



TC/47/27

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

TECHNICAL COMMITTEE

Forty-Seventh Session
Geneva, April 4 to 6, 2011

REPORT

adopted by the Technical Committee

Opening of the session

- *1. The Technical Committee (TC) held its forty-seventh session in Geneva, from April 4 to 6, 2011. The list of participants is reproduced in Annex I to this report.
- *2. The session was opened by Mr. Joël Guiard (France), Chairman of the TC, who welcomed the participants.
- *3. The Chairman reported that the former Yugoslav Republic of Macedonia had deposited on April 4, 2011, its instrument of accession to the 1991 Act UPOV Convention, and would become the sixty-ninth member of the Union on May 4, 2011.

Adoption of the agenda

- *4. The TC adopted the agenda as presented in document TC/47/1 Rev.2.

* The asterisked (*) paragraphs in this report are reproduced from document TC/47/26 (Report on the Conclusions).

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. A copy of that presentation is provided in Annex II to this report (in English only).

*6. The Vice Secretary-General noted also 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)

7. The TC received oral reports, in the form of Powerpoint presentations, 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). A copy of those presentations is provided in Annex III to this report (in original language only). The matters reported were as follows:

Technical Working Party for Agricultural Crops (TWA)

8. 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..

9. 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.

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

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

12. 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.

13. 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.

14. 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.

15. 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.

16. 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” .

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

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

23. 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.

24. 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.

25. 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)

26. 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.

27. 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.

28. 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.

29. 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.
30. 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".
31. For the twenty-ninth session of the TWC, separate chapters on nominal and ordinal data would be prepared.
32. 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".
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.

40. 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”.

41. 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.

42. 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.

43. 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”.

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

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

46. 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)

47. 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..

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

49. 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.

50. 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.

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

52. 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 TWO.

53. 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).

54. 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.

55. 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.”

56. 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.”

57. 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.”

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

59. 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.

60. 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).

61. 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’.”

62. 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” .

63. 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”.

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

65. 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.

66. 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.

67. 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.

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

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

70. 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
71. 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)

72. 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.
73. 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.

74. 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.

75. 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.

76. 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”.

77. 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.

78. 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.

79. 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.

80. 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 patters and less emphasis on color.

81. 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.

82. 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.”

83. 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.

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

85. 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.

86. 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

87. 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.

88. 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)

89. 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.

90. 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.

91. 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.

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

93. 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.

94. 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”.

95. 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.

96. 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”.

97. 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.

98. 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.

99. 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

100. 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)

101. 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.

102. 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.

103. 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.*

104. 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

105. 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”.

106. 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

107. 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

108. 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

109. 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

110. 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.

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

112. 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

Matters arising from the Technical Working Parties

*113. The TC considered document TC/47/3.

I. MATTERS FOR INFORMATION AND FOR A POSSIBLE DECISION TO BE TAKEN BY THE TECHNICAL COMMITTEE

*114. 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.

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

II. MATTERS FOR INFORMATION

*116. The TC noted the matters for information provided in document TC/47/3.

Molecular techniques

*117. The TC considered document TC/47/7.

BMT Guidelines

*118. 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.

*119. The TC agreed that document BMT/DUS Draft 5 should be amended as indicated in that document, with the following further modifications:

General	Editorial Committee to check the French, German and Spanish translations before the document is prepared for adoption by the Council.
2.4	to delete “System for”
Annex 4 - Title	to delete “System for”

*120. The TC agreed that document BMT/DUS Draft 5, as amended above 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

*121. 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

*122. 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)

*123. 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)

*124. 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

*125. The TC considered document TC/47/8.

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

*126. 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

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

(a) Continue to consider all species currently included within the genus “*Eupatorium*” in the UPOV-ROM as “*Eupatorium*” (i.e. *Eupatorium purpureum* L., *Eupatorium dubium*, *Eupatorium ligustrinum*). The TC noted that this approach would not follow the “Guide to the UPOV Code System” and would not guarantee to avoid problems with other species of “*Eupatorium*” that might occur in the UPOV-ROM in future: GRIN lists 91 species / subspecies that are sometimes included within “*Eupatorium*”, of which only 17 are considered by GRIN to fall within *Eupatorium* L.. The TC noted that this approach would have the effect of creating a denomination class for “*Eupatorium*”, without explicitly establishing the coverage of the class;

(b) Create a new denomination class in document UPOV/INF/12/3 “Explanatory notes on variety denominations under the UPOV Convention”, Annex I: Part II. “Classes encompassing more than one genus” to cover relevant genera, e.g. *Eupatorium* L., *Eutrochium* Raf., *Ageratina* Spach, etc.; or

(c) Apply the GRIN botanical classification of species and continue to follow the General Rule (one genus / one class). For example, the varieties in the UPOV-ROM indicated as *Eupatorium purpureum* L. would be considered as *Eutrochium purpureum* (L.) E. E. Lamont var. *purpureum* and would be allocated a UPOV code for the genus *Eutrochium* Raf.. The TC noted that such an approach would require that the appropriate species could be correctly identified for the 12 varieties, and any other such entries in future, indicated as *Eupatorium* L. in the UPOV-ROM. The TC noted that it would also be necessary to amend the UPOV codes for the species concerned.

*128. The TC invited the TWO to consider the above at its session in 2011.
Information concerning the registration of variety denominations as trademarks

*129. 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

*130. 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).

*131. The TC noted the developments concerning:

(a) the GENIE database, as set out in document TC/47/6, paragraphs 2 to 4

(b) the UPOV code system, as set out in paragraphs 5 to 7 and note 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

(c) 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

*132. 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.

*133. 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

*134. 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 the following policy options for access:

(a) free access to all users;

(b) free access to all members of the Union, contributors to the Plant Variety Database and other parties agreed by the members of the Union. Other subscribers to be charged on the basis of:

(i) an annual fee, similar to that charged for the UPOV-ROM; or

(ii) a fee according to use, e.g. number of searches.

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

Title of the Plant Variety Database

*136. 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

*137. The TC considered document TC/47/9.

*138. 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.

*139. 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 Technical Committee at its forty-eighth session.

(c) Exchangeable software

*140. 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

*141. 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”*

(*142. 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-fourth¹ 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”

*143. 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.

*144. 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.

*145. 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

*146. The TC considered document TC/47/13.

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

*147. 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)

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

(a) users² could select the language in which the items in the Linear Blank Form for PBR Applications would be presented (Input Template language);

¹ Corrected from document TC/47/26 “Report on the Conclusions”

² 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.

*149. 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.

*150. 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.

*151. 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

*152. The TC considered the following documents in conjunction with document TC/47/5:

(a) New TGP document

TGP/11 Examination of Stability

*153. The TC agreed that document TGP/11/1 Draft 10 should be amended as indicated in that document, with the following further modifications:

Annex I	
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1.3	to replace the second paragraph to read as follows: “In addition to the five trees supplied for the examination of distinctness, a second set of test trees are required for the assessment of uniformity and stability. The minimum number of trees required is 25 trees on MM106, or 30 trees on M9. The trees can be located on a site selected by the breeder or agent and should be established at the same time as trees supplied for the examination of distinctness. These trees should be at least second propagation cycle trees and be of the same standard and quality as those used for the testing of distinctness.”
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*154. 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.

*155. The TC agreed that document TGP/11/1 Draft 10, as amended above 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/11/1 by the Council at its forty-fifth ordinary session, to be held in Geneva on October 20, 2011.

(b) Revision of TGP documents

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

*156. The TC agreed that document TGP/5: Section 10/2 Draft 2 should be amended as indicated in that document, with the following further modifications:

4.2, 4.3	to replace the text to read as follows: “4.2 Proposals for additional characteristics and states of expression notified to the Office of the Union by means of document TGP/5 Section 10, will be presented to the relevant Technical Working Party(ies) (TWP(s)) at the earliest opportunity with information on the extent of use of the characteristic. The characteristics will then, as appropriate, be posted on the password-restricted area of the UPOV website (http://www.upov.int/restrict/en/index_drafters_kit.htm), on the basis of comments made by the relevant TWP(s), and/or the TWP(s) may initiate a revision or a partial revision of the Test Guidelines concerned.”
Annex	to put information about extent of use of the characteristics in the box for explanation/illustration

*157. The TC agreed that document TGP/5: Section 10/2 Draft 2, as amended above 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

(i) Revisions proposed in document TC/47/16

*158. The TC considered document TC/47/16.

Coverage of ornamental varieties in Test Guidelines

*159. 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

*160. 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 the following factors:

- (i) Number of plants/ parts of plants to be examined
- (ii) Number of growing cycles
- (iii) Variability within the crop
- (iv) Additional tests (e.g. resistance tests, bolting trials)
- (v) Features of propagation (e.g. cross pollination, self pollination, vegetative propagation)
- (vi) Crop type (e.g. root crop, leaf crop, fruit crop, cut flower, cereal, etc.)
- (vii) Storage in variety collection
- (viii) Exchange between testing authorities
- (ix) Seed quality (germination) requirements
- (x) Cultivation system (outdoor/glasshouse)
- (xi) Sowing system
- (xii) Predominant method of observation (e.g. MS, VG)

*161. 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.

*162. 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 the following 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:

- (a) Chapter 2.3 Minimum quantity of plant material to be supplied by the applicant
- (b) Chapter 3.1 Number of growing cycles
- (c) Chapter 3.4.1 Each test should be designed to result in a total of at least X plants
- (d) Chapter 4.1.4 Number of plants / parts of plants to be examined for distinctness
- (e) Chapter 4.2 Number of plants to be examined for uniformity
- (f) Number of plants for special tests (e.g. disease resistance)

Applications for varieties with low germination

*163. 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

*164. 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

*165. 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

*166. 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

*167. 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.

(ii) *Number of plants to be examined (for distinctness)*

*168. The TC considered document TC/47/17.

*169. 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 Technical Committee at its forty-seventh session.

*170. 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 }.”

*171. The TC agreed that Mrs. Beate Rücker (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.

(iii) *Standard references in the Technical Questionnaire*

*172. The TC considered document TC/47/18.

*173. 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.

(iv) *Providing photographs with the Technical Questionnaire*

*174. 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.

*175. The TC agreed that paragraphs 8, 11 and 12 should be reviewed.

*176. 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

*177. The TC considered document TC/47/20.

*178. 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 the 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 as follows:

- (a) 1. The GAIA Methodology, Section 1.3.1.1, should be amended to clarify that there is an assumption that the length of panicle is used as a characteristic;
- (b) 5: Pearson’s Chi-Square Test Applied to Contingency Tables, Section 5.5 (4) should be amended to read: “(4) Always use Yates Correction for determining the chi-square test with only one degree of freedom.”

*179. 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

*180. The TC considered document TC/47/23.

*181. 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.

182. With regard to the proposed standard disease resistance protocols in Section 2.4 of Annex I to document TC/47/23, the TC 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 UPOV members that would be able to provide such information on request. The TC agreed that the asterisk symbol should be replaced in order to avoid confusion.

