



TC/48/22

ORIGINAL: English

DATE: March 28, 2012

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
Geneva

TECHNICAL COMMITTEE

Forty-Eighth Session
Geneva, March 26 to 28, 2012

REPORT ON THE CONCLUSIONS

adopted by the Technical Committee

Opening of the session

1. The Technical Committee (TC) held its forty-eighth session in Geneva from March 26 to 28, 2012. 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 its instrument of accession to the UPOV Convention on April 4, 2011, and had become the sixty-ninth member of the Union on May 4, 2011, and that Peru had deposited its instrument of accession to the 1991 Act of the UPOV Convention on July 8, 2011, and had become the seventieth member of the Union on August 8, 2011. He also reported that Ireland, which had been a member of the Union since November 8, 1981, had deposited its instrument of ratification of the 1991 Act of the UPOV Convention on December 8, 2011, and had become bound by the 1991 Act on January 8, 2012.
4. The Vice Secretary-General reported that Mr. Raimundo Lavignolle had left the Office of the Union at the end of 2011 and expressed his appreciation for the dedicated and excellent service that Mr. Lavignolle had provided during his 13 years with the Office of the Union.

Adoption of the Agenda

5. The TC adopted the agenda as presented in document TC/48/1 Rev. It noted that an interactive version of the pdf version of the agenda had been made available on the website. The TC agreed to the inclusion of photographs in the list of participants of the report of the session, subject to agreement by each participant.
6. The TC noted that, as agreed at its forty-seventh session, documents under consideration at its forty-eighth session would be displayed on screen in the language of the original document.
7. In response to a request from the Delegation of Spain, the Vice Secretary-General confirmed the intention to add an indication of the language in document references for future sessions.

Discussion on experiences of members of the Union on measures to improve the efficiency and effectiveness of DUS testing

Tools for the management of variety collections

8. The TC discussed tools for the management of variety collections on the basis of a presentation by Mr. Kees van Ettekovén (Netherlands).

9. The Chairman concluded that the identification of varieties that should be included in the variety collection was a major challenge and that increasing worldwide knowledge of varieties increased that challenge. He noted that it was preferable to have as much knowledge as possible and to try to find effective tools that could meet that challenge. In that regard, he observed that molecular techniques had an important role to play in supplementing, while not replacing, existing tools. He emphasized that the expertise of the DUS examiners was of paramount importance in any approach to the management of variety collections.

Examples varieties

10. The TC discussed example varieties on the basis of a presentation by Mr. Richard Brand (France).

11. The Chairman recalled that the discussion concerned the inclusion of example varieties in the (UPOV) Test Guidelines and noted that a complete set of example varieties would be important for each member of the Union. With regard to example varieties in the Test Guidelines, he concluded that, in many cases, it would be difficult to identify a “universal” set of example varieties that would be suitable for all members of the Union. However, where it was not possible to develop a universal set of example varieties, he noted that it might still be beneficial to try to preserve similar ranges for the states of expression for all members of the Union. With regard to solutions where a universal set of example varieties could not be agreed for all members of the Union, he recalled that regional sets of example varieties could be an effective measure. He also observed that the making available of variety descriptions by members of the Union could be an important source of information, whilst noting that the development of such databases would involve substantial cost.

12. With regard to Test Guidelines, the Chairman noted a suggestion that the Leading Expert might provide a full list of varieties that might be available as example varieties, rather than suggesting a limited list. He also recalled that, where appropriate, example varieties might be replaced by illustrations and references to calibration books of members of the Union, in the Test Guidelines’ Chapter on Literature.

Discriminative power of characteristics

13. The TC discussed the discriminative power of characteristics on the basis of a presentation by Mrs. Sally Watson (United Kingdom).

14. The Chairman noted that the following observations in the presentation would provide useful guidance for the TWPs:

(a) the asterisked characteristics in the Test Guidelines are observed on all varieties in DUS trials by all members of the Union;

(b) some characteristics are useful only rarely, maybe not every year, but when used they are invaluable;

(c) in some crops where the varieties are all from a similar genetic base and discrimination is difficult, more characteristics may be necessary;

(d) a reduction in the number of characteristics does not necessarily save costs: more direct comparison plots may be needed at greater overall cost;

(e) not all characteristics are equally discriminatory for all members of the Union; and

(f) TWP discussions on experiences with characteristics and consequent harmonization are invaluable.

