



C/45/10

ORIGINAL: English

DATE: September 19, 2011

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

COUNCIL

Forty-Fifth Ordinary Session
Geneva, October 20, 2011

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).

2. The following abbreviations are used in this document:

CAJ:	Administrative and Legal Committee
TC:	Technical Committee
TC-EDC:	Enlarged Editorial Committee
TWPs:	Technical Working Parties
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
TWF:	Technical Working Party for Fruit Crops
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWV:	Technical Working Party for Vegetables
BMT:	Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular
BMT Review Group:	<i>Ad hoc</i> Subgroup of Technical and Legal Experts of Biochemical and Molecular Techniques
WG-PVD:	<i>Ad hoc</i> Working Group on the Publication of Variety Descriptions
Crop Subgroups:	<i>Ad hoc</i> Crop Subgroups for Molecular Techniques
DUS:	Distinctness, Uniformity and Stability
Office:	Office of the Union

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I. PROGRESS REPORT OF THE WORK OF THE TECHNICAL COMMITTEE

3. The Technical Committee (TC) held its forty-seventh session in Geneva from April 4 to 6, 2011, chaired by Mr. Joël Guiard (France), Chairperson of the TC. The report on the conclusions of the session is contained in document TC/47/26. The detailed report will be provided in document TC/47/27.

4. The meeting was attended by 91 participants from 37 members of the Union, eight observer States and two 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

5. The Vice Secretary-General provided an oral report, in the form of a Powerpoint presentation, on the sixty-first and sixty-second sessions of the Administrative and Legal Committee (CAJ), seventy-ninth and eightieth sessions of the Consultative Committee and the twenty-seventh extraordinary session and the forty-fourth ordinary session of the Council.

6. The Vice Secretary-General also noted that the Association for Plant Breeding for the Benefit of Society (APBREBES) and the European Coordination Via Campesina (ECVC) had been granted observer status in the Council, the Administrative and Legal Committee (CAJ), the TC and the Technical Working Parties (TWPs), and that observer status for CropLife International had been extended to the CAJ, the TC and the TWPs.

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 the Ad Hoc Crop Subgroups on Molecular Techniques

7. 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) (see: Part II of this document).

Matters arising from the Technical Working Parties

8. The TC considered document TC/47/3.

9. The TC agreed to request the Office of the Union to invite experts to submit written reports to the Office of the Union in advance of the Technical Working Party (TWP) sessions in order that a document containing those reports could be prepared by the Office of the Union. The TC noted that TWP experts would be invited to make a brief oral summary of their written report at the session and would also be encouraged to make reports under the agenda item "Experiences with new types and species", as appropriate.

10. The TC also noted that TWP experts would have an opportunity to raise questions concerning matters of interest.

Molecular Techniques

11. The TC considered document TC/47/7.

BMT Guidelines

12. The TC noted the adoption of document UPOV/INF/17/1 “UPOV Guidelines for DNA-profiling: molecular marker selection and database construction (BMT Guidelines)”.

Revision of documents TC/38/14-CAJ/45/5 and TC/38/14 Add.-CAJ/45/5 Add.

13. The TC agreed that document BMT/DUS Draft 5, as amended at the session and subject to agreement by the CAJ at its sixty-third session, to be held in Geneva on April 7, 2011, should be the basis for adoption of document BMT/DUS by the Council at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011.

Possible development of document TGP/15

14. The TC agreed that document TGP/15 should be developed separately, but in parallel, to document BMT/DUS on the basis that document BMT/DUS would provide a report on the development and consideration of all models within UPOV and that document TGP/15 would provide guidance for the use of those models that had received a positive assessment and for which accepted examples could be provided, i.e. Models “Characteristic-specific molecular markers” (Section 3.1.1) and “Combining phenotypic [characteristics] and molecular distances in the management of variety collections” (Section 3.1.2) for the time being. It agreed that the purpose of both documents should be clarified within the documents and noted that both documents would need to be adopted by the Council. The TC also agreed that consideration should be given to how to maintain both documents in an efficient way.

International guidelines on molecular methodologies

15. The TC noted the information on international guidelines on molecular methodologies presented to the BMT at its twelfth session, as set out in document TC/47/7, paragraphs 34 and 35.

Ad hoc crop subgroups on molecular techniques (Crop Subgroups)

16. The TC noted that there had been no meetings of the Crop Subgroups since its forty-sixth session and noted that Mr. Joost Barendrecht, Chairman of the Crop Subgroup for Rose had retired and that it would be necessary to appoint a new chairman of the Crop Subgroup for Rose if a meeting was planned.

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

17. The TC noted the report on developments in the BMT, as set out in paragraphs 41 to 43 of document TC/47/7. The TC approved the program for the thirteenth session of the BMT, to be held in Brasilia, Brazil, from November 22 to 24, 2011, with the preparatory workshop to be held on November 21, 2011, as set out in paragraphs 44 and 45 of that document. The

TC agreed that, in order to encourage the presentation of information in relation to the use of molecular techniques in examining essential derivation and in variety identification, it would be appropriate to dedicate a specific day to those items at the thirteenth session of the BMT. The TC noted that breeders and other experts would be offered the possibility to attend for that specific day, which would be on November 22, 2011.

Variety denominations

18. The TC considered document TC/47/8.

Revision of UPOV/INF/12 “Explanatory Notes on Variety Denominations under the UPOV Convention”

19. The TC noted the report on the adoption of document UPOV/INF/12/3, the publication of that document and the updating of the GENIE database with the amended UPOV codes for the relevant taxa.

Eupatorium and Eutrochium

20. The TC noted the botanical synonymies that existed for species of *Eupatorium* L. and invited the TWO to consider certain possible solutions to that situation at its forty-fourth session to be held from November 7 to 11, 2011 in Fukuyama City, Hiroshima Prefecture, Japan.

Information concerning the registration of variety denominations as trademarks

21. The TC noted the information concerning the registration of variety denominations as trademarks, as set out in document TC/47/8, paragraphs 15 to 19.

Information and databases

(a) UPOV information databases

22. The TC considered document TC/47/6 and the presentation of the prototype of the web-based version of the Plant Variety Database, made by Mrs. Lili Chen, Software Developer, World Intellectual Property Organization (WIPO).

23. The TC noted the developments concerning: the GENIE database; the UPOV code system, and noted that the Office of the Union would prepare tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the Technical Working Party (TWP) sessions in 2011; and the program for improvements to the Plant Variety Database (“Program”), as set out in document TC/47/6, paragraphs 8 to 31.

Timetable for introduction of web-based version of Plant Variety Database

24. The TC agreed with the proposal that a web-based version of the Plant Variety Database, based on the existing content of the UPOV-ROM Plant Variety Database, be launched on the UPOV website during the course of 2011. The TC noted that the database

would contain the same data as provided for the UPOV-ROM, according to existing data submission procedures, and would include similar search functions. It noted that, in addition, provisions would be made for the results of the searches to be downloaded in the form of an Excel spreadsheet or an html report, thereby enabling full access to the data in the Plant Variety Database.

25. The TC noted that the prototype of a web-based version of the Plant Variety Database would also be presented at the sixty-third session of the CAJ, to be held on April 7, 2011, and the eighty-first session of the Consultative Committee, to be held in Geneva on April 8, 2011. It noted that the comments of the TC and the CAJ would be reported to the Consultative Committee, at its eighty-first session, in conjunction with the invitation for the Consultative Committee to approve the proposals concerning the launching of the web-based version of the Plant Variety Database, as set out in document TC/47/6.

Policy for access to Plant Variety Database

26. With regard to the web-based version of the Plant Variety Database, the TC noted that the Consultative Committee, at its eighty-first session, to be held in Geneva on April 8, 2011, would be invited to consider certain policy options for access.

27. The TC noted the support by some delegations for free access to all users.

Title of the Plant Variety Database

28. The TC agreed with the proposal to rename the Plant Variety Database as “VENUS” and the development of a suitable visual icon.

(b) Variety description databases

29. The TC noted the information provided on variety description databases at the sessions of the TWV, TWF and TWO, as set out in document TC/47/9.

30. The TC agreed to request the experts from France to present the concept of a database containing pea variety descriptions of members of the Union to the Technical Working Parties at their sessions in 2011 and to the TC at its forty-eighth session.

(c) Exchangeable software

31. The TC considered documents TC/47/12 and UPOV/INF/16/2 Draft 1.

Translation of User Guide for the SIRIUS system of data capture

32. The TC noted the report on developments concerning the translation of the user guide for the SIRIUS system into English, as set out in document TC/47/12.