- the explanations for disease resistance characteristics in the Test Guidelines should refer to published methods rather than reproducing the methods in the Test Guidelines.
- it was important to recall that authorities could arrange for tests to be conducted by specialized laboratories and could also use cooperation with other UPOV members in order to address situations where the DUS testing center did not have suitable facilities for conducting the test, or was prevented from conducting such tests because of phytosanitary restrictions. It agreed that it would be useful for document TGP/12 to address such issues and agreed that Mr. Sergio Semon (European Union) should coordinate with Mr. Kees van Ettehoven (Netherlands) the preparation of document TGP/12 for the TWP sessions in 2011.

183. The TC agreed the proposal concerning explanations for disease resistance characteristics in Test Guidelines, as set out in Section 2.4 of Annex I to document TC/47/23.

184. 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

*185. The TC considered document TC/47/21.

*186. 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.

*187. 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 petiolule, 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.”

*188. 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*

*189. The TC considered document TC/47/22.

*190. 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

*191. 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 204 of this report.

Method of calculation of COYU

*192. The TC considered document TC/47/11.

*193. 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

*194. The TC considered document TC/47/14.

*195. 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

*196. 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

*197. The TC considered document TC/47/10.

*198. 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

*199. 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.

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

Test Guidelines

*201. The TC considered documents TC/47/2 and TC/47/24.

Test Guidelines for adoption

*202. 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).

*203. 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 }."

*204. 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.

205. The TC adopted the Test Guidelines listed in the table below on the basis of the amendments, as specified in Annex IV to this document, 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 204 of this report:

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.

Document No. N° du document Dokument-Nr. No del documento	English	Français	Deutsch	Español	Botanical name Nom botanique Botanischer Name Nombre botánico
TG/184/4(proj.3)	Cardoon, Globe Artichoke, Cardoon	Artichaut, Cardon	Artischocke; Artischoke; Cardy; Gemüseartichoke- Cardy; Kardonentartichocke	Alcachofa; Cardo	Cynara cardunculus L., Cynara scolymus L.
<u>PARTIAL REVISIONS OF TEST GUIDELINES</u>					
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.

*206. 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 203 of this report.

*207. 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.

Draft Test Guidelines discussed by the Technical Working Parties in 2010

*208. 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.

Draft Test Guidelines to be discussed by the Technical Working Parties in 2011

*209. 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).

*210. 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.

Status of Test Guidelines

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

Adopted Test Guidelines in Word format

*212. 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.

Previous adopted versions of Test Guidelines

*213. 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 have since been replaced, as presented in document TC/47/2, Annex V.

Program for the forty-eighth session

*214. 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

*215. 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.

*216. 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.

*217. 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 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.

Chairpersons of the Technical Working Parties

*218. 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)

*219. This report was adopted by
correspondence.*

[Annexes follow]

ANNEXE I / ANNEX I / ANLAGE I / ANEXO I

LISTE DES PARTICIPANTS / LIST OF PARTICIPANTS /
TEILNEHMERLISTE / LISTA DE PARTICIPANTES

(dans l'ordre alphabétique des noms français des membres /
in the alphabetical order of the French names of the members /
in alphabetischer Reihenfolge der französischen Namen der Mitglieder /
por orden alfabético de los nombres en francés de los miembros)

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[L'annexe II suit/
Annex II follows/
Anlage II folgt/
Sigue el Anexo II]

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

UPOV

TECHNICAL COMMITTEE
Forty-Seventh Session

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

Peter Button
Vice Secretary-General, UPOV

Geneva, April 4 to 6, 2011

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UPOV

OVERVIEW

- Membership / Examination of Laws
- Council
- Consultative Committee
- CAJ & CAJ-AG
- Other developments
 - Publications
 - Second World Seed Conference / World Seed Project
 - Open day
- Information on DUS guidance and cooperation

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UPOV

MEMBERSHIP OF UPOV

69 Members
(68 States and the European Community)

New Members
Former Yugoslav Republic of
Macedonia as of May 4, 2011

<u>Laws examined</u>	<u>Council session</u>	<u>Advice</u>
Republic of Tajikistan	October 21, 2010	positive

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UPOV

COUNCIL

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UPOV

COUNCIL
ELECTED
for a term of three years ending in 2013

Chair of the Administrative and Legal Committee
Mr. Lü Bo (China)

Vice-Chair of the Administrative and Legal Committee
Mr. Martin Ekvad (European Union)

Chair of the Technical Committee
Mr. Joël Guiard (France)

Vice-Chair of the Technical Committee
Mr. Alejandro Barrientos-Priego (Mexico)

5

UPOV

COUNCIL

INFORMATION MATERIALS ADOPTED OCTOBER 2010

Latest reference	Explanatory Notes on:
UPOV/EXN/VAR/1	Definition of Variety under the 1991 Act of the UPOV Convention
UPOV/EXN/CAL/1	Conditions and Limitations Concerning the Breeder's Authorization in Respect of Propagating Material under the UPOV Convention
<u>INF documents</u>	
UPOV/INF/4/1	Financial Regulations and Rules of UPOV
UPOV/INF/10/1	Internal Audit
UPOV/INF/12/3	Explanatory Notes on Variety Denominations under the UPOV Convention
UPOV/INF/15/1	Guidance for Members of UPOV on Ongoing Obligations and Related Notifications
UPOV/INF/16/1	Exchangeable Software
UPOV/INF/17/1	Guidelines for DNA-Profilling: Molecular Marker Selection and Database Construction ("BMT Guidelines")

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UPOV **COUNCIL**

INFORMATION MATERIALS ADOPTED (reminder)

Guidance for the preparation of laws based on the 1991 Act of the UPOV Convention (document UPOV/INF/6/1)

PART I: EXAMPLE TEXT FOR ARTICLES
PART II: NOTES BASED ON INFORMATION MATERIALS

(available in English, French, German, Spanish, Arabic, Chinese, Russian, Bahasa Indonesian),

UPOV **COUNCIL**

TGP DOCUMENTS ADOPTED OCTOBER 2010

Document reference	Issue	Title
TGP/0	/3	List of TGP Documents and Latest Issue Dates
TGP/5		Experience and Cooperation in DUS Testing:
Section 2	/3	UPOV Model Form for the Application for Plant Breeders' Rights
TGP/7	/2	Development of Test Guidelines
TGP/8	/1	Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability
TGP/14	/1	Glossary of Terms Used in UPOV Documents

8

UPOV

Mr. Jördens Gold Medal



9

UPOV

CONSULTATIVE COMMITTEE

10

UPOV **CONSULTATIVE COMMITTEE**

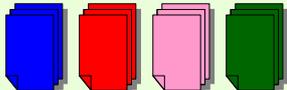
Observers

- Established a working group to review the rules concerning observers and recommend appropriate changes
- Granted observer status to:
 - Association for Plant Breeding for the Benefit of Society (APBREBES): Council, CAJ, TC, TWPs
 - European Coordination Via Campesina (ECVC): Council, CAJ, TC, TWPs
- Extended observer status to:
 - CropLife International: CAJ, TC, TWPs

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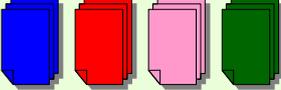
UPOV **CONSULTATIVE COMMITTEE**

- Established Organizing Committee for the celebration of the **Fiftieth Anniversary**
- Associated activities / developments
 - Symposium on Plant Breeding for the Future
 - restructuring of the UPOV website (**questionnaire**)
 - visual presentation on UPOV website
 - new "UPOV Collection"



UPOV CONSULTATIVE COMMITTEE

UPOV Collection



- (a) UPOV Convention
- (b) UPOV/INF document series
- (c) Explanatory notes on the UPOV Convention
- (d) General Introduction
- (e) TGP documents
- (f) Test Guidelines (website link)
- (g) UPOV Collection of Laws and Treaties (website link)
- (h) List of UPOV members (website link)
- (i) Addresses of Plant Variety Protection Offices (website link)
- (j) UPOV Organigram (website link)
- (k) Databases and information (website link)
 - List of the Taxa Protected by the Members of the Union
 - Cooperation in Examination
 - List of Species in which practical technical knowledge has been acquired or for which National Guidelines have been established
- (l) Plant Variety Database (website link)
- (m) GENIE Database (website link)

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UPOV CONSULTATIVE COMMITTEE

UPOV Collection: website maintenance



- UPOV Collection on website
- Status document (c.f. document TGP/0)
- Electronic notification of updates to "subscribers"

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UPOV CONSULTATIVE COMMITTEE

UPOV Collection: physical collection

- SET OF BINDERS with PRINTED DOCUMENTS
 - two sets per member of the Union
 - one set per observer State
 - one set per observer organization
- In the first instance only (and for new members and observers), printed versions of all documents in the "UPOV Collection", except for Test Guidelines, would be provided with the binders
- Members of the Union, observer States and observer organizations will be notified, electronically, of updates and will need to print the documents



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UPOV

ADMINISTRATIVE AND LEGAL COMMITTEE (CAJ)

(most CAJ items covered by Council report, or will be discussed at TC session)

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UPOV CAJ/ CAJ-AG

OVERVIEW OF THE DEVELOPMENT OF INFORMATION MATERIALS

CAJ/63 to consider CIOPORA request to develop explanatory notes on "propagation and propagating material"

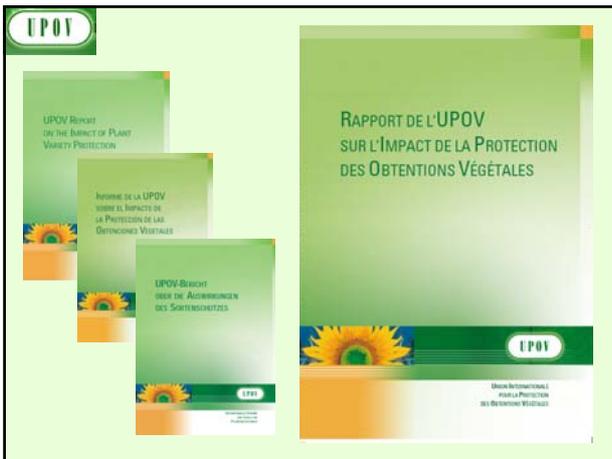
Latest reference	Explanatory Notes on	Status
UPOV/EXN/HRV Draft 6	Acts in Respect of Harvested Material under the 1991 Act of the UPOV Convention	CAJ-AG October 2011
UPOV/EXN/BRD Draft 4	Definition of Breeder under the 1991 Act of the UPOV Convention	CAJ-AG October 2011
CAJ-AG/11/8/3	Essentially Derived Varieties under the 1991 Act of the UPOV Convention (revision)	CAJ-AG October 2011

