that sharing systems was desirable because not all countries would necessarily have the resources to develop their own databases. However, it was noted that there could be significant problems in updating systems shared between countries.

*Project to Consider the Publication of Variety Descriptions*

68. The TWC discussed the project to consider the publication of variety descriptions. The TWC noted the variation between countries in the variety descriptions, and the suggestions to reduce this variation, and noted the possible use of the GAIA program on the comparison of variety descriptions.

*TGP Documents*

69. The discussion of TGP documents formed an important part of the meeting. The TGP documents included: TGP/4 “Constitution and Management of Variety Collections”, TGP/9 “Examining Distinctness”, TGP/10 “Examining Uniformity”, TGP/8 “Use of Statistical Procedures in DUS Testing”, and TGP/14.3 “Statistical Terms”. In particular, it was agreed that TGP/10 should be brought into line with TGP/9 in terms of its level of information, and that the detailed statistical content of both TGP/9 and TGP/10 should be moved to TGP/8. It was also agreed that a different structure be sought for TGP/8.

*Statistical methods*

70. In addition to the work on TGP documents, the TWC considered other important contributions concerning developments in COY statistical procedures and off-type assessments. The TWC discussed a number of approaches to the question of whether the number of plants on which characteristics are recorded could be reduced. In particular, one approach used variance components to investigate how far the number of plants within a plot could be reduced with, for example, a 1% increase in the LSD. For some characteristics, the number of plants recorded could be reduced to 10 instead of the usual 60. However, that would only apply for the reference varieties, because all 60 plants would need to be recorded for the candidate varieties. Also, the reduction would only be for characteristics that were stable in their variance components over time. The TWC planned to study this approach for more countries and more crops. There was also work to be done on assessing the impact of the reduced reference variety recording on uniformity and on the decisions made.

71. The TWC discussed an adjustment to the COYD method for use when varieties were grouped within the DUS trial. This was of particular benefit when the resulting groups were small, as there were problems due to few degrees of freedom when the groups were analyzed separately.

72. There were a number of discussions on alternative approaches to uniformity testing that avoided the COYU moving average adjustment, which some experts considered to “over-fit” the mean-variance relationship. In particular, alternatives based on analysis of covariance and using either a LOESS smoother or linear/quadratic polynomials for the mean-variance relationship were suggested. An alternative to the COYU t-test which compared the mean uniformity of the reference varieties with the candidate mean uniformity was also suggested. The alternative test was based on estimating a quantile of the distribution of the uniformities of the reference varieties. The TWC planned further investigations with more crops, years and countries. There were also discussions on testing coefficients of variation instead of using the moving average mean-variance adjustment in within year uniformity testing.

73. The TWC discussed the development of a questionnaire on population standards used when assessing uniformity by off-types, the results of which were intended to be added to the results of the COY questionnaire and circulated to other Technical Working Parties for discussion on the extent of harmonization in crops. There was also discussion on the calculation of relative tolerances in the number of off-types - for when there was not enough knowledge of the crop to set a fixed standard. Suggestions included the possible use of an over-year standard.



*Database of TWC documents*

74. The TWC saw a demonstration of an access database of TWC papers and papers of interest to the TWC. The TWC heard that it would not be possible to place the database on the UPOV website because that only supported Oracle databases. However, it would be made available to members of the TWC in the form of a CD-ROM provided by experts from Germany.

*Date and Place of Next Session*

75. At the invitation of the Kenya Plant Health Inspectorate Service (KEPHIS), it was agreed that the next meeting of the TWC should take place in Nairobi, Kenya, from June 19 to 22, 2006, with a preparatory workshop to be held on the afternoon of June 18.

*Program for the Next Session*

76. During its forthcoming session, the TWC planned to discuss the items mentioned above plus generalized linear models, segregation ratios, image analysis, and DUS Examination in two locations.

*Award of UPOV Medal*

77. At the end of the session, Mr. Uwe Meyer (Germany) was awarded a UPOV bronze medal in recognition of his chairmanship of the TWC from 2003 to 2005.

Technical Working Party for Fruit Crops (TWF)

78. The TWF held its thirty-sixth session in Kôfu, Japan, from September 5 to 9, 2005, with a preparatory workshop on the afternoon of September 4. The session was opened by Mr. Erik Schulte from Germany, Chairman of the TWF, and was welcomed by Mr. Keiji Terazawa, Director of the Seeds and Seedlings Division of the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF). The report of the meeting is provided in document TWF/36/8.