Updating of information on the use of the software presented in document UPOV/INF/16/1 “Exchangeable Software”

33. The TC approved the content of document UPOV/INF/16/2 Draft 1. It noted that, subject to agreement by the CAJ at its sixty-fourth session, to be held in Geneva in October 2011, document UPOV/INF/16/2 would be put forward for adoption by the Council at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011.

New software to be considered for inclusion in document UPOV/INF/16 “Exchangeable Software”

34. The TC noted the accessibility to members of the Union of the CPVO Centralised Database on Variety Denominations of the Community Plant Variety Office (CPVO) of the European Union and noted that the CPVO was considering means of making its software for checking variety denominations available to members of the Union.

35. The TC agreed that document UPOV/INF/16 should be modified in order to allow the offer for assistance on the electronic office management systems made by the CPVO, as set out in document TC/47/12, paragraph 16, to be included.

36. The TC noted that the Netherlands and the Russian Federation would be invited to present their proposed exchangeable software, as set out in Annexes I and II to document TC/47/12, respectively, at the twenty-ninth session of the TWC for possible inclusion in a future revision of document UPOV/INF/16.

(d) Electronic application systems

37. The TC considered document TC/47/13.

Standard references for the UPOV Model Application Form and Linear Blank Form

38. The TC agreed that the Office of the Union should seek information on the extent to which members of the Union use the standard references to the UPOV Model Application Form in their application forms.

Linear Blank Form corresponding to Section 2: “UPOV Model Form for the Application for Plant Breeders’ Rights” (Linear Blank Form for PBR Applications)

39. The TC noted that it was planned that the Linear Blank Form for PBR Applications be developed with the following features:

(a) users* could select the language in which the items in the Linear Blank Form for PBR Applications would be presented (Input Template language);

* The term “user” is used instead of “applicant” or “breeder”, in order to avoid any implication that the use of the Linear Blank Form for PBR Applications might indicate that an application is being filed for a plant breeder’s right.

(b) users could select (a) language(s) in which the completed Linear Form for PBR Applications could be downloaded (Output Template language);

(c) users could choose the format in which to download the completed Linear Form for PBR Applications: Word, Excel, XML and/or PDF;

(d) users could choose to store the input data in an associated database (hosted by UPOV), in order, for example, to allow further downloading in different languages and/or formats. The data would be password protected and the password would only be issued to the user concerned; and

(e) a disclaimer that the use of the information associated with the Linear Blank Form for the filing of an application for a breeder's right with the authority of a member of the Union would be the responsibility of the user.

40. The TC noted that the languages in which the Linear Blank Form for PBR Applications would be developed would be prioritized on the basis of discussions with the international breeders' organizations and according to available resources. In the case of languages other than English, French, German and Spanish, interested members of the Union would be consulted before the relevant language versions were made available on the UPOV website. In addition, there would be an explanation that the translations had not been adopted by the Council.

41. The TC noted that International Seed Federation (ISF) would be willing to contribute financial resources to the development of the Linear Blank Form for PBR Applications on the basis of the concept set out above.

42. The TC noted that the European Union was working with two of its member States on the use of the CPVO electronic application system. The Delegation of the European Union offered to provide information on its experiences on that project. The TC agreed the report on developments should be made at its forty-eighth session.

TGP documents

43. The TC considered document TC/47/5.

(a) *New TGP documents*

TGP/11 Examination of Stability

44. The TC considered document TGP/11/1 Draft 10 and agreed certain modifications. The TC noted that those modifications to the text of document TGP/11/1 Draft 10 would be reported to the CAJ at its sixty-third session, to be held in Geneva on April 7, 2011. The TC agreed that, subject to agreement by the CAJ, document TGP/11/1 Draft 10, as amended above, should be put forward for adoption by the Council at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011.

45. The TC noted that ISF considered that there was no need to organize a seminar on the submission of parent lines for hybrid varieties of vegetables where the parent lines were not examined as part of the DUS examination of the hybrid, but proposed that the discussions should continue in the relevant TWPs.

(b) *Revision of TGP documents*

TGP/5 Section 10/2 Experience and Cooperation in DUS Testing: Notification of Additional Characteristics

46. The TC agreed that document TGP/5: Section 10/2 Draft 2, as amended at its forty-sixth session and subject to agreement by the CAJ at its sixty-third session, to be held in Geneva on April 7, 2011, should be the basis for adoption of document TGP/5: Section 10/2 by the Council at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011.

TGP/7 Development of Test Guidelines

47. The TC considered the revisions proposed in document TC/47/16.

Coverage of Test Guidelines

48. The TC agreed to the addition of new Additional Standard Wording (ASW) for Chapter 1 of the Test Guidelines in a future revision of TGP/7 “Development of Test Guidelines”, as follows:

“In the case of [ornamental] [fruit] [industrial] [vegetable] [agricultural] [etc.] varieties, in particular, it may be necessary to use additional characteristics or additional states of expression to those included in the Table of Characteristics in order to examine Distinctness, Uniformity and Stability.”

with an explanation in document TGP/7 that such wording should not lead to any particular conclusions as to whether other types of varieties should or should not be covered by the development of separate Test Guidelines, since that would need to be considered on a case-by-case basis.

Quantity of plant material required

49. The TC agreed that the guidance in document TGP/7, GN 7 “Quantity of plant material required” should be extended to encourage Leading Experts to consider the quantity of plant material required in relation to certain factors.

50. The TC agreed that Additional Standard Wording (ASW) should be developed in order to provide guidance in the Test Guidelines on whether the quantity of plant material required in Chapter 2 of the Test Guidelines relates to both growing cycles in the case of Test Guidelines indicating two growing cycles.

51. The TC agreed that the guidance in document TGP/7, GN 7 should be extended to encourage Leading Experts to consider the quantity of plant material required for similar crops in order to seek consistency as far as that was appropriate. In that regard, it agreed that a summary of relevant information should be prepared by the Office of the Union for all adopted Test Guidelines and made available to Leading Experts on the TG Drafters’ webpage in order that information on Test Guidelines for similar crops could be presented to the Subgroup of Interested Experts by the Leading Expert.

Number of plants to be examined (for distinctness)

52. The TC considered document TC/47/17.

53. The TC-EDC agreed that the standard wording of Chapter 4.1.4 of the Test Guidelines in document TGP/7/2, as adopted by the Council at its forty-fourth ordinary session, held in Geneva on October 21, 2010, should not be followed in the draft Test Guidelines to be put forward for adoption by the TC at its forty-seventh session.

54. The TC agreed that the wording in Chapter 4.1.4 of Test Guidelines in document TGP/7/2 should be amended according to the following models:

Alternative 1: “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on { x } plants or parts taken from each of { x } plants and any other observations made on all plants in the test, disregarding any off-type plants.”

Alternative 2: “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on { x } plants or parts taken from each of { x } plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be { y }.”

55. The TC agreed that Mrs. Beate Rucker (Germany), should be invited to draft suitable guidance on the number of plants to be examined for distinctness for inclusion in a future revision of document TGP/7 with regard to the following:

- (a) the selection of plants to be examined for distinctness from within the trial;
- (b) the minimum number of plants of candidate varieties required to be able complete the trial, i.e. the minimum number of plants required to examine distinctness, uniformity and stability; and
- (c) the number of plants required for varieties of common knowledge to be compared with candidate varieties for the purpose of distinctness.

Applications for varieties with low germination

56. The TC agreed that, for the time-being, no revisions should be considered for document TGP/7 in relation to applications for varieties with low germination.

Selection of asterisked characteristics

57. The TC agreed that the final sentence of document TGP/7/2, GN 13.1 “Asterisked characteristics”, Section 1.2, should be amended to read “The number of asterisked characteristics should, therefore, be determined by the characteristics which are required to achieve useful internationally harmonized variety descriptions.”. On the basis of that change, it agreed that the guidance provided in document TGP/7, GN 13, on the selection of asterisked characteristics was appropriate and sufficient, and that it would only be necessary to ensure that the guidance is followed in the development of Test Guidelines.

Indication of grouping characteristics

58. The TC agreed that it would not be appropriate to revise document TGP/7 in order to include an indication of grouping characteristics in the Table of Characteristics in the UPOV Test Guidelines.

Guidance for method of observation

59. The TC agreed that document TGP/7/2, GN 25 “Recommendations for conducting the examination” should be extended to provide guidance, by means of illustrative examples, on the appropriate type of observation for characteristics such as dates (e.g. time of flowering) and counts (e.g. number of leaf lobes), on the basis of the examples provided in Annex VI to document TC/47/16 and the comments made on those examples by the TWPs.