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UPOV

OTHER DEVELOPMENTS

18



UPOV DECLARATION FROM THE SECOND WORLD SEED CONFERENCE

DECLARATION FROM THE SECOND WORLD SEED CONFERENCE
Responding to the challenges of a changing world: The role of new plant varieties and high quality seed in agriculture
 held at the FAO Headquarters in Rome, September 8-10, 2009

DÉCLARATION DE LA DEUXIÈME CONFÉRENCE MONDIALE SUR LES SEMENCES
Défis à relever dans un monde en évolution: Rôle des obtentions végétales et des semences de qualité dans l'agriculture
 tenue au siège de la FAO, à Rome, du 8 au 10 septembre 2009

Spanish, Chinese, Russian and Arabic to follow

20

UPOV Second World Seed Conference

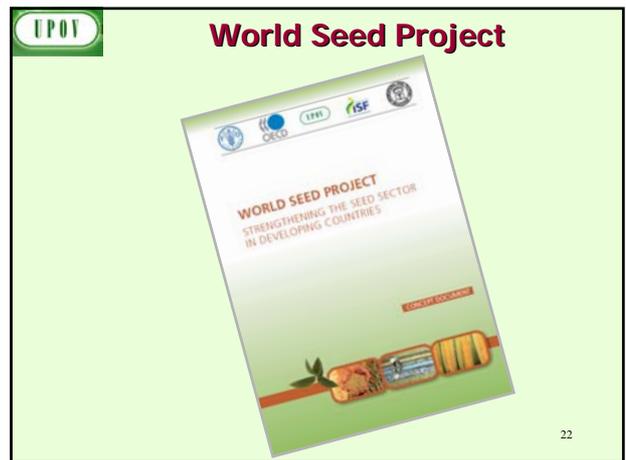
Declaration from the Second World Seed Conference
Responding to the challenges of a changing world: The role of new plant varieties and high quality seed in agriculture
 held at the FAO Headquarters in Rome, September 8-10, 2009

World food security: urgent measures are needed

"Follow-up"

... proposal for the five organizations to work together in selected countries to provide an example of how to put in place a framework to encourage the development of new varieties and deliver high quality seed for farmers

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UPOV Seminar

UPOV/SEM/GE/11/1 Rev.
 ORIGINAL: English
 DATE: March 28, 2011

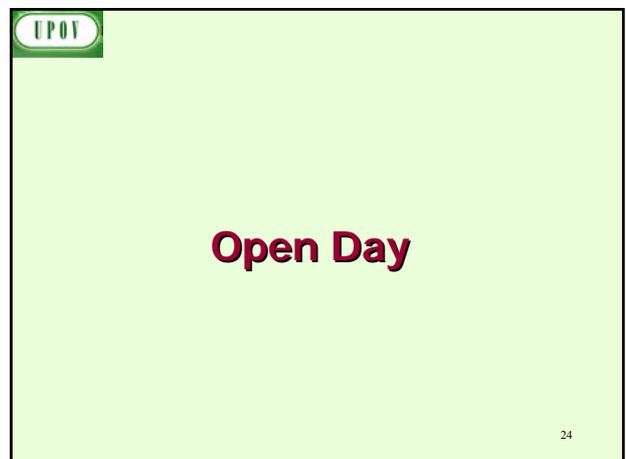
INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

SEMINAR ON
PLANT VARIETY PROTECTION AND TECHNOLOGY TRANSFER:
THE BENEFITS OF PUBLIC-PRIVATE PARTNERSHIP

Geneva, April 11 and 12, 2011

REVISED PROGRAM

23



UPOV **UPOV OPEN DAY**

Exhibitors/Exhibiteurs: (from left to right / de gauche à droite)

Mr. Bruno Etavard, Meilland International - Rose varieties / variétés de rose
Mrs. Dominique Thevenon, CIOFORA - Apple varieties / variétés de pommes
Mr. Wilhelm Wicki, Delley Seeds and Plants Ltd, Switzerland - Wheat varieties / variétés de blé

Posters on view in lobby

UPOV **UPOV OPEN DAY**

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UPOV **UPOV OPEN DAY**

COMPETITION DECIDER / FACTEUR DÉCISIF

How do you think that new plant varieties can provide environmental benefits?
Quels bénéfices les obtentions végétales peuvent-elles apporter à l'environnement ?
(20 words maximum / 20 mots maximum)

WINNERS / GAGNANTS

How plant varieties can give the best of existing plant varieties combined.
Comment les obtentions végétales peuvent-elles donner le meilleur des variétés existantes combinées ?

- Meilleure conservation des produits
- Améliorer la résistance contre les maladies et augmenter les rendements

Lucas et Arta Robinson, 10 ans et 12 ans

Plus de variété, plus de goût, plus de produits naturels
Gala, J&A, etc.

Obtenir de nouvelles améliorations de plantes qui pourraient protéger la planète en réduisant le CO₂
Mickaël, J&A, etc.

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UPOV

Information on DUS Guidance and Cooperation

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UPOV **Adoption of Test Guidelines**

Adoption of Test Guidelines

Number of TGs Adopted

Year

Legend: Partial revisions, Revisions, New

TC-EDC in January & morning before TC

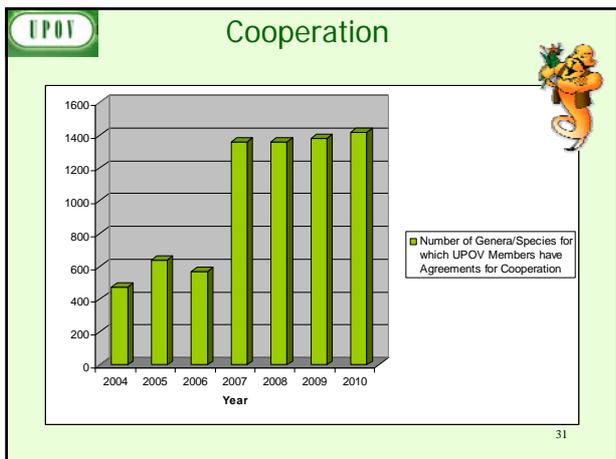
UPOV **Practical Experience**

Number of Genera/Species for which UPOV Members have Practical Experience

Year

Legend: Practical Experience

30



UPOV

THANK YOU

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ORAL REPORTS OF THE CHAIRPERSONS OF THE TECHNICAL WORKING PARTIES

Oral Report of the Chairperson of the Technical Working Party for Agricultural Crops



CPVO
Community Plant Variety Office

Technical Working Party for Agricultural Crops
(TWA)
39th session Osijek, Croatia
May 24 –May 28, 2010

1

Technical Working Party for Agricultural Crops

- Chair: Dirk Theobald
- 54 participants from 25 members of the Union
- One observer organisation

Technical Working Party for Agricultural Crops

- Molecular techniques
 - BMT/DUS Draft 3:
 - Replace terms « Option » and « Proposal » by « Model » and « Example »
 - Replace « molecular characteristics » with an appropriate term
 - TGP 15
 - To be developed in parallel to BMT/DUS
 - To provide guidance for the use of those models that have received a positive assessment and for which examples could be provided

Technical Working Party for Agricultural Crops

- TGP 11
 - Restructuration
 - Provide guidance in the form of illustrative examples
 - Examples are grouped by
 - Examination based on samples submitted by the breeder
 - Examination based on a sample harvested by the authority from the initial sample

Technical Working Party for Agricultural Crops

- TGP 5 Section 10 *Notification of additional characteristics*
 - To be presented to the relevant TWP before posting it on restricted area of the UPOV web-site
 - Consideration of additional characteristics by the TWP as important tool of mutual information amongst members
 - Clarification within TGP 5 that the notification was not a pre-condition for the use of a certain characteristic

Technical Working Party for Agricultural Crops

- TGP 7 Development of Test Guidelines
 - Quantity of plant material required
 - TGP 7 provides already guidance in that respect (GN7)
 - Further guidance limited to « quantity of plant material required » and not extend to « number of plants in the test » and « number of plants to be examined »
 - GN7 extended to consider situation in similar crops
 - Guidance to be provided in case where TGs indicate 2 growing cycles

Technical Working Party for Agricultural Crops

- TGP 7 Development of Test Guidelines
 - Number of plants to be considered for distinctness
 - Minimum number of plants needed for reliable observation of the « typical » expression of characteristics
 - Minimum number should apply to candidate and similar varieties
 - Improved guidance in TGP7/2
 - 2 examples have been considered
 - Appropriate sample size to be defined on a crop by crop basis
 - Further guidance to be elaborated for future revision of TGP7



Technical Working Party for Agricultural Crops

- TGP 7 Development of Test Guidelines
 - Example varieties
 - Development of regional sets of example varieties as an appropriate way to provide useful example varieties
 - TGs might be adopted without example varieties and regional sets could be added at a later stage
 - Development of regional sets of example varieties requires sharing of data and the conduct of ring tests.
 - Exchange of lists of example varieties amongst members as a first step towards harmonisation
 - Inclusion of example varieties in individual authorities TG as important mean to ensure harmonised Variety descriptions within that territory, further guidance might be useful



Technical Working Party for Agricultural Crops

- Proposal for the next chairperson:
 - Mrs Robyn Hierse (South Africa)
- TWA 2011: Brasilia (Brazil), 16/05 – 20/05

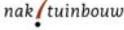


Oral Report of the Chairperson of the Technical Working Party on Automation
and Computer Programs

Report of TWC 28

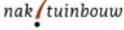
Gerie van der Heijden, the Netherlands



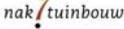
TWC 28

- June 29 – July 2, 2010
- Held at CPVO office in Angers, France. Opening address by director B. Kievit.
- 31 participants from 16 member states.
- 35 documents discussed.
- Preparatory workshop on June 28, attended by 12 participants.

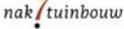
TGP/8

- Much effort devoted to future extensions of TGP/8 DUS trial design and analysis
 - Data to be recorded / control of variation due to different observers
 - Small sample sizes, bulk samples
 - Image analysis
 - Producing variety descriptions
 - Statistical methods for visual observed characteristics

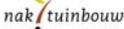
Reduction of field trials

- Analysis of grasses – Sun/Satellite system.
 - Results were not promising. Not pursued
- Reduction of second growing cycle –
 - A method has been introduced that allows prediction of COYD decisions based on only one cycle of results where both historic and current data sets are large.
- Use of molecular markers and GAIA to reduce the number of pairwise comparisons in the field

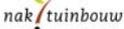
Molecular markers and GAIA

- Assess pairwise differences between maize lines using visual assessment and molecular markers.
- Conclusion: all pairs with molecular distance > 0.3 had a visual distance > 3.
- Combine GAIA distance with Mol.Distance to eliminate the number of comparisons in the field.
 - e.g. instead of (GAIA distance > 15) also use (GAIA distance > 10) AND (Mol.distance > 0.3)
- The TWC noted that the number of pairs with low visual distance was low. It would be interesting to study more pairs of similar varieties.