*Participation*

79. The session was attended by 39 participants from 16 members of the Union and from three observer states. The preparatory workshop was attended by 26 participants. The participants included the trainees from the plant variety protection training course, organized by the Japan International Cooperation Agency (JICA).

80. The TWF received a presentation on plant breeders' rights in Japan and received oral reports from participants on developments in plant variety protection and from the Office of the Union on the latest developments within UPOV.

### *Molecular Techniques*

81. The TWF received an introduction to document TWF/36/2 on Molecular Techniques. The TWF supported the proposal from the BMT for the establishment of a crop subgroup for vegetatively propagated crops, on the basis that such a crop subgroup would include fruit species.

### *TGP Documents*

82. The TWF discussed a number of draft TGP documents. In relation to TGP/4 “Constitution and Management of Variety Collections”, the TWF discussed document TGP/4/1 Draft 4 and agreed to propose that the introduction should explain the logic and reasoning behind the process of narrowing-down of the varieties of common knowledge in a way which inexperienced readers would understand and, in particular, to explain that the process avoided the need for side-by-side comparisons. It also discussed and recommended possible amendments, mainly in the wording, on drafts of TGP/9 “Examining Distinctness”, TGP/10 “Examining Uniformity”, TGP/8 “Use of Statistical Procedures in DUS Testing”, TGP/13 “Guidance for New Types and Species”, TGP/14.2.1&2 “Botanical Terms: Plant Shapes & Hair Types”, TGP/14.2.3 “Botanical Terms: Color”. With regard to plant shapes in TGP/14.2, there was discussion of an approach to identify certain “core” or “basic” shapes which had a qualitative step between them, and to define ranges of shapes for certain “core” or “basic” shapes which could be obtained by simply changing the position of the maximum width or the length/width ratio in a quantitative progression.

### *Other items*

83. The TWF considered documents TWF/36/3 “UPOV Information Databases” and received a presentation of the prototype GENIE, TWF/36/5 “Variety Denomination Classes”, TWF/36/6 “Project to Consider the Publication of Variety Descriptions”, TWF/36/8 “Definition of Maturity of Fruit”, and TWF/36/7-TWO/38/9 “Criteria for Determining Off-Type Plants”, introduced by Mr. Chris Barnaby, Chairman of the TWO.

### *Test Guidelines*

84. The TWF finalized the draft Test Guidelines revision for Avocado, Blackberry, Mango, Opuntia and for Cherry, which was divided into two Test Guidelines for Sour and Sweet Cherry. In addition, the new draft Test Guidelines for Hop, that were developed jointly with the TWA, were also finalized.

85. The TWF planned to continue discussions on a total of 15 Test Guidelines in 2006: six being revisions and nine being new Test Guidelines. Of the 15 to be discussed, four of those were at the “final” draft stage. The TWF also decided to consider discussing draft Test Guidelines for Dragon-fruit, Durian, Rambutan, Pistachio, Pomegranate and Melon-pear at its thirty-eighth session, in 2007.

### *Date and Place of Next Session*

86. At the invitation of the expert from Brazil, the TWF agreed to hold its thirty-seventh session in Salvador, Bahia State, Brazil, from August 21 to 25, 2006, with a preparatory workshop on August 20.

*Program for the Next Session*

87. During its thirty-seventh session, the TWF planned to discuss or re-discuss the following items: Short reports on developments in plant variety protection from members and observers as well as within UPOV; Developments on molecular techniques; TGP documents; UPOV information databases; Project to consider the publication of variety descriptions; Criteria for determining off-type plants; Variety denomination classes and Discussions and Recommendations on draft Test Guidelines.

*Award of UPOV Medal*

88. At the end of the session, Mr. Erik Schulte (Germany) was awarded a UPOV bronze medal in recognition of his chairmanship of the TWF from 2003 to 2005.

Technical Working Party for Ornamental Plants and Forest Trees (TWO)

89. The TWO held its thirty-eighth session in Seoul, Republic of Korea, from September 12 to 16, 2005, under the chairmanship of Mr. Chris Barnaby (New Zealand). The TWO was welcomed by Dr. Jae Chun Sim, Director General of the National Seed Management Office (NSMO), Ministry of Agriculture and Forestry, and Mr. Eung-Bon Kim, Director of Plant Variety Protection Division (NSMO). The report of the meeting is provided in document TWO/38/12.