Example varieties

60. The TC consider the proposal, prepared by an expert from France, presented in Annex VII to document TC/47/16 and the comments of the TWPs in relation to that proposal and agreed that the subject of example varieties would be considered as a possible matter for discussion on the Monday session of the TC, in 2012.

Standard references in the Technical Questionnaire

61. The TC considered document TC/47/18.

62. The TC agreed to delay consideration of the approach for providing standard references for the UPOV Model Technical Questionnaire and for the characteristics in the Test Guidelines, as set out in Annexes I and II to document TC/47/18, with a view to a future revision of document TGP/7, pending the outcome of work on the Linear Blank Form for PBR Applications.

Providing photographs with the Technical Questionnaire

63. The TC considered document TC/47/19. The TC agreed that further consideration should be given to the nature of the guidance of the document in order to avoid setting requirements that were not realistic for breeders. It was also agreed that the relationship between the characteristics in the Technical Questionnaire and the photographs should be clarified.

64. The TC noted the report by the Delegation of Japan that guidance on the taking of photographs had been posted on the East Asia Plant Variety Protection (EAPVP) Forum website.

TGP/8 Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability

65. The TC considered document TC/47/20.

66. The TC noted the comments made by the TWPs at their sessions in 2010, with regard to document TGP/8, as set out in document TC/47/20, paragraphs 18 and 24. It agreed that certain text of TGP/8/1 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability”, Part II, should be amended in a future revision.

67. The TC agreed the workplan for the development of TGP/8/2, as presented in Annex XV to document TC/47/20.

TGP/12 Guidance on Certain Physiological Characteristics

68. The TC considered document TC/47/23.

69. The TC agreed that document TC/47/23, Annex I, should be developed further with regard to states of expression for quantitative disease resistance characteristics.

70. With regard to the proposed standard disease resistance protocols in Section 2.4 of Annex I to document TC/47/23, the TC agreed certain amendments.

71. The TC noted the proposals concerning the nomenclature of pathogens, as set out in Annex II to document TC/47/23.

TGP/14 Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents

(i) Revision of existing sections of document TGP/14

72. The TC considered document TC/47/21.

73. The TC agreed the following with regard to a future revision of TGP/14 “Glossary of Terms Used in UPOV Documents”, Section 2: Botanical Terms: Subsection 2: Shapes and Structures: I. Shape:

1. Components of Shape: states of expression for ratios: to invite the TWPs to review the approach for describing ratios.

2. Developing Shape-Related Characteristics: avoidance of duplication of characteristics: to be considered further by the TWPs.

3. Developing Shape-Related Characteristics: perspective from which to observe plant shapes: to recommend that, where appropriate, an explanation for shape characteristics should provide guidance on the perspective from which to observe the shape.

74. With regard to a future revision of TGP/14 “Glossary of Terms Used in UPOV Documents”, Section 2: Botanical Terms: Subsection 2: Shapes and Structures: I. Shape: II. Structure: Section 2.4, the TC agreed that additional definitions for botanical terms, such as for peduncle and petiole, should be added to document TGP/14 where the provision of such definitions would help to avoid confusion. However, it confirmed that this should not result in a change to the explanation in document TGP/14/1 that “In general, the meaning of botanical terms which are used in the Test Guidelines to indicate the relevant part of the plant to be examined, but which are not themselves used as states of expression (e.g. bract, petal, berry, etc.), do not require a UPOV specific definition and are not included in this document.”

75. The TC agreed the following definition of “spike” for inclusion in a future revision of document TGP/14/1: Section 2: Botanical Terms: Subsection 2: Shapes and Structures: III. Definitions for Shape and Structure Terms:

Spike	an indeterminate inflorescence with sessile flowers on an unbranched axis.
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(ii) *New Section for Color Characteristics*

76. The TC considered document TC/47/22.

77. The TC noted that the draft Subsection on color, prepared by experts from the European Union and the Netherlands, as presented in the Annex to document TC/47/22. The TC noted that a new draft would be considered further by the TWPs at their sessions in 2011, with a view to inclusion in a future revision of document TGP/14.

(c) *Program for the development of TGP documents*

78. The TC agreed the program for the development of TGP documents, as set out in the Annex to document TC/47/5, subject to the revision of document TGP/7 as set out in paragraph 90 of this document.

Method of Calculation of COYU

79. The TC noted the developments concerning the method of calculation of COYU as set out in document TC/47/11, paragraphs 10 and 11, and requested the TWC to continue its work with the aim of developing recommendations to the TC.

Assessing uniformity by off-types on the basis of more than one sample or sub-samples

80. The TC considered document TC/47/14.

81. The TC considered the information provided in document TC/47/14, Annexes I to VI, in relation to matters that might be considered in a future version of document TGP/8.

DUS examination of seed-propagated varieties of Papaya

82. The TC considered document TC/47/15 and agreed that a proposed revision of the Test Guidelines should be considered by the TWF at its session in 2011.

Preparatory workshops

83. The TC considered document TC/47/10.

84. The TC noted the report of the preparatory workshops held in 2010 and agreed the proposed program for 2011. It agreed that consideration should be given to the inclusion of items for molecular techniques, essentially derived varieties, variety identification and the relationship between the UPOV Convention and other international treaties.

List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability

85. The TC noted the information provided in document TC/47/4 and heard that the number of genera and species for which members of the Union had practical experience had increased from 2,254 in 2010 to 2,679 in 2011.

86. The TC agreed that document TC/47/4 should be updated for the forty-eighth session of the TC.

Test Guidelines

87. The TC considered documents TC/47/2 and TC/47/24.

88. The TC noted that the Council, at its forty-third ordinary session, held in Geneva on October 22, 2009, had endorsed the practice whereby Test Guidelines are adopted by the TC on behalf of the Council on the basis of the program of work approved by the Council, without the individual Test Guidelines being submitted to the Council for review (see document C/43/17 “Report”, paragraph 38). The TC noted that, at its forty-fourth ordinary session, held in Geneva on October 21, 2010, the Council had noted the work of the TC, the TWPs and the BMT, as provided in document C/44/10, and had approved the programs of work set out in document C/44/10 (see document C/44/16 “Report on the decisions”, paragraph 41).

89. The TC agreed that the wording of document TGP/7/2, as adopted by the Council at its forty-fourth ordinary session, held in Geneva on October 21, 2010, with regard to Chapter 4.1.4 should not be followed in the Test Guidelines to be adopted at its forty-seventh session. It agreed that the Test Guidelines to be adopted by the TC should incorporate the amended wording for Chapter 4.1.4, as follows:

Alternative 1: “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on { x } plants or parts taken from each of { x } plants and any other observations made on all plants in the test, disregarding any off-type plants.”

Alternative 2: “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on { x } plants or parts taken from each of { x } plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be { y }.

90. The TC noted that the Council, at its forty-fifth ordinary session to be held on October 20, 2011, would need to adopt the revised text for document TGP/7 before the Test Guidelines could be adopted. Therefore, it agreed to adopt the Test Guidelines subject to the Council adopting the necessary revision to document TGP/7.

91. 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/47/26, which was circulated in advance, and the linguistic changes recommended by the TC-EDC, subject to the Council adopting the necessary revision to document TGP/7 as set out in paragraph 89 of this document:

Document No. N° du document Dokument-Nr. No del documento	English	Français	Deutsch	Español	Botanical name Nom botanique Botanischer Name Nombre botánico
NEW TEST GUIDELINES					
TG/ACERO(proj.4)	Acerola, Barbados-cherry, West Indian-cherry	cerise de Cayenne, cerisier de Barbade, cerisier des Antilles	Barbadoskirsche, Westindische Kirsche	Acerola, Someruco	Malpighia emarginata DC
TG/AGAPA(proj.4)	African Lily, Agapanthus, Blue Lily, Lily of the Nile	Agapanthe, Fleur d'amour	Agapanthus, Schmucklilie	Agapanto, Estrella de mar	Agapanthus L'Hér.
TG/BOUGA(proj.5)	Bougainvillea	Bougainvillée, Bougainvillier	Bougainvillee	Bugambilia, Buganvilla	Bougainvillea Comm. ex Juss.
TG/CACAO(proj.4)	Cacao	Cacaoyer	Kakao	Cacao	Theobroma cacao L.
TG/CAMEL(proj.4)	Camellia	Camélia	Kamelie	Camelia	Camellia L. (excluding Camellia sinensis L. O.Kuntze)
TG/DRAGON(proj.5)	Dragon Fruit, Strawberry pear	Pitahaya, Fruit du dragon, Œil de dragon	Pitahaya, Drachen-Frucht	Pitahaya	Hylocereus undatus (Haw.) Britton et Rose
TG/HIBIS(proj.7)	Rose-of-Sharon, shrub-althaea	Hibiscus de Syrie	Hibiskus, Echter Roseneibisch	Alteia-Arbustiva, Hibisco Colunar, Hibisco da Siria, Rosa de Sharao	Hibiscus syriacus L.
TG/RUMEX(proj.7)	Dock, Garden sorrel, sorrel, sorrel dock, sour dock	Grande oseille, Oseille commune	Wiesensauerampfer, Großer Sauerampfer	Acedera común	Rumex acetosa L.
TG/SETARIA(proj.5)*	Foxtail Millet, Italian Millet, Hungary Millet	Millet d'Italie, Millet des oiseaux, Setaire d'Italie	Italienhirse, Kolbenhirse	Dana, Mijo de cola de zorro, Mijo de Hungria	Setaria italica L., Setaria italica (L.) P.Beauv.
TG/TOREN(proj.4)	Bluewings, Torenia, Wishbone-flower	Torenia	Torenie	Legazpia blanco, Torenia	Torenia L.
TG/VRIES(proj.6)	Vriesea	Vriesea	Vriesea	Vriesea	Vriesea Lindl.
REVISIONS OF TEST GUIDELINES					
TG/44/11(proj.5)	Tomato	Tomate	Tomate	Tomate	Lycopersicon lycopersicum (L.) Karst. ex. Farw.
TG/51/7(proj.4)	Gooseberry	Groseillier à maquereau	Stachelbeere	Agrazón, Grosellero Silvestre, Uve crespá	Ribes uva-crispa L.
TG/52/6(proj.4)	Red and White Currant	groseillier commun, groseillier rouge	Rote Johannisbeere, Weiße Johannisbeere	grosellero común, grosellero rojo	Ribes rubrum L., Ribes sylvestre (Lam.) Mert. et W.Koch, Ribes vulgare Lam., Ribes sativum (Rchb.) Syme
TG/56/4(proj.4)	Almond	Amandier	Mandel	Almendro	Prunus dulcis (Mill.) D.A.Webb, Prunus amygdalus (L.)
TG/57/7(proj.6)	Flax, Linseed	Lin	Lein, Flachs	Lino	Linum usitatissimum L.
TG/84/4(proj.4)	Japanese Plum	Prunier japonais	Ostasiatische Pflaume	Círuelo japonés	Prunus salicina Lindl.
TG/99/4(proj.4)	Olive	Olivier	Ölbaum, Olive	Olivo	Olea europaea L.
TG/184/4(proj.3)	Cardoon, Globe Artichoke, Cardoon	Artichaut, Cardon	Artischocke; Artischoke; Cardy; Gemüseartischoke-Cardy; Kardonenartischocke	Alcachofa; Cardo	Cynara cardunculus L., Cynara scolymus L.

PARTIAL REVISIONS OF TEST GUIDELINES

TG/13/10 Rev. (TC/47/2, TC/47/24)	Lettuce	Laitue	Salat	Lechuga	Lactuca sativa L.
TG/55/7 Rev. (TC/47/2, TC/47/24)	Spinach	Épinard	Spinat	Espinaca	Spinacia oleracea L.

* TG/SETARIA(proj.5) amendments to be rediscussed by the TWA at its forty-first session in 2012.

92. The TC noted that the wording of Chapter 4.1.4 of the draft Test Guidelines agreed for adoption should be reviewed and, if necessary, amended by the Office of the Union in order to follow the wording set out in paragraph 89 of this document.

93. The TC agreed that, as explained in document TC/47/24, there were technical issues to be resolved concerning the proposed revision of the Test Guidelines for Mandarins (Citrus; Group 1) (document TG/201/1) and recommended that those issues be referred back to the TWF for further consideration. The TC agreed that the proposed draft Test Guidelines for Canna (document TG/CANNA(proj.7)) and Eucalyptus (document TG/EUCAL(proj.6)) be referred back to the TWO for further consideration.

94. The TC noted the list of Test Guidelines discussed by the Technical Working Parties in 2010, as presented in document TC/47/2, Annex II.

95. The TC noted from document TC/47/3, paragraph 17, that the TWO, at its forty-third session, held in Cuernavaca, Morelos State, Mexico, from September 20 to 24, 2010, had considered document TWO/43/28 and agreed that the UPOV codes should be amended to follow the GRIN classification of Oenothera, i.e. including Gaura, and noted the consequence that Gaura would then be included in the denomination class for Oenothera. The TC noted that the TWO had agreed that there should continue to be separate Test Guidelines for “Oenothera” and “Gaura”. The TC agreed that the TWV should consider whether the Test Guidelines for Oenothera (document TG/144/3) should be revised and should clarify the species of Oenothera that would be covered by the Test Guidelines (see document TWO/43/29 “Revised Report”, paragraphs 54 and 55).

96. The TC agreed the program for the development of new Test Guidelines and for the revision of Test Guidelines, as shown in document TC/47/2, Annex III.

97. The TC noted the status of the Test Guidelines, as listed in document TC/47/2, Annex IV.

98. The TC agreed that, in conjunction with the restructuring of the UPOV website to coincide with the celebration of the Fiftieth Anniversary, adopted Test Guidelines should also be made available in Word format on the freely accessible area of the UPOV website.

99. The TC noted the plans of the Office of the Union to make copies of all previous adopted versions of Test Guidelines available on the first restricted area of the UPOV website in conjunction with the restructuring of the website and noted the list of adopted Test Guidelines that had since been replaced, as presented in document TC/47/2, Annex V.

Chairpersons of the Technical Working Parties

100. The TC noted that the terms of office for the Chairpersons of the TWPs and the BMT would expire with the ordinary session of the Council in 2011. As suggested by the respective TWP, the TC proposed to the Council that it elect, at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011, the following persons as Chairpersons for the period 2012-2014:

TWA: Mrs. Robyn Hierse (South Africa)
TWC: Mr. Sami Markkanen (Finland)
TWF: Mrs. Carensa Petzer (South Africa)
TWO: Mr. Nik Hulse (Australia)
TWV: Mr. François Boulineau (France)
BMT: Mr. Alejandro Barrientos Priego (Mexico)

Program for the forty-eighth session

101. The following draft agenda was agreed for the forty-eighth session of the TC, to be held in Geneva in 2012:

1. Opening of the session
2. Adoption of the agenda
3. 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 (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 the Ad Hoc Crop Subgroups on Molecular Techniques
5. Matters arising from the Technical Working Parties
6. TGP documents
7. Molecular techniques
8. Variety denominations
9. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
10. Method of calculation of COYU
11. Assessing uniformity by off-types on the basis of more than one sample or sub samples
12. DUS examination of seed-propagated varieties of Papaya
13. Preparatory workshops
14. Test Guidelines
15. List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability
16. Program for the forty-ninth session
17. Adoption of the report on the conclusions (if time permits)
18. Closing of the session

102. The TC agreed that the forty-eighth session should be held over three days: Monday morning to Wednesday afternoon. It agreed that the TWP chairpersons should be invited to

make a visual presentation under agenda item 4 in the same way as for the forty-seventh session.

103. The TC agreed that the Monday should be dedicated to a discussion on experiences of members of the Union in measures to improve the efficiency and effectiveness of DUS testing.

104. In considering how to improve the effectiveness of the TC work, the following measures were agreed:

(a) to display documents under consideration at the session on the screen in the language of the original document.

(b) to add an indication in the document reference of the language.

(c) to consider ways of improving the quality of draft Test Guidelines submitted by the TWPs for adoption to the TC. In that regard, the TC noted the importance of all necessary information being provided by the Leading Expert by the specified date, the importance of the role of the TWP chairpersons and the importance of posting the draft Test Guidelines on the UPOV website sufficiently in advance of the TC-EDC meeting in order that comments could be made before the TC-EDC meeting.

(d) The TC-EDC to hold a two-day meeting in January.

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 IN 2011

105. The following reports were made by the Chairpersons on the work of the TWA, TWC, TWF, TWO, TWV, and BMT at the forty-seventh session of the TC.

Technical Working Party for Agricultural Crops (TWA)

106. The TWA held its thirty-ninth session in Osijek, Croatia, from May 24 to May 28, 2010, under the chairmanship of Mr. Dirk Theobald (European Union), Chairman of the TWA. The report of the meeting is contained in document TWA/39/27 Rev..