The Chairman added that an important role of the TWPs was to ensure the selection of suitable characteristics and to ensure that the number of characteristics was appropriate for the purpose of the

examination of DUS. In particular, he emphasized that it was not necessary to have a set of characteristics that would describe all germplasm.

Grouping characteristics

15. The TC discussed example varieties on the basis of a presentation prepared by Mr. Dirk Theobald (European Union) and presented, in his absence, by Mr. Carlos Godinho (European Union).

16. The Chairman recalled that the selection of grouping characteristics in the UPOV Test Guidelines was based on the information that was likely to be available from other members of the Union and to be requested from the breeder in the Technical Questionnaire. Further characteristics might also be useful for grouping where the information available to the DUS examiner provided useful discrimination between varieties from documented states of expression for those characteristics, e.g. where the variety descriptions were obtained from the same growing trial, such as could be the case from the first growing cycle where the DUS examination involved two growing cycles. He concluded by recalling that the use of different characteristics for grouping could lead to a different route to the decision on distinctness, but that the decision on distinctness would be the same if the UPOV principles for grouping were followed.

Uniformity: harmonization between species

17. The TC discussed the harmonization of uniformity standards between species on the basis of a presentation by Mrs. Radmila Safarikova (Czech Republic).

18. The Chairman concluded that it was important for the uniformity standards to reflect the genetic structure and type of propagation of the crop/species concerned. However, with regard to harmonization for uniformity, he noted that the intention was to ensure that the UPOV principles were implemented in a harmonized, i.e. consistent, manner. Therefore, he considered that it would be valuable to review the current situation and reflect if there were any Test Guidelines where it would be appropriate to seek greater consistency.

Number of plants to be examined

19. The TC discussed the number of plants to be examined on the basis of a presentation by Mrs. Beate Rücker (Germany).

20. The Chairman suggested that the following observations in the presentation would provide effective guidance and might be considered by the TWPs:

Considerations for the number of plants to be observed for distinctness in case of QN (PQ) characteristics:

- (a) Observation on the plot as a whole (VG/MG)
 - indicated number to be considered as minimum number
- (b) Observation on subsample from plot (VG/MG)
 - indicated number to be considered as minimum number
- (c) Observations on individual plants (VS/MS)
 - number of plants important for precision of record
 - specific number to be indicated

Considerations for the number of plants for candidate varieties and varieties to be compared with

If uniformity has not to be observed for similar varieties of common knowledge (reference varieties), it can be considered to include in the trial a lower number of plants for the reference varieties.

Overall Conclusion

21. The Chairman thanked the speakers for their presentations and the participants for their active involvement in the discussions. He noted that the presentations were a valuable source of information and confirmed that they would be available via the UPOV website for further consideration by the TC and the TWPs.

22. The Chairman observed that the discussions had highlighted the crucial importance of expertise in the form of crop knowledge, breeding developments and UPOV/DUS knowledge. The complexity of factors involved in designing and interpreting DUS tests meant that it was not feasible to provide a comprehensive guide to address all situations. Acknowledgement of that situation added further emphasis to the importance of cooperation between members of the Union. He concluded that practical experience in DUS testing was essential and pointed to the unique role of the TWPs in developing expertise and transferring knowledge for both experienced and less experienced DUS examiners.

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

23. The Vice Secretary-General provided an oral report, in the form of a Powerpoint presentation, on the sixty-third and sixty-fourth sessions of the Administrative and Legal Committee (CAJ), eighty-first and eighty-second sessions of the Consultative Committee and the twenty-eighth extraordinary session and the forty-fifth ordinary session of the Council. The TC noted that a copy of that presentation would be provided as an annex to the report of the session.

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

24. The TC received oral reports from the Chairpersons, in the form of a Powerpoint presentations, 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). It noted that copies of those presentations would be provided in an annex to the report of the session.