*Participation*

90. The meeting was attended by 59 participants from 18 members of the Union, one observer State and one observer organization. The TWO noted that the preparatory workshop held on September 11, 2005, prior to the TWO meeting, was attended by 44 participants, from 13 members of the Union.

91. The TWO received a presentation on the current situation of the flower industry and breeding in the Republic of Korea from Professor Ki Sun Kim, Seoul National University, and on the plant variety protection situation in the Republic of Korea, from Dr. Keun-Jin Choi, of the NSMO. The TWO also received short oral reports on developments in variety protection from participants and on the latest developments within UPOV from the UPOV Office.

*Molecular Techniques*

92. The TWO discussed document TWO/38/2 concerning the possible use of molecular techniques in DUS Testing. The TWO supported a proposal from the BMT for the establishment of a crop subgroup for vegetatively propagated crops, on the basis that such a crop subgroup would then incorporate the Crop Subgroup for Rose.

*Criteria for Determining Off-type Plants*

93. Document TWO/38/9 "Criteria for Determining Off-type Plants" was introduced by the Chairman and discussed. The TWO concluded that guidance on the determination of off-types would be an important part of TGP/10 "Examining Uniformity" and agreed to develop guidance for inclusion in TGP/10. The guidance would include an explanation of the

issues, value of harmonization, examples of different types of off-types and how to check whether atypical plants were caused by genetics or the environment. A guidance document was planned for discussion at the thirty-ninth session of the TWO. Associated with the discussion of document TWO/38/9, the TWO also considered document TWO/38/10 “Transposon-induced Coloration Patterns in Ornamentals”, drafted by experts from the European Community. The TWO agreed that any guidance for determining off-types should seek to address the effects resulting from the presence of transposons.

#### *TGP Documents*

94. A number of draft TGP documents were discussed. The TWO had particular interest in document TGP/4/1 Draft 4 “Constitution and Management of Variety Collections”, TGP/9/1 Draft 4 “Examining Distinctness”, TGP/10/1 Draft 4 “Examining Uniformity”, and TGP/14/1 Draft 3 “Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents”.

#### *Variety Denominations*

95. The TWO discussed documents TWO/38/5 “Variety Denomination Classes” and TWO/38/5 Add. which contained proposals for the creation of new variety denomination classes for some ornamental genera. All proposals, with one exception, were rejected in favor of the general rule of one genus / one class. A new class containing *Jamesbrittenia* and *Sutera* and hybrids between them was recommended. Where hybrids between certain genera existed, the TWO recommended that a new denomination class should be created. It was noted that the GENIE database would contain links between the codes for the new genus and its parent genera. The TWO observed that the general rule of one genus / one class followed the general rule of the International Code of Nomenclature for Cultivated Plants (ICNCP). However, some of the recommendations of the TWO would diverge from ICNCP exceptional classes.

#### *Project to Consider the Publication of Variety Descriptions*

96. Documents TWO/38/6 and TWO/38/11 provided the basis for discussion of the project to consider the publication of variety descriptions. It was particularly interesting to note that the Model Study on *Alstroemeria* demonstrated that variations in the state of expression of plant characteristics could be attributed to differences in growing conditions as well as to problems with the previous version of the Test Guidelines. A revision of the Test Guidelines for *Alstroemeria* was finalized at the meeting, which included improvements in the observation of flower characteristics, an area highlighted as having difficulty by the project results.

#### *Impact of Phytoplasma Strains on Phenotypical Expression of Poinsettia Varieties*

97. The TWO received a presentation from Mr. Lars Jacobsen (Denmark) and Mr. Ton Kwakkenbos (European Community) on a co-financed research project on the impact of phytoplasma strains on the phenotypical expression of poinsettia varieties.

#### *Test Guidelines*

98. The TWO agreed to submit the Test Guidelines for *Alstroemeria*, *Chrysanthemum*, *Dahlia*, *New Guinea Impatiens*, *Rose*, *Tagetes*, *Tulip* and *Willow* to the TC. Discussion will

continue on 11 other Test Guidelines, consisting of two revisions and nine new Test Guidelines. The TWO will begin discussion on another 14 draft Test Guidelines in 2006.

#### *Date and Place of Next Session*

99. At the invitation of Brazil, the TWO will hold its thirty-ninth session in Fortaleza, Ceará State, Brazil, from August 28 to September 1, 2006.