107. The session was attended by 55 participants from 25 members of the Union, and two observer organizations. The preparatory workshop, held during the afternoon of Sunday, 23 May, was attended by 15 participants.

108. The TWA was welcomed by Mr. Ivan Durkić, Director of the Institute for Seeds and Seedlings.

109. The TWA received short reports on developments in plant variety protection by the participants and by the Office of the Union.

110. The TWA noted the report on developments in UPOV on molecular techniques and an oral report from the twelfth session of the BMT which was held just two weeks prior to the TWA session in Ottawa, Canada. With regard to document BMT/DUS Draft 3 "Possible Use

of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”, the TWA agreed with the proposal of the BMT to delete all references to the terms “Option” and “Proposal” and to replace those with the terms “Model” and “Example”. The TWA further agreed in accordance with the proposal of the BMT, to replace all references to “molecular characteristics” with an appropriate term. The TWA agreed that document TGP/15 should be developed separately, but in parallel to document BMT/DUS Draft 3, “Possible Use of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”, on the basis that document BMT/DUS would provide a report on the development and consideration of all models within UPOV and that document TGP/15 would provide guidance for the use of those models that had received a positive assessment and for which accepted examples could be provided.

111. The TWA considered a number of draft TGP documents according to the program agreed by the TC and commented in particular in relation to TGP/11/1 Draft 8 “Examining Stability”. The TWA proposed to significantly restructure the document in order to provide guidance in particular in the form of illustrative examples on the examination of stability.

112. In the framework of the revision of TGP/5 “Experience and Cooperation in DUS Testing”, the TWA agreed that proposals for additional characteristics and states of expression, notified to the Office of the Union by means of document TGP/5 Section 10: “Notification of Additional Characteristics” should be presented to the relevant Technical Working Party before being posted on the password restricted area of the UPOV website.

113. In the framework of the revision of TGP/7 “Development of Test Guidelines,” the TWA considered a number of different aspects on the basis of different working documents. Those aspects related to: the coverage of ornamental varieties in Test Guidelines; the quantity of plant material required; applications for varieties with low germination; number of plants to be considered for distinctness; the selection of asterisked characteristics; the indication of grouping characteristics; guidance for type of observation; example varieties; providing photographs with the Technical Questionnaire (TQ); and standard references in the TQ.

114. The TWA considered aspects in respect of the revision of TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability” and TGP/12/1 “Guidance on Certain Physiological Characteristics

115. With regard to the revision of existing sections of document TGP/14/1” Glossary of Terms Used in the UPOV Documents” , the TWA agreed to consider, at its fortieth session, data to be provided by number of experts on characteristics for length, width and length/width ratio, with a view to forming conclusions on any benefits in using all three characteristics in Test Guidelines.

116. With regard to variety denominations, the TWA noted the developments reported in document TWA/39/4 ”Variety Denominations”. Furthermore the TWA noted information provided in documents on UPOV information databases, variety description databases, exchangeable software and electronic application systems.

117. The TWA commented on the draft questionnaire concerning the assessment of uniformity by off-types on the basis of more than one sample or sub-samples.

118. With regard to the DUS examination of seed propagated varieties of Papaya the TWA agreed with the approach proposed by the Leading Expert for the Test Guidelines as set out in document TWA/39/25 “DUS Examination of Seed Propagated Varieties of Papaya”. It also

agreed that it might be appropriate to consider the addition of a characteristic for the proportion of male plants, female plants and hermaphrodite plants in the variety, if that characteristic would fulfill the requirements for a characteristic set out in the General Introduction.

119. The TWA discussed seven draft Test Guidelines. It agreed to submit to the TC the draft Test Guidelines for Foxtail Millet and for Flax/Linseed.

120. The TWA planned to continue discussions on 12 Test Guidelines in 2011, three of which were revisions and nine of which were new.

121. At the invitation of Brazil, the TWA agreed to hold its fortieth session in Brasilia, from May 16 to 20, 2011. The TWA proposed to consider the following items at its next session:

1. Short reports on developments in plant variety protection from members and observers
2. Reports on developments within UPOV
3. Developments on molecular techniques
4. TGP documents
5. Variety denominations
6. Information databases
7. Uniformity assessment
8. Example varieties
9. Development of regional sets of example varieties for the Test Guidelines for Rice
10. Proposals for partial revisions/corrections of Test guidelines (if appropriate)
11. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee
12. Discussion on draft Test Guidelines
13. Recommendations on draft Test Guidelines
14. Date and place of the next session
15. Future program.

122. The TWA agreed to propose to the TC that it recommend to the Council to elect Mrs. Robyn Hierse (South Africa) as the next chairperson of the TWA.

123. On the afternoon of May 26, 2010, the TWA visited the Institute for Seeds and Seedlings. The TWA was received by Mr. Petar Čobanković, Minister of Agriculture Fisheries and Rural Development. Mr. Ivan Durkić, Director, Institute for Seeds and Seedlings, made an introduction to the institute and Mrs. Ružica Jurić, Head of Plant Variety Protection and Registration, made a presentation on plant variety testing and registration in Croatia. The TWA visited field trials of barley, oat, triticale, and soft and durum wheat.

Technical Working Party on Automation and Computer Programs (TWC)

124. The Technical Working Party on Automation and Computer Programs (TWC) held its twenty-eight session in Angers, France, from June 29 to July 2, 2010, under the chairmanship of Mr. Gerie van der Heijden (Netherlands), Chairman of the TWC.

125. The TWC session was attended by 31 participants from 16 members of the Union. The preparatory workshop was held during the afternoon of Monday, June 28 and was attended by 14 participants.

126. The TWC was welcomed by Mr. Bart Kiewiet, President, Community Plant Variety Office of the European Union (CPVO), who gave a presentation of the Community Plant Variety Protection System.

127. Much attention was devoted to TWC/28/20 “Revision of Document TGP/8: Sections for Further Development”, which contained the sections of TGP/8 that required further development. The TWC considered many different topics and tasks to be undertaken to develop text that could be incorporated in a revised TGP/8 document:

Part I “DUS trial design and analysis”:

(i) A DUS crop expert should be identified to assist in redrafting Section 2 “Data to be recorded”;

(ii) Section 3 “Control of variation due to different observers” should be developed further;

(iii) For Section 6 “Data processing for the assessment of distinctness and for producing variety descriptions” a draft was provided, which should be further developed by the Office of the Union.

Part II “Techniques used in DUS examination”:

(i) A new section on statistical methods for very small sample sizes should be developed further in contact with Mr. Chris Barnaby (New Zealand);

(ii) For Section 4 “2x1% method” and Section 9 “The Combined - Over-Years Uniformity Criterion (COYU)” a general explanation on the rationale for 10 degrees of freedom should be provided;

(iii) For Section 10 “Minimum number of comparable varieties for the Relative Variance Method” a proposal would be written to be discussed by the TWPs in 2011;

(iv) For Section 11 “Examining DUS in bulk samples” an introduction will be provided;

(v) For Section 12 “Examining characteristics with image analysis”, it was decided that information on the use of image analysis by UPOV members should first be reviewed. To that end, several experts would make a 15 minute presentation on their use of image analysis at the twenty-ninth session;

(vi) A new section 13 “Methods for data processing for the assessment of distinctness and for producing variety descriptions” would be prepared. The TWC agreed to invite a 10 minute overview of each of the methods presented in document TWC/28/20 “Document TGP/8 Sections for Further Development” and also the presentations to be made at its twenty ninth session to be held in Geneva, Switzerland, 2011. The TWC would then analyze similarities and differences in these proposals and

seek to identify methods that could serve as generic models for producing variety descriptions.

128. A section of statistical methods for visually observed characteristics would also be included in a future version of TGP/ 8 "Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability".

129. For the twenty-ninth session of the TWC, separate chapters on nominal and ordinal data would be prepared.

130. It would also be investigated if analysis tools could become available not only in the statistical package "SAS", but also in other statistical software, such as "R" and "Genstat".

131. The TWC noted that some changes had been made to certain sections in the version of TGP/8 "Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability" that was put forward for adoption by the Council. The TWC agreed review those sections at its twenty-ninth session.

132. The TWC considered document TWC/28/23 "New Section for Color Characteristics (Revision of Document TGP/14)" and indicated the difficulties in obtaining an objective and consistent assessment of the number of colors.

133. With regard to the development of the COYU method, to adjust for potential bias, data from Germany, the Netherlands, Poland and the United Kingdom would be sent to Denmark to study the relationship between the standard deviation and the expression of the characteristic. That would indicate the type of adjustment needed in COYU.