Variety denomination checking system CPVO

- CPVO introduced their system of word similarity
- Did not receive any negative feedback on their system in 6 years
- Does use several rules, but does not use phonetics
- CPVO offered to make their system available as exchangeable software for members of UPOV

Exchangeable software

- UPOV/Inf/Software contains now
 - DUST package – containing COYU and COYD software
 - GAIA
 - Sirius datalogger software. Translation to English underway.
- TWC proposed to also include the CPVO variety denomination checking system
- CPVO presented their electronic office management system and offered assistance of CPVO to any UPOV member in developing their system



Next session TWC 29

- June 7-10, 2011 in Geneva (UPOV office)
- Trial with internet conference:
- Possibility to attend certain sessions, like image analysis presentations, through the internet by UPOV members



Thank you for your attention

© Wageningen UR



Oral Report of the Chairperson of the Technical Working Party for Fruit Crops

41. Session of the UPOV Technical Working Party for Fruit Crops

Cuernavaca, Morelos State,
Mexico
September 27 to October 1, 2010



International Seminar on Plant Breeder's
Rights, September 26, 2010

- Impact of PBR's and UPOV system
- PBR's strategic use, impact, benefits and challenges
- DUS testing experiences
- Growers perspective
- Actions for an effective PBR's system

Preparatory Workshop September 26, 2010

- Introduction to the UPOV
- Overview of the General Introduction
- Guidance on drafting Test Guidelines
- UPOV databases
- The UPOV website
- Role of UPOV Technical Working Parties

TWF session

- The session was opened by Mrs. Bronislava Bátorová from Slovakia, Chairman of the TWF, and was welcomed by Ms. Enriqueta Molina Macias, Director General of National Service of Seed Inspection and Certification (SNICS), by Mr. José Arnulfo del Toro Morales, Representative of the Ministry of Agriculture (SAGARPA) and by Mr. Bernardo Pastrana Gómez, Secretary of Agricultural Development Department of the Government of the State of Morelos.



Participation

- The session was attended by 51 participants, from 15 members of the Union and two observer organizations (CIOPORA, ISF).

Presentations

- The TWF received presentation on the plant variety protection system in Mexico made by Ms. Enriqueta Molina Macias, Director General of National Service of Seed Inspection and Certification (SNICS) 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

- The TWF considered documents TWF/41/2 and BMT/DUS Draft 3 concerning the molecular techniques.

TGP documents

- The TWF noted the developments concerning document TGP/11 Draft 8 "Examining Stability", in conjunction with document TWF/41/3 and an oral report on the conclusions of the Technical Working Party for Ornamental Plants and Forest Trees.

TGP/5

- The TWF considered document TWF/41/10 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).

TGP/7 "Development of Test Guidelines"

- The TWF considered a number of documents in conjunction with the document TGP/7. Particularly documents concerning 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.

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

- Concerning the document TGP/8 the TWF made comments on document TWF/41/20, Annexes I to XIV, including document TWF/41/24, TWF/41/25 and TWF/41/26.

TGP/12 "Guidance on Certain Physiological Characteristics"

- The TWF considered document TWF/41/21.

TGP/14: "Glossary of Technical, Botanical and Statistical] Terms Used in UPOV"

- Concerning the document *TGP/14* the TWF considered documents TWF/41/22 and TWF/41/23.

Variety denominations

- The TWF noted the report of developments concerning the Variety denominations in document TWF/41/4.

DUS examination of seed-propagated varieties of Papaya.

- The TWF considered document TWF/41/27.

Test Guidelines

- The TWF discussed the Drafts Test Guidelines for *Acerola*, *Actinidia* (revision), *Almond* (revision), *Cacao*, *Dragon-fruit*, *Gooseberry* (revision), *Japanese Plum* (Revision), *Blue Honeyberry*, *Olive* (revision), *Papaya*, *Pecan nut*, *Pineapple*, *Pomegranate*, *Red and White Currant* (revision).

Partial Revision of the Test Guidelines for Mandarin (Citrus Group 1)

- The subgroup considered document TWF/41/28 .
- The TWF agreed to propose to the Technical Committee 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 Technical Committee should be invited to consider the "Comments of Morocco concerning the new characteristics proposed 'Fruit: number of seeds (controlled manual crosspollination) and pollen viability in the UPOV Test Guidelines for Mandarin".

- 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**".

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

- The TWF noted the developments as reported in document TWF/41/9.

Experiences with new types and species

- The TWF received oral reports from the EU, New Zealand and Israel.

Partial revision

- The TWF considered the proposal to replace Chapter 8.1 (d) in the Test Guidelines for **Strawberry** as set out in document TWF/41/29 and agreed that a partial revision should be considered at its forty-second session.

Adoption the draft Test Guidelines

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

Discussions on TG at the next session of TWF

- The TWF planned to continue discussions on Test Guidelines for a total of **12** species: **5** of them at "possible final" draft stage.

Forty-second session of the TWF

- 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 preparatory workshop on November 13.

Program for the next session

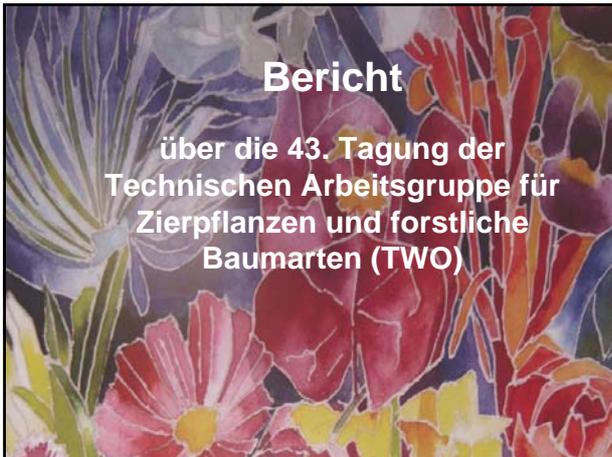
- Short reports on developments in plant variety protection from members and observers; as well as within UPOV;
- Developments on molecular techniques;
- TGP documents;
- Variety denominations;
- Information and databases;
- Assessing uniformity by off-types on the basis of more than one sample or sub-samples;
- DUS examination of seed-propagated varieties of Papaya;
- Experiences with new types and species;
- Proposals for Partial Revisions;
- Matters to be resolved concerning Test Guidelines adopted by the Technical Committee;
- Discussions and Recommendations on draft Test Guidelines and Guidance for drafters of Test Guidelines.

New chair of the TWF

- The TWF agreed to propose to the TC that it recommend to the Council to elect **Mrs. Carensa Petzer** from South Africa as the next chairperson of the TWF.



Oral Report of the Chairperson of the Technical Working Party for Ornamental Plants
and Forest Trees



Die TWO hielt ihre 43. Tagung vom 20. bis 24. September 2010 in Cuernavaca, Bundesland Morelos, Mexiko unter dem Vorsitz von Frau Andrea Menne (Deutschland) ab.



Andrea Menne Bericht TWO 2010 Seite 1



An der Tagung nahmen 65 Teilnehmer aus 16 Verbandsmitgliedern und einer Beobachter-Organisation teil.
Am Nachmittag des 19. September fand die vorbereitende Arbeitstagung mit 22 Teilnehmern statt.

Andrea Menne Bericht TWO 2010 Seite 2

Die TWO wurde neben anderen von Frau Enriqueta Molina Marcias, Generaldirektorin des nationalen Amtes für Saatgutkontrolle und Zertifizierung (SNICS) begrüßt.

Sie gab einen Überblick über das Sortenschutzsystem in Mexiko.



Andrea Menne Bericht TWO 2010 Seite 3

Eine Reihe von TGP-Dokumenten und von Überarbeitungen von TGP-Dokumenten wurde diskutiert.

Im Folgenden werden die wichtigsten Diskussionsergebnisse vorgestellt.

Andrea Menne Bericht TWO 2010 Seite 4

TGP/7 "Erstellung von Prüfungsrichtlinien"
Dokument TWO/43/12
"Anzahl des erforderlichen Pflanzenmaterials"

Die TWO stimmte dem Vorschlag der TWA zu, dass der federführende Sachverständige ermuntert werden soll, die Anzahl des erforderlichen Pflanzenmaterials bei ähnlichen Arten zu prüfen und so weit wie möglich die gleiche Anzahl in seinem Richtlinienentwurf zu verwenden.

Andrea Menne Bericht TWO 2010 Seite 5

Dokument TWO/43/14

"Anzahl der zur Feststellung der Unterscheidbarkeit notwendigen Pflanzen"

Die TWO nahm zur Kenntnis, dass bei der Revision von TGP/7 deutlich wurde, dass es sinnvoll ist, die Zahl der für die Feststellung der Unterscheidbarkeit notwendigen Pflanzen festzulegen.

Dokument TWO/43/14

"Anzahl der zur Feststellung der Unterscheidbarkeit notwendigen Pflanzen"

Es wurde zugestimmt, dass die in Kapitel 4.1.4 der Prüfungsrichtlinien genannte Zahl kleiner sein kann als die Mindestanzahl der Pflanzen in der Prüfung. Dadurch können eventuell auftretende Abweicher bei der Prüfung auf Unterscheidbarkeit außer Acht gelassen werden.

Dokument TWO/43/14

"Anzahl der zur Feststellung der Unterscheidbarkeit notwendigen Pflanzen"

Nach Ansicht mehrerer Experten reicht jedoch bei Vergleichssorten eine geringere Anzahl Pflanzen als bei Kandidatensorten für die Prüfung der Unterscheidbarkeit aus.

Ihrer Ansicht nach sind die Vergleichssorten oft gut bekannt und eine Beschreibung der typischen Merkmalsausprägungen dieser Sorten ist vorhanden.

Dokument TWO/43/14

"Anzahl der zur Feststellung der Unterscheidbarkeit notwendigen Pflanzen"

Daher wurde vereinbart, dass die Zahl der für die Unterscheidbarkeit notwendigen Pflanzen in Kapitel 4.1.4 der Prüfungsrichtlinien nur für Kandidatensorten gelten soll und nicht für Vergleichssorten.

Dokument TWO/43/18 "Beispielssorten"

Die in den Richtlinien der TWO genannten Beispielssorten werden vom führenden Sachverständigen für seine Prüfungsumstände ausgewählt. Es kann dabei nicht systematisch geprüft werden, ob diese Sorten auch in allen anderen Ländern als Beispielssorten geeignet sind.

Zudem können Beispielssorten schon nach wenigen Jahren nicht mehr verfügbar sein, da Zierpflanzensorten oft nach wenigen Jahren durch bessere Sorten ersetzt werden.

Dokument TWO/43/18 "Beispielssorten"

Daher sollten in den Richtlinien als Alternative zu Beispielssorten so weit wie möglich Fotografien und Abbildungen verwendet werden.