25. The TC noted that the Republic of Korea proposed to change the venue for the forty-fifth session of the TWO from Seoul to Jeju.

Matters arising from the Technical Working Parties

26. The TC considered document TC/48/3.

I. Matters for Information and for a Possible Decision to be taken by the Technical Committee

Guidance for drafters of Test Guidelines

27. The TC agreed to the proposal to revise the "Practical Guidance for Drafters (Leading Experts) of UPOV Test Guidelines", Section "Test Guidelines for Discussion at the Technical Working Party", as set out in the Annex to document TC/48/3. It noted that the revision specified that draft Test Guidelines should not show revisions to previous versions and should not include comments, other than in an annex or separate document, and that the Leading Expert should present a clear draft on the basis of the comments received by interested experts on the interim draft.

Short reports from Members and Observers at the Technical Working Party sessions

28. The TC agreed that, for future sessions of the TWPs, it would be beneficial for the presentation from the Office of the Union on the latest developments within UPOV to be provided in advance of the sessions, thereby allowing the Office of the Union to focus on certain key elements during the presentation.

Data loggers

29. The TC agreed that a new circular concerning hand-held data capture devices should be sent by the Office of the Union, inviting further entries in advance of the thirtieth session of the TWC, as set out paragraph 10 of document TC/48/3.

II. *Matters for Information*

30. The TC noted the matters for information provided in document TC/48/3.

TGP documents

31. The TC considered the following documents in conjunction with document TC/48/5:

(a) New TGP document

TGP/15 [Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)]

32. The TC considered document TGP/15/1 Draft 2.

33. The TC agreed with the recommendation of the TC-EDC, as set out in paragraphs 7 to 9 of document TC/48/5, that document TGP/15/1 Draft 1 should be redrafted (restructured) to provide the following:

- firstly, to present the principles, including the assumptions which provided the basis for the positive assessment of the examples in the approved models; and
- secondly, to provide practical experience in the form of examples in the implementation of the principles.

34. With regard to TGP/15/1 Draft 2, Annex I, paragraph 3(a), the representative of the International Seed Federation (ISF) questioned whether it was necessary for markers to be examined more than once on the same sample. He also suggested that paragraph 3(b) be amended to clarify that, if there was a difference between the information provided in the Technical Questionnaire and the result of the bioassay, the result of the bioassay would prevail.

35. The TC agreed that, on the basis of the comments above, a new draft should be prepared by the Office of the Union in conjunction with the Chairman of the TC and the Chairman of the BMT, which would be presented to the Enlarged Editorial Committee (TC-EDC) at its meeting in January 2013 and a further draft presented to the TC at its forty-ninth session. The TC noted that the timetable for the development of document TGP/15 would be reported to the TWPs at their sessions in 2012.

(b) Revision of TGP documents

TGP/7: Development of Test Guidelines

36. The TC considered the revision of document TGP/7 "Development of Test Guidelines" on the basis of document TC/48/18.

I. REVISIONS ON WHICH THE TECHNICAL COMMITTEE HAS REACHED A CONCLUSION

37. The TC recalled that, at its forty-seventh session, held in Geneva from April 4 to 6, 2011, it had agreed to include the following matters in a future revision of TGP/7 "Development of Test Guidelines":

(a) Coverage of Types of Varieties in Test Guidelines

The addition of new Additional Standard Wording (ASW) for Chapter 1 of the 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 (see document TC/47/26 "Report on the Conclusions", paragraph 54);

(b) Selection of Asterisked Characteristics

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, the TC 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 was followed in the development of Test Guidelines (see document TC/47/26 "Report on the Conclusions", paragraph 59); and

(c) Quantity of Plant Material Required

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 (see document TC/47/26 "Report on the Conclusions", paragraph 55):

- (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)

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 (see document TC/47/26 "Report on the Conclusions", paragraph 56).