134. Bennet's test was studied as an alternative for COYU. That method might be appropriate for ratio scale data but less for other types of data. A further development of the test would be studied at the twenty-ninth session of the TWC.

135. In TWC/28/30 "A Rationale for Excluding Varieties of Common Knowledge of the Second Growing Cycle when COYD is Used," a study was described to exclude varieties of common knowledge from the second growing cycle. It would be investigated if it would be necessary to take variance heterogeneity into account, when one wants to apply this reduction.

136. In TWC/28/28 "Combination of Morphological Distance (GAIA) with Genotypic Distance in the Framework of 'Management of the Reference Collection'" an experiment with GAIA was presented. The TWC noted that the scores for expert notes were based on a global assessment and, therefore, would not necessarily correspond to a particular GAIA value, which was calculated on the basis of a sum of weighted values for differences for individual characteristics. The TWC considered that it might be interesting to provide a graph to show the relationship between the expert notes and GAIA. It also agreed that it would be interesting to analyze more pairs of similar varieties, i.e. pairs that had expert notes of 1 and 3.

137. In document TWC/28/31 "A Study on Grass Reference Collections in Different Locations," an experiment was conducted to reduce the size of the field test for grasses by combining information from other locations or countries. There were no plans to study that approach further.

138. A presentation was given on the variety denomination checking system of CPVO, based on document TWC/28/35 "CPVO Centralised database of variety denominations, system of

variety denomination checking, Electronic office management systems deployed by CPVO and CPVO Online Application System”.

139. The system used several approaches to calculate word similarity of variety denominations. The CPVO had not received any negative feedback on their system in the last six years and welcomed suggestions for improvement. The TWC noted that phonetics were not used by the system.

140. With regard to the list of exchangeable software (document UPOV/INF/Software draft 3) it was noted that

(a) For the Sirius data logger software, a translation of the user guide to English was being prepared by the Office.

(b) The CPVO invited the TWC to consider the CPVO Centralized Database of Variety Denominations for inclusion in the list of exchangeable software. The TWC noted the benefits of harmonization and agreed that the CPVO database and algorithm for denomination checking should be proposed for inclusion in document UPOV/INF/Software.

(c) The CPVO presented its electronic office management system and offered assistance of CPVO to any member of the Union in developing this system.

141. The TWC noted TWC/28/34 “Survey on Hand-Held Data Capture Devices” and agreed that a circular should be sent by the Office of the Union inviting further information on data loggers for the next session of the TWC. The TWC noted the report on developments concerning the questionnaire on off-types, as set out in TWC/28/9 “Assessing Uniformity by Off-Types on the Basis of More Than One Sample or Sub-Samples”.

142. The expert from Germany provided the participants with a CD containing the latest database of TWC working documents.

143. The TWC noted that it could be useful to provide the UPOV documents not only in PDF, but also in Word-format.

144. The twenty-ninth session of the TWC was agreed to be held in Geneva from June 7 to 10, 2011 with a preparatory meeting on June 6. It was the intention that parts of the sessions would be webcasted, so that other participants could follow the session via the Internet. The TWC planned to discuss the following items:

1. Opening of the session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection:
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV
4. Molecular techniques
5. TGP documents
6. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases

- (c) Exchangeable software
 - (d) Electronic application systems
7. Variety denominations
 8. Image analysis
 9. Data loggers
 10. Assessing uniformity by off-types on the basis of more than one sample or sub-samples

Technical Working Party for Fruit Crops (TWF)

145. The TWF held its forty-first session in Cuernavaca, Morelos State, Mexico from September 27 to October 1, 2010, with a preparatory workshop on the afternoon of September 26. The session was opened by Mrs. Bronislava Bátorová (Slovakia), Chairperson of the TWF, and was welcomed by Ms. Enriqueta Molina Macias, Director General of the National Service of Seed Inspection and Certification (SNICS), Mr. José Arnulfo del Toro Morales, Representative of the Ministry of Agriculture (SAGARPA) and Mr. Bernardo Pastrana Gómez, Secretary of Agricultural Development Department of the Government of the State of Morelos. The full report of the TWF is available in document TWF/41/30 Rev.

146. The session was attended by 51 participants, from 15 members of the Union and two observer organizations.

147. The TWF received a presentation on the plant variety protection system in Mexico, made by Ms. Enriqueta Molina Macias, 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.

148. The TWF considered documents TWF/41/2 “Developments in UPOV Concerning the Use of Molecular Techniques” and BMT/DUS Draft 3 “Possible Use of Molecular Markers in the Examination of Distinctness, Stability and Uniformity (DUS)” concerning molecular techniques.

149. The TWF discussed a number of draft TGP documents.

150. The TWF noted the developments concerning document TGP/11 Draft 8 “Examining Stability”, in conjunction with document TWF/41/3 “TGP Documents” and an oral report on the conclusions of the TWF.

151. The TWF considered document TWF/41/10 “Revision of Document TGP/5: “Experience and Cooperation in DUS Testing”: Section 10 “Notification of Additional Characteristics” and agreed that proposals for additional characteristics and states of expression notified to the Office of the Union by means of document TGP/5 Section 10, should be presented to the relevant Technical Working Party(ies) (TWP(s)) at the earliest opportunity. The characteristics would then, as appropriate, be posted on the password-restricted area of the UPOV website on the basis of comments made by the relevant TWP(s).

152. The TWF considered a number of documents in conjunction with the revision of document TGP/7 “Development of Test Guidelines”, including: the coverage of ornamental varieties in Test Guidelines; quantity of plant material required; applications for varieties

with low germination; number of plants to be considered for the assessment of distinctness; selection of asterisked characteristics; indication of grouping characteristics; guidance for method of observation; example varieties; providing photographs with the Technical Questionnaire; and standard references in the Technical Questionnaire.

153. Concerning document TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability,” the TWF made comments on documents TWF/41/20 “Revision of Document TGP/8: Sections for Further Development”, Annexes I to XIV, and documents TWF/41/24 “Revision of Document TGP/8: Principles Lying Behind the Methods Described in TGP/8 Part II for Producing Variety Descriptions,” TWF/41/25 “Revision of Document TGP/8: Handling Measured Quantitative Characteristics for Vegetable and Herbage Crops Tested in United Kingdom” and TWF/41/26 “Revision of Document TGP/8: Use of Linear Regression for the Description of Herbage Crops Tested in France.”

154. The TWF considered document TWF/41/21 “Revision of Document TGP/12: Disease Nomenclature and Disease Resistance Characteristics,” in conjunction with document TGP/12 draft 1 “Guidance on Certain Physiological Characteristics.”

155. Concerning the document TGP/14: “Glossary of [Technical, Botanical and Statistical] Terms Used in UPOV” the TWF considered documents TWF/41/22 “Revision of Document TGP/14: Revision of Existing Sections of Document TGP/14” and TWF/41/23 “Revision of Document TGP/14: New Section for Color Characteristics.”

156. The TWF noted the report of developments concerning variety denominations in document TWF/41/4 “Variety Denominations”.

157. The TWF considered document TWF/41/27 “DUS Examination of Seed-Propagated Varieties of Papaya,” dealing with the DUS examination of seed-propagated varieties of Papaya.

158. The TWF discussed the draft Test Guidelines for Acerola, Actinidia (revision), Almond (revision), Cacao (*Theobroma cacao* L.), Dragon-fruit (*Hylocereus undatus* (Haw.) Britton et Rose), Gooseberry (revision), Japanese Plum (revision), Blue Honeyberry (*Lonicera caerulea* L. var. *kamtschatica* Sevest), Olive (revision), Papaya, Pecan nut, Pineapple (*Ananas comosus* (L.) Merr.), Pomegranate (*Punica granatum* L.), and Red and White Currant (revision).

159. The TWF considered a proposal for a partial revision of the Test Guidelines for Mandarin (Citrus Group 1), document TWF/41/28 “Mandarins (Citrus Group 1) (Partial Revision)”. The TWF agreed to propose to the TC to adopt the partial revision of the Test Guidelines for Mandarin on the basis of document TWF/41/28 with the reservation of experts from Morocco with regard to the proposed new characteristic (after characteristic 98) “Fruit: number of seeds (controlled manual cross-pollination)”, for which the experts from Morocco explained that more time was needed for study of the new characteristic. The TWF agreed that the TC should be invited to consider the “Comments of Morocco concerning the new characteristics proposed ‘Fruit: number of seeds (controlled manual cross-pollination) and pollen viability in the UPOV Test Guidelines for Mandarin’.”