Zu 11: Blühenzeit: Wallona



1

2

3

gerillt

gerillt

gerillt

Zu 12: Blühenzeit: Rankensorte



gerillt

glatt

Dokument TWO/43/19 "Bereitstellung von Fotografien zusammen mit dem Technischen Fragebogen"

Die Arbeitsgruppe empfahl, das Dokument in Abschnitte zu gliedern, die mit entsprechenden Überschriften versehen werden sollten (z. B. Format der Fotos, Hintergrund).

Es sollte zudem die Wichtigkeit der Information zu Blüten- oder Blattformen und Farbmustern stärker betont werden. Die eigentliche Blütenfarbe sei weniger wichtig als das eventuell vorhandene Farbmuster.

TGP 14 "Glossar der in den UPOV-Dokumenten verwendeten Begriffe"

Dokument TWO/43/23 "Neuer Abschnitt über Farbmerkmale"

Teil II: Farbe

Einige Kapitel wurden gestrichen oder zusammengefasst.

Dokument TWO/43/23 "Neuer Abschnitt über Farbmerkmale"

Teil III: Farbverteilung / Muster

Die Struktur des Abschnitts soll geändert werden in:

- A. Hauptfarbe / Sekundärfarbe
- B. Grundfarbe / Deckfarbe
- C. Farben an bestimmten Teilen des Pflanzenorgans



Dokument TWO/43/23 "Neuer Abschnitt über Farbmerkmale"

- D. Reihenfolge der Farben nach RHS-Farbkarte
- E. Panaschierung
- F. Pigmente (Anthocyan, Carotinoide)
- G. Ausprägung (Stärke)
- H. Änderung der Farbe über die Zeit
- I. Anzahl Farben



TWO/43/28
"Angelegenheiten in Bezug auf vom Technischen Ausschuss angenommene Prüfungsrichtlinien"

2009 wurde von GRIN die Familie Onagraceae neu klassifiziert.

Das hatte zur Folge, dass Gaura keine eigene Gattung mehr ist, sondern nun zu Oenothera gehört.

TWO/43/28
"Angelegenheiten in Bezug auf vom Technischen Ausschuss angenommene Prüfungsrichtlinien"

Die TWO vereinbarte:

Der UPOV-Code für Oenothera und Gaura soll der GRIN Klassifizierung für Oenothera folgen.

Die Prüfungsrichtlinien für Oenothera L.(TG/144/3 aus 1993) und Gaura L. (TG/261/1 aus 2010) sollen beide bestehen bleiben.

TWO/43/28

"Angelegenheiten in Bezug auf vom Technischen Ausschuss angenommene Prüfungsrichtlinien"

Es wurde vorgeschlagen, dass die TWV prüfen solle, ob die Richtlinie für Oenothera überarbeitet werden müsse. In diesem Fall solle geprüft werden, für welche Arten die Richtlinie anzuwenden sei.



Oenothera



Gaura

Es wurde vereinbart, 8 Prüfungsrichtlinien an den Technischen Ausschuss zu geben:

Agapanthus



Bougainvillea

Canna

Camellia

Eucalyptus



Hibiskus

Torenia

Vriesea

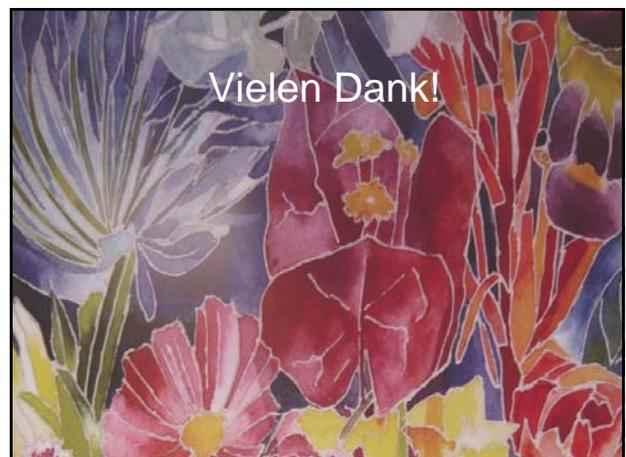
Die TWO schlug dem TC vor, Herrn Nik Huls (Australien) als nächsten Vorsitzenden zu empfehlen.



Das 44. Treffen der TWO wird vom 07. bis 11. November 2011 in Fukuyama Stadt, Präfektur Hiroshima, Japan stattfinden.



Es werden unter anderem 20 Prüfungsrichtlinien besprochen.
Davon sind 3 Revisionen und 17 neue Richtlinien.



Oral Report of the Chairperson of the Technical Working Party for Vegetables

Forty-fourth session of the
Technical Working Party
for Vegetables



Veliko Tarnovo, Bulgaria
July 5 to 9, 2010

Preparatory Workshop, July 4

Radmila Šafaříková, TWV Chairperson

1

Welcome

- 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, Mr. Tsvetan Dimitrov, Vice-Minister for Agriculture and Food, made a welcome address to the participants of the TWV.



2

Participation

- The session was attended by 40 participants from 18 members of the Union and one observer organization represented by 3 participants. The Preparatory Workshop was attended by ??? participants.



3

Agenda – the most important points

- **The reports from members and observers** on the development in plant variety protection and the report on the latest development within UPOV
- **Molecular techniques**
- TWV considered documents TWV/44/2 and BMT/DUS Draft 3 and agreed separate but parallel development of TGP/15
- **Information on CPVO R&D project** “Development and evaluation of molecular markers linked to diseases resistance genes for tomato in DUS testing”
 - Outcome
 - reliability of DNA techniques to identify genes used for conferring resistance to *Meloidogyne incognita* (nematodes) and Tomato Mosaic Virus (TMV)
 - Conclusion
 - not to implement DNA marker techniques into the DUS test as an alternative technique that time.
 - the DNA-marker use for testing a tomato reference collection or for confirmation of possible inconsistencies found in the bioassay

TGP documents

- **TGP/11 Examination of Stability**
 - to provide guidance, in the form of illustrative examples, on the examination of stability
- **TGP/5 Experience and Cooperation in DUS Testing (Section 10 Additional Characteristic)**
 - Presentation off the notified additional characteristics to the relevant Technical Working Party at the earliest opportunity.
 - Posting of the characteristics on the password-restricted area of the UPOV website.
 - 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.

5

TGP documents

- **TGP/7 Development of the Test Guidelines**
 - TWV agreed the sections for the near future revision.
- **TGP/8 Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability**
 - To add a new sections Control of variation due to different observers and Examining characteristics using image analysis.
 - Not to develop section Information of good agronomic practices for DUS field trials.
- **TGP/12 Guidance on Certain Physiological Characteristics**
 - Not elaborate in detail standard disease protocols in TG standard disease resistance protocols for not asterisked disease, only reference to contact.
 - Primary importance to achieve standardized results, rather than using standardized detailed conditions.

6

● ● ● **Technical guidelines**

- TWV discussed 13 Test Guidelines
 - 9 revisions or partial revisions (French bean, Globe artichoke, Lettuce, Onion, Pea, Radish, Spinach, Tomato, Watermelon)
 - 4 drafts (Echinacea, Lycopersicon, Dock and Shiitake).
- Dock, Globe artichoke, Lettuce, Spinach and Tomato should be sent to the TC for adoption.

7

● ● ● **Next chairperson**

- 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.



8

● ● ● **Technical visit**

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



9

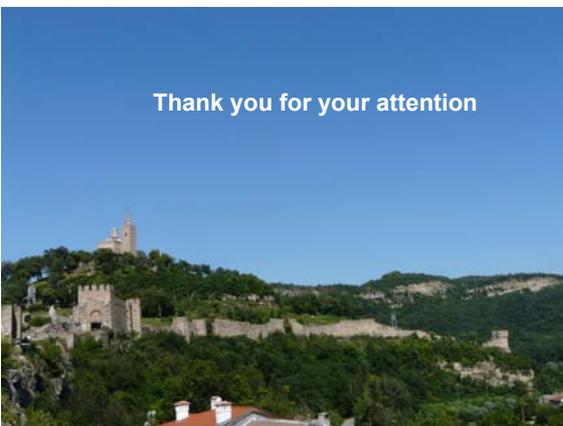
● ● ● **Near future**

- The TWV discussed and agreed the program for its forty-fifth session which will hold at the invitation of the United States of America in California, United States of America from July 25 to 29, 2011, with the Preparatory Workshop on the Sunday, July 24, 2011.

10

●

Thank you for your attention



Oral Report of the Chairman on Biochemical and Molecular Techniques,
and DNA-Profiling in Particular

12th BMT MEETING

Ottawa, Canada, 11-13 May 2010

12th BMT

Attended by:

77 participants

12 members of the union

4 observer organisations

Breeders' Day on 11 May

Main agenda items

1. Developments in UPOV on molecular techniques
2. Molecular techniques in essential derivation
3. Molecular techniques in variety identification
4. Developments in molecular techniques for DUS
5. International guidelines on molecular methods

1. Developments in UPOV

Discussed BMT/12/2, especially:

'System for combining phenotypic and molecular distances in the management of reference collections'

- To identify close varieties for comparison in trial
- Evaluates link between molecular distance and a broad assessment of distinctness in the field
- Combines molecular and phenotypic data into a decision scheme

1. Developments in UPOV

Discussed BMT/DUS draft 3

Replacing Options 1 to 3 with 'models' and 'examples'

TC will discuss in item 7 of its agenda

Agreed that TGP/15 should be developed in parallel to BMT/DUS and should only contain models with a positive assessment

2. Molecular techniques in essential derivation

SSRs to determine EDV status in maize

Developed by American Seed Trade Association to identify possible EDVs

Comprehensive set of markers and analysis of varieties to identify a core set

Calculate CVs to estimate genetic distance

Investigating SNPs as an improved tool

3. Molecular techniques in variety identification

Nine papers covering a wide range, for example:

- Preservation of DNA at time of granting rights, following official guidelines (Japan)
- Identifying susceptible varieties of Berberis to control black stem rust of wheat (Canada)
- Identifying soybean and rice varieties for enforcement, managing seed quality, and checking parental information (Brazil)

4. Molecular techniques for DUS

- SSR markers for potato reference collection (Canada) with links to related work in the European Union
- SNP markers for seasonal type in barley and initial work on other morphological characters (UK)
- Combining phenotypic and molecular distances for managing reference collections in barley (France)
- Managing soybean reference collections (Argentina)

5. International guidelines on molecular methods

Developments in ISTA on molecular techniques for variety identification

Horizontal Biomarker Analysis: ISO/TC 34/SC

Next meeting:

Brasilia, Brazil

22-24 November 2011

ANNEX IV

AMENDMENTS TO THE DRAFT TEST GUIDELINES
PRIOR TO THEIR ADOPTION AT THE FORTY-SEVENTH SESSION OF
THE TECHNICAL COMMITTEE (TC)

1. NEW TEST GUIDELINES

Acerola (<i>Malpighia emarginata</i> DC.)	TG/ACERO(proj.4)
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Changes to document TG/ACERO(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/ACERO(proj.4), submitted to the TC:

Botanical name	to read “ <i>Malpighia emarginata</i> DC., <i>Malpighia puniceifolia</i> auct. Non L.”
2.2	to read “The material is to be supplied in the form of budsticks with sufficient buds to propagate 5 trees (to be sent at budding time), dormant shoots grafted on a rootstock selected by the testing authority or one-year-old trees grafted on a rootstock selected by the testing authority.”
2.3	to read “- 5 budsticks or - 5 dormant shoots or - 5 one-year-old trees”
3.1.2	to delete “(flowering and/or vegetative)”
4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 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 2.”
Char. 28	to move after Char. 25
Ad. 21	- to turn the photographs by 180° - to add an asterisk to “below middle” “*The base is the end nearest to the stalk: however, the photographs were taken with the stalk (base) uppermost.”
9.	to adapt literature format

African Lily (<i>Agapanthus</i> L'Hér.)	TG/AGAPA(PROJ.4)
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Changes to document TG/AGAPA(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/AGAPA(proj.4), submitted to the TC:

Alternative Names	- to add Spanish name "Agapando" - to replace semicolons by commas
4.1.4	to read "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants."
Char. 19	to indicate as VG/MS instead of MG/MS
Char. 29	to indicate as VG instead of MG
Char. 45	to indicate as MG/VG instead of MG

Bougainvillea (<i>Bougainvillea Comm</i> Ex Juss.)	TG/BOUGA(PROJ.5)
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(a) Changes to document TG/BOUGA(proj.4), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/BOUGA(proj.5), submitted to the TC

Alternative Names	German name to read "Bougainvillee"
4.1.4	to read "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 9 plants or parts taken from each of 9 plants and any other observations made on all plants in the test, disregarding any off-type plants."
Char. 20	- to move before "Inflorescence: number of bract clusters" - to read "Inflorescence: arrangement of bract clusters"
Char. 29	to read "Young bract: main color of inner side (calyx lobe not open)"
TQ 5	to correct numbering 5.3i

(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

4.1.4	to check whether 5 plants would be sufficient <i>Leading Expert: no, keep 9 plants, most varieties are obtained by mutation</i>
Char. 4	to check whether to delete note (a) <i>Leading Expert agreed</i>
Char. 18 to 22	to be changed to a "plant" characteristic or to provide an explanation. <i>Leading Expert: keep inflorescence, add Ad. 18 to 22: to read "the part of the shoot with colored bracts is considered to be an inflorescence, irrespective of whether flowers are present"</i>
Char. 22	to check whether Char. 22 is different from Char. 21 <i>Leading Expert : yes, they are different, keep as it is</i>

Cacao (<i>Theobroma cacao</i> L.)	TG/CACAO(PROJ.4)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC

4.1.4.2	to read “Vegetatively propagated varieties: Unless otherwise indicated, for the purposes of distinctness, all observations should be made on 5 plants or parts taken from each of 5 plants, disregarding any off-type plants.”
4.2.3	heading to read “Seed propagated varieties”
4.2.4	to delete paragraph
Char. 2	to correct example variety of state 1: to read “EET-164”
Char. 3	to correct example variety of state 3: to read “EET-169”
Char. 5	to read “Young leaf: color” , to add explanation and to check with Leading Expert whether “young leaf” is different from “leaf.”
Char. 6	to read “Flower: anthocyanin coloration of pedicel”
Char. 9	to read “Flower: anthocyanin coloration of sepal”
Char. 12	to correct example variety of state 4: to read “EET-48”
Char. 13	to correct example variety of state 7: to read “RIM-20”
Char. 14	to correct example variety of state 3: to read “RIM-76A”
Char. 19	to read “Fruit: depth of grooves”
Char. 23	to add example varieties: state 1: to read “ICS-1, RIM-231” state 2: to read “IMC-67, POUND-12, Rim-88” state 3: to read “Carmelo, IMC-97, SCA-6”
Char. 24	to add example varieties for state 7: “IMC-67”, “IMC-97” ³
Char., Ad. 31	to delete
Ad. 19	to correct position of arrows
9.	to delete “ICA. 1972: Determination of total fat in cocoa products, HC hydrolysis method. International Confectionery Association. 8a/1972. Brussels, Belgium. 1 p.”

Camellia (<i>Camellia</i> L.)	TG/CAMEL (proj.4)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC

Char. 8	to read “(1) distichous ,(2) four-row dispersed, (3) dispersed”
Char. 9	to delete states 1 and 9
Chars. 9 and 10	to read VG/MS
Char. 11	to read “(1) below middle third, (2) in middle third, (3) above middle third”

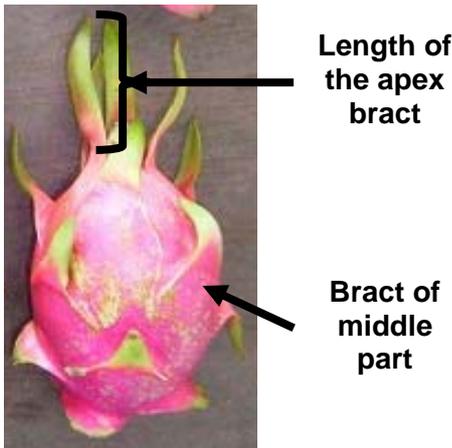
³ Corrected from document TC/47/26 “Report on the Conclusions”

Char 11 and 25	to have same wording
Char. 20	to add example varieties or to delete (*)
Char. 30 to 33	to add (e)
Char. 32	to add example varieties
Char. 33	to read: “Flower: petaloid organs:” with state (3) “all stamens and pistil petaloid” ⁴
Char. 36	to add explanation or example varieties
Char. 40	to ask leading expert whether this characteristic refers to conspicuousness of veins, number of veins or both and to provide a better explanation and example varieties
Char. 41	to add (+)
Char. 42	to read “Petal: distribution of shading of main color (excluding variegation)”
Char. 43	to add (+)
Char. 44	to read “Petal: distribution of secondary color”
Char. 45 to 49	to add (g)
8.1	(e) to delete “regular” and “5” (f) to delete “regular” and “in blossoming season” (g) to provide the diagram
Ad. 8	to explain that (2) has a divergence of 90 ⁰ and (3) has a divergence of >90 ⁰
Ad 22	to provide drawings that show leaf cross section for states (2) and (3)
Ad 40	to provide better drawings
Ad. 41	to read “The main color is determined as the color with the largest surface area present on the upper side of a petal.”
Ad. 43	to read “The secondary color is determined as the color with the second largest surface area, usually observed as a defined pattern on the upper side of a petal.”
Add. 41, 42, 43, 44	to add standard definition concerning main color, secondary color, etc. “The main color is the color with the largest area and the secondary color is the color with the second largest area on the upper part of the petal. To ask the leading expert whether it would be useful to include the following sentence in the explanation: “In cases where the area of the main and secondary colors are nearly equal, the darker color should be considered to be the main color.”
Add. 48	to provide a new drawing for state (3) “Same level”

⁴ Corrected from document TC/47/26 “Report on the Conclusions”

Dragon-fruit (<i>Hylocereus undatus</i> (Haw.) Britton et Rose)	TG/DRAGON (proj.5)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC

2.2	to read “The material is to be supplied in the form of [...] , sufficient to produce 5 plants.”
2.3	to request 5 one-year old plants instead of 6.
3.4.1	to refer to 5 plants instead of 6
4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations should be made on 5 plants or parts taken from each of 5 plants, disregarding any off-type plants.”
4.2.2	last sentence to read “In the case of a sample size of 5 plants, no off-type is allowed.”
Table	to replace MG by MS for char. 2, 3, 6, 7, 11, 16, 17, 18, 23, 27, 28, 31, 34, 35, 38
Char. 12	to add explanation for “main color”
Char. 29	to be indicated as VG/MS
Char. 36	to delete (+)
Char. 38	to delete explanation in brackets
8.1	(a), (b) and (c) to delete “Unless otherwise indicated” (c) To read “Unopened flower: observations should be made 17 days after flower bur burst.” (d) and (e) to delete “All” to delete (f) and to incorporate explanation in Ad 35.
Ad. 3	to read “To be observed at the middle part of the annual stem section”
Ad. 31	to be put together with Ad. 33
Ad. 31 and 33	to have the following illustration and to add an explanation of main color  <p>The illustration shows a dragon fruit with a pinkish-red body and green bracts. A bracket on the top green bract is labeled "Length of the apex bract". An arrow points to a green bract on the middle part of the fruit, labeled "Bract of middle part".</p>
Ad. 34	to mark where to measure the width
Ad. 35	to read: “To be determined by cutting in transversal section in the middle of the fruit.”

Ad. 38	to read: “The sweetness of the fruit should be observed as the content of total soluble solids. The content of total soluble solids should be assessed in the middle part of the fruit using a refractometer.”
9.	4th reference: to delete full stop after “Hylocereus”

Foxtail Millet (<i>Setaria italica</i> L.)	TG/SETARIA(proj.5)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC

2.3	to delete “and 50 panicles (if required by the authorities)”
4.2.2	to read “For the assessment of uniformity a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 1,000 plants 15 off-types are allowed.”
4.2.3	to delete the first sentence
4.2.4	to be deleted
Char. 2	to read: “Plant: anthocyanin coloration of basal leaf sheath” and to check with the Leading Expert whether the time of assessment is 5 or 7 leaves unfolded and to have consistency with Ad. 2
Char. 3	to read “Plant: intensity of green color”
Char. 5	to read “Plant: anthocyanin coloration of base of leaf blade”
Char. 12, 13	to check with Leading Expert whether to be indicates as VG/MS
Char. 15	to check method of observation with Leading Expert
Char. 16, 18, 20, 22, 23 and 24	to check with Leading Expert whether to be indicated as VG/MS
Char. 18 to 21	to check whether it should be observed at stage 92 instead of 91 (as Char. 22 to 26).
Ad. 2	to indicate correct stage of development in char. 2
Ad. 9	to read: “Bristles originate from the sterile spikelets.”
Ad. 15	to delete the text to improve drawing with dotted lines to incorporate titles of Ads. 18, 20, 22 without text.
Ad. 23	to read: “The density of the panicle is the number of rachis per centimetre in the middle third of the panicle.”
Ad. 24	to read: “The number of grains should be counted on a secondary branch taken from the middle third of the panicle.” and to ask Leading expert to provide an explanation on secondary brand
Ad. 29	to add concentration of Potassium Iodide solution
8.3	to check with Leading Expert that the literature for the growth stages should be clearly indicated. It seems to be the BBCH scale for cereals which was adapted to foxtail millet in stage 4 and 5. If the BBCH scale is used, the text should be in line with the publication

Garden Sorrel (<i>Rumex acetosa</i> L.)	TG/RUMEX(PROJ.7)
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Changes to document TG/RUMEX(proj.6), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/RUMEX(proj.7), submitted to the TC:

Alternative Names	to add German name “Großer Sauerampfer”
4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants.”
Char. 13	to have notes 1, 3, 5 instead of notes 3, 5, 7
Char. 20	to delete “(without stem)”
Ad. 13	to read “This characteristic should be observed on the stem at time of full bloom of panicle. The minimum number of internodes is 2 (note 1).”
Ad. 15, 16, 17, 18	to read “The characteristics should be observed on a fully developed leaf on the middle part of the main stem.”