#### *Program for the Next Session*

100. During its thirty-ninth session, the TWO plans to discuss or re-discuss the following items: short reports on developments in plant variety protection from members, observers and within UPOV; molecular techniques; the project to consider the publication of variety descriptions; UPOV information databases; criteria for determining off-types; TGP documents and discussion of and recommendations for draft Test Guidelines.

#### *Award of UPOV Medal*

101. At the close of the session, Mr. Chris Barnaby (New Zealand) was awarded a UPOV bronze medal in recognition of his chairmanship of the TWO from 2003 to 2005.

#### Technical Working Party for Vegetables (TWV)

102. The TWV held its thirty-ninth session in Nitra, Slovakia, from June 6 to 10, 2005, with a preparatory workshop held on the afternoon of June 5. The TWV session was chaired by Mr. Kees van Ettehoven (Netherlands). The report of the meeting is provided in document TWV/39/9.

#### *Participation*

103. The session was attended by 45 participants from 19 members of the Union and two observer organizations. The preparatory workshop was attended by 28 participants.

104. There were oral reports from the participants on developments in plant variety protection in their countries. In particular, the TWV received a presentation on agriculture and DUS testing in Slovakia, which included information on vegetable PBR tests, breeding and production.

#### *TGP Documents*

105. During the session, drafts of documents TGP/4 “Constitution and Management of Variety Collections”, TGP/8 “Use of Statistics in DUS Testing”, TGP/9 “Examining Distinctness”, TGP/10 “Examining Uniformity” and TGP/13 “Guidance for New Types and Species”, were discussed.

#### *Molecular Techniques*

106. No meetings of the crop subgroups on molecular techniques had taken place. However, experts provided information on the current use of biomolecular techniques for testing disease resistance and management of reference collections.

*Project to Consider the Publication of Variety Descriptions*

107. Results from a comparison of Chinese Cabbage and Lettuce variety descriptions were discussed as part of the project to consider the publication of variety descriptions. Although variation between descriptions for the same variety could be due to environmental factors, it was recognized that differences in recording were also a contributing factor, and that ring testing could address the issue of harmonization. The TWV concluded that the availability of descriptions in a database would be beneficial, but accepted that descriptions would vary. As a first step, the addition of grouping characteristics would be useful, but would require the extraction of data from descriptions. Interpretation of the information for use in DUS testing would require caution. The TWV noted that it would be difficult to publish variety descriptions at the UPOV level for the foreseeable future.

*UPOV Information Databases*

108. The TWV received a presentation of the prototype GENIE database and proposed links between GENIE and Test Guidelines on the website, and to e-mail or website details of individuals or authorities with relevant experience.

*Test Guidelines*

109. The TWV agreed to send draft Test Guidelines for Calabrese and Sprouting Broccoli (Revision), Lettuce (partial revision), Cornsalad (Revision), Pepper (Revision), Melon (Revision), and Peppermint (New) for adoption by the Technical Committee. The draft Test Guidelines for Melon and Pepper were modified by correspondence after the meeting.

110. The TWV agreed to discuss a total of 16 Test Guidelines at its fortieth session, seven of which were final drafts. Of the others, six were revisions and three were new drafts: Bitter Gourd, *Hypericum perforatum* and *Rumex*. New Test Guidelines would be considered for *Portulaca*(Purslane) jointly with the TWO.

*Date and Place of Next Session*

111. At the invitation of the expert from Mexico, the TWV agreed to hold its fortieth session in Guanajuato, Mexico, from June 12 to 16, 2006, with a preparatory workshop on June 11.

*Program for the Next Session*

112. During its fortieth session, the TWV planned to discuss or re-discuss: Short reports on developments in plant variety protection; Molecular Techniques; Project to consider the Publication of Variety Descriptions; Review of UPOV Information Databases; TGP Documents; Additional characteristics; Discussion on draft Test Guidelines; Date and place of next session; Future program and the Report on the conclusions of the session.

*Award of UPOV Medal*

113. At the end of the session, Mr. Kees van Ettehoven (Netherlands) was awarded a UPOV bronze medal in recognition of his chairmanship of the TWV from 2003 to 2005.

Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT)

114. The BMT held its ninth session in Washington, D.C., United States of America, from June 21 to 23, 2005, under the chairmanship of Mr. Gerhard Deneken (Denmark), with a preparatory workshop on the afternoon of June 20. The report of the meeting is provided in document BMT/9/14.