160. The TWF noted the information provided in document TWF/41/5 “UPOV Information Databases”, TWF/41/6 “Variety description databases”, TWF/41/7 “Exchangeable software” and TWF/41/8 “Electronic application systems”.

161. The TWF noted the developments in assessing uniformity by off-types on the basis of more than one sample or sub-samples as reported in document TWF/41/9 “Assessing Uniformity by Off-types on the Basis of more than one Sample or Sub-samples”.

162. Concerning experiences with new types and species, the TWF received oral reports from the European Union, Israel and New Zealand.

163. The TWF considered the proposal to replace Chapter 8.1 (d) in the Test Guidelines for Strawberry TG/22/10 as set out in document TWF/41/29 “Proposal for a Partial Revision of the Test Guidelines for Strawberry(document TG/22/10)” and agreed that a partial revision should be considered at its forty-second session.

164. The TWF noted that the TC, at its forty-sixth session, held in Geneva from March 22 to 24, 2010, had agreed that the Test Guidelines for Banana and the Test Guidelines for Fig be adopted subject to the amendments to the example varieties, proposed by the Leading Expert, being approved by the TWF by correspondence and noted that those approvals had been received.

165. The TWF agreed to submit to the TC for adoption the draft Test Guidelines for Acerola, Almond, Cacao, Dragon-fruit, Gooseberry, Japanese plum, Olive, and Red and White Currant.

166. The TWF planned to continue discussions on Test Guidelines for a total of 12 species; five of which were at “possible final” draft stage.

167. The TWF received a presentation on the assistance provided on the UPOV TG webpage for drafters of Test Guidelines.

168. At the invitation of the expert from Japan, the TWF agreed to hold its forty-second session in Hiroshima City, Hiroshima Prefecture, Japan, from November 14 to 18, 2011, with a preparatory workshop on November 13. The TWF planned to discuss or re-discuss the following items

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV
4. Molecular techniques:
5. TGP documents
6. Variety denominations
7. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
8. Assessing uniformity by off-types on the basis of more than one sample or sub-samples

9. DUS examination of seed-propagated varieties of Papaya
10. Experiences with new types and species
11. Proposals for Partial Revision/Corrections of Test Guidelines (if appropriate)
12. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee
13. Discussion on draft Test Guidelines (Subgroups)
14. Recommendations on draft Test Guidelines
15. Guidance for drafters of Test Guidelines
16. Date and place of next session
17. Future program
18. Adoption of the Report of the session (if time permits)
19. Closing of the session

169. The TWF agreed to propose to the TC that it recommend to the Council to elect Mrs. Carensa Petzer (South Africa) as the next chairperson of the TWF.

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

170. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) held its forty-third session in Cuernavaca, Morelos State, Mexico, from September 20 to 24, 2010. The session was chaired by Ms. Andrea Menne (Germany), Chairperson of the TWO. The detailed report appears in document TWO/43/29.

171. The meeting was attended by 63 participants, from 16 members of the Union and one observer organization. The preparatory workshop was held during the afternoon of September 19 and was attended by 22 participants.

172. The TWO was welcomed by Ms. Enriqueta Molina Macias, Director General of National Service of Seed Inspection and Certification (SNICS), Mr. Mariano Ruitz-Funes Macedo, Vice-Secretary of Agriculture (SAGARPA) and Mr. Bernado Pastrana Gómez, Secretary of the Agricultural Department of the Government of the State Morelos. Ms. Enriqueta Molina Macias made a presentation on the plant variety protection system in Mexico.

173. The TWO received short oral reports on developments in variety protection from participants and from the Office of the Union on the latest developments within UPOV.

174. The TWO made recommendations on TGP/11/1 Draft 8 TGP/11 “Examining Stability”, on TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability” and on TGP/14 “Glossary of Terms Used in UPOV Documents”.

175. Document TWO/43/12 “Quantity of plant material required” was discussed and the TWO agreed that the guidance in document TGP/7, GN 7, should be extended to encourage Leading Experts to consider the quantity of plant material required for similar crops in order to seek consistency as far as that was appropriate.

176. The TWO considered document TWO/43/14 “Number of plants to be considered for the assessment of distinctness”. It agreed that the number of plants to be considered for distinctness should allow for off-type plants to be disregarded. It further agreed that Chapter 4.1.4 of the Test Guidelines related to the number of plants of the candidate varieties and did not refer to the number of plants of reference varieties.

177. The TWO discussed document TWO/43/18 “Example varieties”. It agreed that alternatives to example varieties, such as photographs and illustrations, should be used as far as possible.

178. With regard to document TWO/43/19 “Providing photographs with the Technical Questionnaire” the TWO agreed, among other things, that more emphasis should be placed on the importance of providing information on shapes and color patterns and less emphasis on color.

179. The TWO discussed document TWO/42/23 Rev. “New section for color characteristics” and agreed to combine certain sections and to restructure the section on color distribution/color pattern.

180. The TWO noted the information provided in document TWO/43/5 “UPOV information databases.” It considered document TWO/43/6 “Variety description databases” and noted the interest in developing a UPOV database for variety descriptions, but recalled the concerns that had been raised with regard to descriptions obtained from different locations and sources, as set out in TC/45/9 “Publication of Variety Description.”

181. The TWO considered document TWO/43/28 “Matters to be resolved concerning Test Guidelines adopted by the Technical Committee”. It agreed that the UPOV codes for *Oenothera* and *Gaura* should follow the GRIN classification of *Oenothera*. However, it agreed that there should continue to be separate Test Guidelines for “*Oenothera*” and “*Gaura*”. The TWO proposed that the TWV should consider whether the Test Guidelines for *Oenothera* should be revised, in which case it would be appropriate to clarify the species of *Oenothera* that would be covered by the Test Guidelines.

182. No reports were received on experiences with new types and species.

183. The TWO agreed to submit eight Test Guidelines to the TC. All were new Test Guidelines, being for: *Agapanthus*, *Bougainvillea*, *Canna*, *Camellia* L. (ornamental), *Eucalyptus* (part of genus only), *Hibiscus syriacus* L., *Torenia* and *Vriesea*. At its forty-fourth session in 2011, the TWO planned to discuss 20 Test Guidelines, consisting of three revisions and 17 new Test Guidelines.

184. At the invitation of the expert from Japan, the TWO agreed to hold its forty-fourth session in Fukuyama City, Hiroshima Prefecture, from November 7 to 11, 2011 with the preparatory workshop to be held on November 6, 2011. The TWO planned to discuss or re-discuss the following items:

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV

4. Molecular techniques:
5. TGP documents
6. Variety denominations
7. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
8. Assessing uniformity by off-types on the basis of more than one sample or sub-samples
9. DUS examination of seed-propagated varieties of Papaya
10. Experiences with new types and species
11. Proposals for Partial Revision/Corrections of Test Guidelines (if appropriate)
12. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee
13. Discussion on draft Test Guidelines (Subgroups)
14. Recommendations on draft Test Guidelines
15. Guidance for drafters of Test Guidelines
16. Date and place of next session
17. Future program
18. Adoption of the Report of the session (if time permits)
19. Closing of the session

185. The TWO noted that Australia (TWO) and New Zealand (TWF) had expressed an interest to jointly host the TWO and TWF sessions in April/May 2013 and expressed its support for that offer.

186. The TWO agreed to propose to the TC that it recommend to the Council to elect Mr. Nik Hulse (Australia) as the next chairperson of the TWO.

Technical Working Party for Vegetables (TWV)

187. The Technical Working Party for Vegetables (TWV) held its forty-fourth session in Veliko Tarnovo, Bulgaria from July 5 to 9, 2010, with a preparatory workshop on July 4, 2010. The session was chaired by Ms. Radmila Šafaříková (Czech Republic), chairperson of the TWV. The full report of the meeting is available in document TWV/44/34.

188. The TWV was welcomed by Mrs. Bistra Pavlovska, Executive Director, Executive Agency for Variety Testing, Field Inspection and Seed Control (EAVTFISC). On Monday, July 5, 2010, Mr. Tsvetan Dimitrov, Vice-Minister for Agriculture and Food, made a welcome address to the participants of the TWV. Mrs. Bistra Pavlovska provided information on activities of the Executive Agency for Variety Testing, Field inspection and Seed Control (EAVTFISC) and on the PVP system in Bulgaria.

189. The session was attended by 43 participants from 18 members of the Union and one observer organization. The Preparatory Workshop was attended by 21 participants.

190. The TWV noted the reports from members and observers on developments in plant variety protection and the report on the latest development within UPOV.