Rose of Sharon (<i>Hibiscus syriacus</i> L.)	TG/HIBIS(PROJ.7)
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(a) Changes to document TG/HIBIS(proj.6), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/HIBIS(proj.7), submitted to the TC

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 6 plants or parts taken from each of 6 plants and any other observations made on all plants in the test, disregarding any off-type plants.”
Char. 14	to add (+)
Char. 15	to delete (+)
Char. 16	to read “Flower: Pedicel: length
Char. 30	to add PQ
TQ 5.6	to add 5.6i RHS Colour Chart
TQ 5.6ii	to add state “other” and note 6

(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

Char. 4	to check whether to replace “branch” with “shoot”
Char. 10	example variety for state 9 to be provided
Char. 18	to add “(b)”.
Ad. 19	to improve image for state 1 (to be presented in side view like the others)

Ad. 29, 30	to add sentence: “If the area of the colors is nearly half and half, the darker color is the main color.” to check with Leadin Expert (darker or lighter color)
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Torenia (<i>Torenia</i> L.)	TG/TOREN(proj.4)
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Changes to document TG/TOREN(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/TOREN(proj.4), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 9 plants or parts taken from each of 9 plants for vegetatively propagated varieties, or 19 plants or parts of plants taken from 19 plants for seed-propagated varieties, and any other observations made on all plants in the test, disregarding any off-type plants.”
Ad. 7	to add notes 1 and 3 to illustration
9.	to adapt literature format

VRIESEA (<i>Vriesia</i> Lindl.)	TG/VRIES(proj.6)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC:

3.3	to add a new paragraph after 3.3.1 as follows: “All observations should be made when [<i>leading expert to state how many</i>] flowers are fully open in the middle third of the terminal branch.”
all MG chars.	Chars. 1, 2, 3, 10, 11, 12, 13, 24, 26, 28, 29, 30, 31, 32, 34, 36, 37, 43 and 44 to check with Leading Expert whether to indicate as VG/MS to reconsider number of plants in 4.1.4
Char. 2	to read “Plant: width”
Char. 22	characteristic to read: “Inflorescence: position in relation to foliage” states to read “same height (1)”, “partly above (2)” and “completely above (3)”
Char. 27	to be moved before char. 22
Char. 29	to read: “ <u>Only varieties with inflorescence branching: present:</u> Inflorescence: width of flowering part ⁵ ”
8.1 (a)	to read “Observations on the young leaf blade should be made on a leaf blade from the first three inner whorls of the rosette.”
8.1 (b)	to read “Observations on the leaf should be made on the largest fully expanded leaf of the outer whorl of the rosette.”

⁵ Corrected from document TC/47/26 “Report on the Conclusions”

8.1 (c)	to read “Observations on the flower should be made on a fully expanded flower in the middle third of the terminal branch.”
8.1 (d) and (e)	to be deleted
Ad. 2 and 29	to read “width” instead of “diameter”
Ad. 4	to read “The main color is the color with the largest surface area, excluding variegation. If the area of the colors is nearly half and half, the lighter color is the main color.”
Ad. 7 and Ad. 18	explanation for state (2) to read “2. flushed: red purple, purple or red brown color that changes gradually”
Ad 24, 28, 29	to put arrows instead of lines to indicate the branches of the inflorescence and to replace “diameter” by “width” in Ad. 29
Ad. 39, 40, 41	to read “The main color is the color with the largest total surface area, the secondary color (if present) is the color with the second largest total surface area. If the area of the colors is nearly half and half, the lighter color is the main color.”
New Ad.	to add illustration for the organs considered in char. 42, 43, 46, 47, 48

2. REVISIONS

Almond (<i>Prunus amygdalus</i> Batsch)	TG/56/4 (proj.4)
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(a) Changes to document TG/56/4(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/56/4(proj.4), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 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 2.”
Ad. 43	to read “The beginning of flowering is when 10% of flowers have fully opened.”
Ad. 44	to read “The time of harvest is when 50% of the fruits on the tree split.”

(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

Cover page	botanical name to read <i>Prunus dulcis</i> (Mill.) D.A.Webb (i.e. parenthesis non italics)
Char. 22	to delete “(+)”
Char. 33	to be indicated MS/VG and to read “Stone: ratio length width in lateral view”
Char 37	to have notes (1), (2), (3), (4) and (5).
Ad. 15	to replace drawings that resembles buds.

Ad. 16	to read : “Ad. 16: Flower bud: color of tip of petals”
Ad. 22	to be deleted.
Ad. 35	to be moved before Ad. 37.

Artichoke, Cardoon (<i>Cynara cardunculus</i> L.)	TG/184/4(proj.3)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC:

Cover page	to add alternative botanical name “ <i>Cynara scolymus</i> L.”
2.3	to delete the comment from Leading Expert
5.3	to add missing numbering of 5.3 after 5.2, to delete comment from Leading Expert, and to add Char. 17 as grouping characteristic within Artichoke.
Char. 1.1	to correct example varieties of states 5 and 7: “Vert Globe (A)” and “Madrigal (A)”
Char. 1.2	to correct example varieties of states 5 and 7: “Rouge d’Alger (C)” and “Verde de Peralta (C)”
all “petiole” chars ⁶	to replace “petiole” by “midrib” and to add an explanation of midrib in Section 8.2
Char. 11	to read “Midrib: length from base to apex” and to include explanation on 2 cm in Ad. 11
Char. 14	to add example varieties as follows: 1: Violet de Camargue (A), Matterhorn (A); 3 : Vert de Vaulx en Vélin (C), Opal (A) ; 5 : Plein blanc amélioré (C), Menuet (A) ; 7 : Plein blanc amélioré (C), Menuet (A) ; 9 : Verde de Peralta (C)
Char. 17	to delete VG ; and to read “ <u>Artichoke varieties only</u> : Main stem: time of beginning of elongation” and to add explanation on main stem.
Char. 19	to move explanation in brackets “(at about 10 cm below central flower head)” to 8.3
Char. 30	to read “ <u>Artichoke varieties only</u> : Outer bract: violet color on external side”
Char. 31	to read “ <u>Artichoke varieties only</u> : Outer bract: coloration of apex on external side”
Char. 34	to have states: “inwards (1)”, “straight (2)” and “outwards (3)”.
8.1	to delete (*) after characteristic numbers in the tables
8.2	to add explanation for “main stem”
8.2 (a)	to read “Characteristics on plant, foliage (leaf, leaf blade and petiole) should be observed at fully vegetative development, just after the first flower head appears, but before the main flowering stem starts to elongate. Observations should be made at 10 – 12 leaves-stage on the 3rd – 4th whorl of leaves from the base of the plant” to delete comment “to check allocation of note (a)”

⁶ Corrected from document TC/47/26 “Report on the Conclusions”

8.2 (b)	to read “Characteristics on the main flowering stem and central flower head should be observed at the harvest stage of the central flower head (largest size of central flower head just before reflexing of lower part of bracts)”
8.2 (d)	to read “Characteristics on the outer bract should be observed on the 5th whorl of bracts from the base of the central flower head (close to the middle third of the flower head).”
Ad. 3	to put “AND” in lower case
Ad. 11, 12 and 13	to all the leaf blade to the diagram of the midrib and to indicate the correct number of the characteristics to observe; 12 instead of 13 and 13, instead of 14.
Ad. 17	to delete “(visual assessment)”
TQ 5	to add char. 18 because it is necessary for the classification of Artichoke and Cardoon (see 8.1) to add example varieties as per table, indicating A and B.
TQ 5	to delete highlighted lines “ <i>Whether it is a CARDOON or an ARTICHOKE variety</i> ”, “ <i>If it is declared as a CARDOON variety</i> ” and “ <i>If it is declared as an ARTICHOKE variety</i> ”

Flax, Linseed (<i>Linum usitatissimum</i> L.)	TG/57/7(proj.6)
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(a) Changes to document TG/57/7(proj.5), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/57/7(proj.6), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 40 plants or parts taken from each of 40 plants and any other observations made on all plants in the test, disregarding any off-type plants.”
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(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

Char. 13	state 2 to read: “white with a yellow dot at base” state to read: “4: white with a blue dot at base”
Char. 14	to read “Plant: height” (natural deleted)
8.1 (b)	to read : “To be observed for long and medium type varieties with brown seed color only. The observation is not useful for short type varieties and for varieties with yellow seed color. Varieties are classified in short type varieties (Note 1-4), medium type varieties (Note 5) and long type varieties (Note 6-9) based on characteristic 20 (Stem: length from cotyledon scar to first branch).”
Ad. 2	to read “Time of flowering is reached, when the first flower is open in 10% of plants.”
Ad. 20 and 21	the reference to characteristic 14 to read “Plant: height (characteristic 14)”

Gooseberry (<i>Ribes uva-crispa</i> L.)	TG/51/7(proj.4)
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(a) Changes to document TG/51/7(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/51/7(proj.4), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants.”
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(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

3.1.2	to delete text in brackets
Char. 5	to be deleted
Ad. 5	<i>Leading Expert agreed</i>
Char. 21	“Inflorescence: number of flowers”
State 1	to check with Leading Expert whether the term inflorescence is correct for state (1) “one”.
9.	The year of the first publication must be in the following literature: 9. <u>Literature</u> AVD för Fruktoch Bärödling: Internordic Index of Ribes and Rubus Cultivars. Alnarp, SE

Japanese Plum (<i>Prunus salicina</i> Lindl.)	TG/84/4(proj.4)
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Changes proposed by the TC-EDC in April 2011, which are to be included in the Test Guidelines submitted to the TC:

Char. 6	to add explanation on the time of observation
Char. 9, 10, 11, 18, 20, 24, 36	to replace MG by VG
Char. 13	to be indicated PQ
Char. 21, 24	to add VG
Char. 22	to delete “(flowers with 5 petals only)” and to add explanation to Ad. 22
Char. 29	to add explanation on how to assess size
Char. 32	to read “Fruit: shape in lateral view”
Char. 36	to delete MG
Car. 40	to add PQ
Char. 45	to check with Leading Expert if 9 notes are appropriate
Chars. 47, 48	to delete VG
Chars. 52	to add explanation on how to assess to amount of fiber
Ad. 17	to add drawing instead of photograph for state 2 (as for other states)

Ad. 32	to include real Japanese plum shapes and to delete text “(parallel)” in 1 and “(rounded)” in 3.
Ad. 40, 41	to read “To be observed without the bloom. The ground color is the first color to appear chronologically during the development of the skin and upon which other colors will develop in time in the form of spots, a macule, or a color flush or blush. It is not always necessarily the largest area of the fruit. The over color is the second color developing over time over the ground color. The coloration does not necessarily cover the smallest area of the fruit and consists of a pattern such as a flush or flecking.”
Ad. 43	to read “The over color is the second color developing over time over the ground color. The coloration does not necessarily cover the smallest area of the fruit and consists of a pattern such as a flush or flecking.”