*Participation*

115. The session was hosted by the Office of International Relations, United States Patent & Trademark Office (USPTO) and the Plant Variety Protection Office, United States Department of Agriculture (USDA). Mrs. Karen Hauda, from the US Patent and Trademark Office, provided an overview of the plant variety protection systems available in the United States of America to the 49 participants from 16 members of the Union and five observer organizations. At the preparatory workshop, there were 24 participants.

*Reports on work of Crop Subgroups*

116. The BMT received an oral report on the work of the Crop Subgroups for: Sugarcane by Mr. Luis Salaices (Spain); Potato by Mrs. Beate Rücker (Germany); and Wheat by Mr. Robert Cooke (United Kingdom). During the reporting, the importance and potential power of molecular techniques for variety identification was stressed and the need for harmonization of methods and exchange of data was clearly demonstrated. Furthermore, the BMT received information on variety identification and enforcement of PBR from participants.

*Report of work on molecular techniques on a crop-by-crop basis*

117. Regarding Option 1 (Use of molecular characteristics which are directly linked to traditional characteristics), the BMT received several presentations. The presentations were based on different techniques and one presentation given by an expert from the Netherlands discussed further aspects and possibilities of an Option 1 approach. Other experts examined the possibilities of an Option 1 approach with different techniques, in different species identifying different genes, primarily disease resistance.

118. The BMT also received presentations in relation to an Option 2 approach (Calibration of threshold levels for molecular characteristics against the minimum distance in traditional characteristics). For example, in the Republic of Korea, work had been done on hot pepper and chestnut. The BMT received a presentation from experts from the Netherlands, based on rose. The conclusions of that study showed that it was unlikely that it would be possible to establish a relation/correlation/association between morphological and genetic distance.

119. The BMT received a presentation by experts from Spain based on grapevine, a vegetatively propagated crop, where the possibility of an Option 3 approach (development of new approach) was discussed in respect of DUS testing, variety identification and infringement. The BMT considered that the approach should be considered further by the interested parties, including in particular the breeders, in the form of a specific crop subgroup or jointly with other vegetatively propagated species, as there were many similarities to other vegetatively propagated species. During the meeting it became evident that several aspects for particular crops were often similar to approaches for crops of the same type (vegetatively

propagated, self- or cross-pollinated types). Those crops could often benefit from the work done in the other crops. The BMT therefore proposed the establishment of a Crop Subgroup for Vegetatively Propagated Varieties and the extension of the Crop Subgroup for Wheat to form a Crop Subgroup for Wheat and Barley.

#### *BMT Guidelines*

120. The BMT worked on the BMT Guidelines. To validate the robustness of the BMT Guidelines, the experts from the United Kingdom and the Netherlands, involved in the projects “Research project co-financed by the Community Plant Variety Office (CPVO): Management of winter oilseed rape reference collections”, “Analysis of a database of DNA profiles of 734 hybrid tea rose (*Rosa hybrida*) varieties” and the project to characterize all the varieties of potatoes on the Common Catalogue of the European Union by 2007 (see paragraph 24 of document BMT/9/14), indicated their willingness to participate in a pilot database project. Experts from the United States of America also expressed their interest in participating in these pilot projects.

#### *Date and Place of Next Session*

121. In response to the invitation received from the Republic of Korea, the BMT agreed to hold its tenth session in Seoul, Republic of Korea.

#### *Program for the Next Session*

122. During its tenth session, the BMT planned to discuss: Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, and plant breeders; Reports from the BMT Review Group, Technical Committee and Crop Subgroups; Report of work on molecular techniques on a crop-by-crop basis; BMT Guidelines; Construction and standardization of databases of molecular characteristics of plant varieties; Statistical methods for data produced by biochemical and molecular techniques; The use of molecular techniques in examining essential derivation; Recommendations on the establishment of new crop specific subgroups; Date and place of next session; Future program; and the Report of the session (if time permits).

#### *Award of UPOV Medal*

123. At the end of the session, Mr. Gerhard Deneken (Denmark) was awarded a UPOV bronze medal in recognition of his chairmanship of the BMT from 2003 to 2005.

#### *Technical visit*

124. Following the session, on the morning of June 24, 2005, the BMT participants were given the possibility to visit the laboratory of Dr. Perry Cregan (United States Department of Agriculture (USDA), Agricultural Research Center (ARS), Beltsville) and the National Center for Biotechnology Information.



*125. The Council is invited:*

*(a) to note the work of the TC and that of the TWPs reported to the TC, as provided in this document, and*

*(b) to approve the work program of the TC and the work programs of the TWPs reported to the TC, as provided in this document.*

[End of document]