191. The TWV considered documents concerning the use of molecular techniques TWV/44/2 “Developments in UPOV Concerning the Use of Molecular Techniques” and BMT/DUS Draft 3 “Possible Use of Molecular Markers in the Examination of DUS”. The TWV agreed that document TGP/15 should be developed separately, but in parallel to document BMT/DUS on the basis that document BMT/DUS would provide a report on the development and consideration of all models within UPOV and document TGP/15 would provide guidance for the use of those models.

192. In connection with a possible use of molecular techniques, the CPVO reported its results of the Community Plant Variety Office R&D project “Development and evaluation of molecular markers linked to diseases resistance genes for tomato in DUS testing”.

193. The TWV considered the following TGP documents:

(a) *TGP/11 Draft 8 Examination of Stability*

It was agreed to add an explanation that the purpose of document TGP/11 was to provide guidance, in the form of illustrative examples, on the examination of stability. The examples would illustrate possible approaches of how individual authorities could address examination of stability.

(b) *TGP/5 Experience and Cooperation in DUS Testing (Section 10 Additional Characteristic)*

The TWV agreed that proposals for additional characteristics notified to the Office of the Union should be presented to the relevant Technical Working Party at the earliest opportunity. The characteristics would be posted on the password-restricted area of the UPOV website. The notification of additional characteristic would not be necessary before a characteristic could be used by a member of the Union, provided it satisfied the criteria set out in the General Introduction.

(c) *TGP/7 Development of Test Guidelines*

The TWV agreed the sections for the near future revision.

(d) *TGP/8 Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability*

The TWV agreed to prepare to add a new section “Control of Variation Due to Different Observers” and “Examining Characteristics Using Image Analysis” and not to develop a section on information of good agronomic practices for DUS field trials.

(e) *TGP/12 Guidance on Certain Physiological Characteristics*

With regard to the proposed standard disease resistance protocols, the TWV agreed that the information items that were not asterisked in the protocol should not be elaborated in detail in the Test Guidelines and should be replaced by a reference to the contact details for members of the Union that would be able to provide such information on request. It was of primary importance to achieve standardized results, rather than using standardized detailed conditions.

194. The TWV noted the information provided on UPOV databases, variety description databases, exchangeable software, and electronic application systems. The TWV also considered the document TWV/44/9 “Assessing Uniformity by Off-types on the Basis of more than one Sample or Sub-samples” and the document TWV/44/25” DUS Examination of Seed-Propagated Varieties of Papaya”.

195. The TWV discussed 13 Test Guidelines, of which nine were revisions or partial revisions (French bean, Globe artichoke, Lettuce, Onion, Pea, Radish, Spinach, Tomato, Watermelon), four were drafts (Echinacea, *Lycopersicon* (excluding *Lycopersicon esculentum* Mill.), Dock and Shiitake). It was agreed that Dock, Globe artichoke, Lettuce, Spinach and Tomato should be submitted to the TC for adoption.

196. The TWV agreed to propose to the TC that it recommend to the Council to elect Mr. François Boulineau (France) as the next chairperson of the TWV, for the period 2012-2014.

197. At the invitation of the United States of America, the TWV agreed to hold its forty-fifth session in California, United States of America, from July 25 to 29, 2011, with the Preparatory Workshop on the Sunday, July 24, 2011. The TWV proposed to discuss the following items at its next session:

1. Opening of the session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV
4. Molecular Techniques
 - (a) Reports on developments within UPOV
 - (b) Reports on work by members and observers
5. TGP documents
6. Variety denominations
7. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
8. Uniformity assessment
 - (a) Method for calculation of COYU

- (b) Assessing uniformity by off-types on the basis of more than one sample or sub-samples

9. Experiences with new types and species
10. Database for Pea variety descriptions
11. Disease resistance testing in Tomato
12. Proposals for Partial Revisions / Corrections of Test Guidelines (if appropriate)
13. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee (if appropriate)
14. Discussion on draft Test Guidelines (Subgroup)
15. Recommendations on draft Test Guidelines
16. Guidance for drafters of Test Guidelines
17. Date and place of the next session
18. Future program
19. Report on the session (if time permits)
20. Closing of the session

198. On the afternoon of July 7, 2010, the TWV visited EAVTFISC Variety Testing Station at Samovodene, near Veliko Tarnovo.

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

199. The twelfth session of the UPOV BMT was held in Ottawa, Canada, from May 11 to 13, 2011, with a preparatory workshop on May 10, 2011. The meeting was chaired by Mr. Andrew Mitchell, (United Kingdom), and attended by 75 participants, from 12 members of the Union and four observer organizations. The report of the meeting is reproduced in document BMT/12/24.

200. The meeting was welcomed by Mr. Paul Meyers, Associate Vice-President for Program in the Policy and Programs Branch of the Canadian Food Inspection Agency.

201. The main items on the agenda were:

- *Developments in UPOV on biochemical and molecular techniques;*
- *Use of molecular techniques in examining essential derivation;*
- *Use of molecular techniques in variety identification;*
- *Reports on developments in molecular techniques;*
- *International guidelines on molecular methodologies.*

202. The agenda was organized to discuss the first three items on May 11, 2011, the “Breeders’ Day”, to give breeders the opportunity to participate in discussion of items of most interest to them.

Developments in UPOV on biochemical and molecular techniques

203. The Office reported on developments in UPOV, based on document BMT/12/2 “Reports on developments in UPOV concerning biochemical and molecular techniques”, with Mr. Joël Guiard, France, explaining the “System for combining phenotypic and molecular distances in the management of variety collections”, document BMT/12/2 Add. This system was accepted by the BMT Review Group in April 2009 and led to proposals for changes to BMT/DUS Draft 3 “Possible Use of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)” in the description of models for use of molecular markers in DUS testing. The BMT discussed that document and agreed a number of changes. It was agreed that the former “Options” 1 to 3 should be replaced with “models” and “examples”.

204. The BMT also considered how document TGP/15 should be developed and agreed that it should be developed separately and in parallel to BMT/DUS. It was agreed that TGP/15 should contain only models which had received a positive assessment.

Use of molecular techniques in examining essential derivation

205. The BMT received two papers on essential derivation, the first on use of SSRs and SNPs to determine essentially derived varieties (EDV) status in maize, setting standards for correlations of molecular similarity to help decide when a variety is an EDV. The second presentation was from a representative of the International Seed Federation (ISF) on its approach to EDVs and procedures for resolving disputes

Use of molecular techniques in variety identification

206. The BMT received nine papers on the use of molecular markers for variety identification. This covered a wide range of species, including ornamental plants, maize, barley, soybean, rice and peas, and also of uses including control of diseases, enforcement of rights, the identity of traded produce and preserving specimens after DUS testing.

Reports on developments in molecular techniques

207. Short reports were received from most of the members and observers attending the meeting, concerning the use of molecular markers in DUS testing, management of reference collections and enforcement. Detailed reports were given on a crop-by-crop basis from Canada on a database of potato varieties, the United Kingdom on functional SNP markers in barley, Argentina on the management of soybean reference collections and France on the management of spring barley reference collections.

International guidelines on molecular methodologies

208. A representative of the International Seed Testing Association (ISTA) gave a summary of developments in ISTA on a DNA-based approach to variety identification. A representative of the International Organization for Standardization (ISO) gave a presentation on Horizontal Biomarker Analysis: ISO/TC 34/SC.

209. There had been no meetings of *Ad Hoc* Crop Subgroups since the last BMT meeting and therefore no reports were given.

210. The BMT agreed to an invitation from Brazil to hold its thirtieth session in Brasilia from November 22 to 24, 2011, with a preparatory workshop on November 21, 2011. The BMT planned to discuss the following items:

1. Opening of the session
2. Adoption of the agenda
3. Reports on developments in UPOV concerning biochemical and molecular techniques
4. Reports on the work of the Ad Hoc Crop Subgroups on molecular techniques (Crop Subgroups)
5. Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, plant breeders and relevant international organizations
6. Report of work on molecular techniques on a crop-by-crop basis:
 - (a) vegetatively propagated crops
 - (b) self-pollinated crops
 - (c) cross-pollinated crops
7. International guidelines on molecular methodologies
8. Variety Description databases
9. Methods for analysis of molecular data
10. The use of molecular techniques in examining essential derivation
11. The use of molecular techniques in variety identification
12. Recommendations on the establishment of new crop specific subgroups
13. Date and place of next session
14. Future program
15. Report of the session (if time permits)
16. Closing of the session

211. The Council is invited to:

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

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

[End of document]