Olive (<i>Olea europaea</i> L.)	TG/99/4 (proj.4)
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(a) Changes to document TG/99/4(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/99/4(proj.4), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 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 5.”
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(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

2.3	to request “5 plants” instead of “5 trees”
Char. 2	QN instead of PQ
Char. 7	to be indicated MS
char. 8	to delete the asterisk
Char. 29	to check with Leading Expert whether “width” relates to char. 31 (i.e. in position B) and to move after characteristic 31
Char. 36	to add an (+), and to be indicated as PQ
Char. 37	to add (e)
Char. 38	to check with Leading Expert whether QL and states “absent/present” are appropriate.
8.1 (a)	to read “Observations should be made on fully developed leaves from the central part of one-year-old shoots in full growth.”
8.1 (b)	to read “Observations should be made on inflorescences from the central part of fruiting branches.”

8.1 (c)	to read “Observations should be made on fully ripened fruits at time of ripening. Time of ripening is when 80% of the fruit on the tree has colored. For the fruit two positions (A and B) are used. Position A is the position in which the organ shows its largest asymmetry. Position B is reached from position A by turning 90° along the longitudinal axis in a way to present the most developed part of the organ to the observer.”
Ad. 3	to read “The canopy density refers to the overall abundance of canopy vegetation. The following measures should be taken into account, length of internodes, number and vigor of the shoots and the size of the leaves.”
Ad. 4	to read “Observations should be made on 5 fruiting branches of each tree.”
Ad. 9	to present pictures horizontally
Ad. 11, 12	to move arrows outside the image.
Ad. 16	to be deleted
Ad. 17	to replace the present illustrations by another ones which show fruit shapes and to present the grid as in TGP/14
Ad 36	to ask Leading Expert for better illustration for state (3).
9.	to include the following literature: -Moutier N. (coord.), Pinatel C., Martre A., Roger J.P., Khadari B., Burgevin J.F., Ollivier D., Artaud J., 2004. Identification et caractérisation des variétés d'olivier cultivées en France - tome 1. Naturalia publications, Turriers. 248 p. -Moutier N. (coord.), Pinatel C., Martre A., Roger J.P., Khadari B., Burgevin J.F., Ollivier D., Artaud J., 2011. Identification et caractérisation des variétés d'olivier cultivées en France - tome 2. Naturalia publications, Turriers (sous presse)

Red and white Currant (<i>Ribes rubrum</i> L.)	TG/52/6(proj.4)
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(a) Changes to document TG/52/6(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/52/6(proj.4), submitted to the TC:

4.1.4	to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of plants and any other observations made on all plants in the test, disregarding any off-type plants.”
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(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

Char. 3	QN instead of PQ
Char. 11	to delete "(d)" <i>Leading Expert agreed</i>
Char. 12,13,	VG/MS instead of VG/MQ

14,22, 23	
Char. 12 to 16	to replace (e) by (c) <i>Leading Expert agreed</i>
Char. 17 to 21	to replace (f) by (d) <i>Leading Expert agree</i>
Char. 22 to 27	to replace (g) by (e) <i>Leading Expert agreed</i>
8.1 (b)	to read "Observations should be made when the buds begin to swell." <i>Leading Expert agreed</i>
8.1 (c)	to read "Observations should be made on fully developed leaves at fruit maturity on the upper third of typical one-year-old shoots."
Ad. 16	The diagram should be deleted and replaced by the following sentence: "The thickness should be observed in the middle part of the petiole." <i>Leading Expert agreed</i>
Ad. 26	to standardize the formatting of the legend according to TGP 14
Ad. 28	to read "The time of bud burst is when 10 % of the buds are burst." <i>Leading Expert agreed</i>
Ad. 29	to read "The time of beginning of flowering is when 10 % of the flowers are open." <i>Leading Expert agreed</i>

Tomato (<i>Solanum lycopersicum</i> L.)	TG/44/11(proj.5)
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(a) Changes to document TG/44/11(proj.4), proposed by the Enlarged Editorial Committee at its meeting on January 6, 2011, which are already incorporated in the draft Test Guidelines TG/44/11(proj.5), submitted to the TC:

4.1.4	to read "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test, disregarding any off-type plants."
Char. 20	- to underline "Only varieties with peduncle abscission layer present." - to replace "Peduncle" by "Pedicel"
Char. 25	to move after Char. 23
Char. 34	to delete brackets
Char. 38	to add notes 1 to 6
Char. 54	to delete "spp."
Ad. 11	- to delete illustration - to add "The size of leaflet should be observed in the middle of the leaf."
Ad. 28	to add "The apex is considered to be the part that is farthest from the peduncle end."
Ad. 35	to read "The absolute thickness of the pericarp should be observed, i.e. irrespective of the size of the fruit."

(b) Changes proposed by the TC-EDC in January or April 2011, which are to be included in the Test Guidelines submitted to the TC:

3.3	to check whether to add “The time of flowering (characteristic 43) cannot be observed on non-staked plants”
Char. 28	state 8: to check whether to delete example variety “Barbara”
Char. 34	to check whether to replace “size” with “diameter”
Char. 47	species to be specified
Ad. 2	to read “ <u>Determinate (1)</u> : This type produces a fix number of trusses on each stem. The number...”
Ad. 16	- explanation to be clarified - “number of uniparous and multiparous trusses on the second and third truss of 20 plants”: to check whether to replace with 10 (see 4.1.4)
Ad. 23	explanation to be combined with explanation in Ad. 24
Ad. 28	to check whether the illustrations for states 8 and 9 should be reversed – see states 7 and 11
Ad. 42	expression “naturally good conditions” to be elaborated
Ad. 44	to check whether the same issues, concerning observation on non-staked crops, also applies for Char. 44 as for Char. 43
Ad. 46	to read “Notation: number of root knots contaminated with eggs and root deformation”
Ad. 48	to read “ <u>Notation scale</u> : 4 classes [.....]. <u>Interpretation of scale</u> : Generally, 0 and 1 are equivalent to resistant, 2 and 3 are susceptible but analysis of results should be calibrated with results of R and S controls.
Ad. 50.1-50.6	to read: “Growing method: in climate room, highest possible humidity, with reduced growth a few days before...”
Ad. 51.1-51.3	“Growth stage of plants: [.....]. Controls for ToMV:0, these varieties were not validated as standard varieties for ToMV:1 and ToMV:2:...” Leading Expert to explain the meaning of this sentence and to reword if necessary.
Ad. 56	to correct standard variety “Caraïbo”
9.	to correct literature format as follows: Ano, G.; Brand, R.; Causse, M.; Chauvet; Damidaux, R.; Laterrot, H.; Philouze, J.; Plages, J.N.; <u>Rousselle</u> , 2006 : La Tomate, in Histoire et amélioration de cinquante plantes cultivées au XX ème siècle. Coordinatrice C.Doré, Collection Savoir faire- Editions INRA Quae-2006 840p

9.	<p>Does not follow TGP/7. Some observation and notes are highlighted:</p> <p>9. <u>Literature</u></p> <p>Ano, G.; Brand, R.; Causse, M.; Chauvet; Damidaux, R.; Laterrot, H.; Philouze, J.; Plages, J.N.; Rrouselle, 2006; La Tomate, in Histoire et amélioration de cinquante INCOMPLETE</p> <p>Brand, R., 2000: Evolution des variétés de Tomate au cours du siècle, dans 'La Tomate : pour un produit de qualité', Edition Ctifl, p 97-C85105 (ouvrage collectif), CITY AND COUNTRY</p> <p>Brand, R., 2001: Current DUS testing methods for tomato: a brief summary of the tomato practice, existing needs and expectations for molecular techniques at BMT-TWV-UPOV meeting March 2001 CITY AND COUNTRY</p> <p>Denby, L. G., Wooliams, G. E., 1962: The Development of Verticillium Resistant Strains of Established Tomato Varieties, Canadian Journal Plant Science 42, pp.681-685. 42: 681-685.</p> <p>Kjellberg, L., 1973: Sortundersökningar av tomat enligt UPOV, Swedish University of Agricultural Sciences, Research Information Centre, Alnarp Trädgaard 162, SE.</p> <p>Laterrot, H., 1973: Sélection de variétés de Tomate résistantes aux Meloidogyne, OEPP/EPPO Bulletin 3(1): 89.92. 89-92</p> <p>Laterrot, H., 1972: Sélection de tomates résistantes à Fusarium oxysporum f. sp. lycopersici, Phytopathologia Mediterranea, Volume XI, No. 3, p. 154-158. 11(3): 154-158.</p> <p>Laterrot, H., 1981: La lutte génétique contre la Cladosporiose de la Tomate en France. P.H.M. Revue Horticole, No. 214, February 1981. 214: the pages are missing</p> <p>Laterrot, H., 1973: Résistance de la Tomate au virus de la Mosaïque du Tabac. Difficultés rencontrées pour la Sélection de variétés résistantes. Ann.Amelior.Plantes, 1973, 23(4), pp.287-313. 23(49): 287-313.</p> <p>Laterrot, H., 1990: Situation de la lutte génétique contre les parasites de la Tomate dans les pays méditerranéens. P.H.M. Revue Horticole, No. 303, January 1990. 303: pages are missing</p> <p>Laterrot, H., 1975: Sélection pour la résistance au Mildiou, Phytophthora infestans MONT. DE BARY chez la Tomate, Ann.Amelior.Plantes, 1975, 25(2), pp.129-149. 25(2): 129-149.</p> <p>Laterrot, H., 1982: L'argenture de la Tomate. P.H.M. Revue Horticole, No. 225, March 1982. 225: pages are missing</p> <p>Laterrot, H., 1983: La lutte génétique contre la maladie des racines liégeuses de la Tomate, P.H.M. Revue Horticole, No. 238, June-July 1983. 238: pages are missing</p> <p>Laterrot, H. and BLANCARD, D., 1983: Criblage d'une série de lignées et d'hybrides F1 de Tomate pour la résistance à la Stemphyliose, Phytopath. medit. 1983, 22, pp.188-193. 22: 188-193.</p> <p>Laterrot, H. and BLANCARD, D., 1986: Les Stemphyliia rencontrés sur la Tomate, Phytopath. medit. 1986, 25, pp.140-144. 25: 140-140.</p> <p>Smilde, W.D., Peters, D. (2007) Pathotyping TSWV in pepper and tomato. In: K. Niemirowicz-Szczytt (ed.), Progress in Research on Capsicum and Eggplant, Proceedings of Eucarpia meeting, Warszawa, POL, 231-236 pp. 231-236.</p>
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[End of Annex IV and of document]