The TC further 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 (see document TC/47/26 "Report on the Conclusions", paragraph 57):

- (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)

38. The TC recalled that, at its forty-seventh session, it had agreed to delay consideration of the approach for providing standard references for the UPOV Technical Questionnaire and for the characteristics in the Test Guidelines with a view to a future revision of document TGP/7, pending the outcome of work on the Linear Blank Form for PBR Applications (see document TC/47/26 "Report on the Conclusions", paragraph 68).

39. The TC further recalled that, at its forty-seventh session, it had agreed that, for the time being, no revisions should be considered for document TGP/7 in relation to applications for varieties with low

germination (see document TC/47/26 "Report on the Conclusions", paragraph 58). It further recalled that it had 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 (see document TC/47/26 "Report on the Conclusions", paragraph 60).

II. REVISIONS TO BE CONSIDERED BY THE TECHNICAL COMMITTEE

Guidance on Number of Plants to be Examined (for Distinctness)

40. The TC agreed with the proposal made by the TWA (see document TC/48/18, Annex I, paragraph 2) to prepare guidance on:

- (a) the number of plants in the trial;
- (b) the number of plants/parts of plants to be examined for the assessment of distinctness;
- (c) the number of plants/parts of plants for the assessment of uniformity.

41. In that regard, the TC agreed that guidance for points (a) and (c) would be considered in relation to paragraph 37 "(c) Quantity of Plant Material Required", above. With regard to the number of plants/parts of plants to be examined for the assessment of distinctness, the TC agreed that the information provided in presentation by Mrs. Beate Rücker (Germany) on the number of plants to be examined, under agenda item "Discussion on experiences of members of the Union on measures to improve the efficiency and effectiveness of DUS testing", would provide a good basis for such guidance (see paragraph 20).

42. The TC agreed that Mrs. Beate Rücker (Germany), in conjunction with the Office of the Union, should be invited to prepare draft guidance for consideration by the TWPs in 2012, on the above basis.

Guidance for Method of Observation

43. 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 as provided in Annex II to document TC/48/18 and the comments made on those examples by the TWPs in 2010 (see document TC/47/26 "Report on the Conclusions", paragraph 61).

44. The TC agreed that the Office of the Union should draft guidance on that basis, for consideration by the TWPs at their sessions in 2012.

Example Varieties

45. The TC agreed that the experts from France should be requested to make a presentation to the TWPs at their sessions in 2012 on the basis of the presentation made under agenda item "Discussion on experiences of members of the Union on measures to improve the efficiency and effectiveness of DUS testing" and reflecting the comments and suggestions made during the discussion.

Providing Photographs with the Technical Questionnaire

46. The TC recalled that, at its forty-seventh session, it had 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 (see document TC/47/26 "Report on the Conclusions", paragraphs 69 and 70).

47. The TC agreed that a new draft of the guidance in document TC/48/18, Annex IV, reflecting the comments of the TWPs and the TC-EDC, should be prepared by the experts from the European Union, for consideration by the TWPs at their session in 2012.

Procedure for the Development of Test Guidelines

48. The TC agreed that paragraphs 2.2.3.2 of document TGP/7 “Development of Test Guidelines” should read as follows:

“2.2.3.2 In cases where more than one TWP has proposed the development of Test Guidelines with the same coverage, the Technical Committee will decide which TWP should be responsible for the drafting of the Test Guidelines and which other TWPs should cooperate. This will be decided on the basis of the level of experience in the TWPs concerned. In such cases, the Technical Committee will request the approval of other cooperating TWPs before a draft is submitted for adoption.”

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

49. The TC considered the revision of document TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability” on the basis of document TC/48/19 Rev. The TC noted that new drafts of relevant sections would need to be prepared by April 26, 2012, in order that the sections could be included in the draft to be considered by the TWPs at their sessions in 2012.

ANNEX I TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section 2 - Data to be recorded (Drafter: Mr. Uwe Meyer (Germany))

50. The TC agreed that New Section 2- “Data to be recorded”, with certain improvements to the structure and the removal of duplications, could be considered by the TWPs in 2012 and by the TC at its forty-ninth session, for adoption as a revision of document TGP/8/1. It agreed that the next draft should be prepared by Mr. Uwe Meyer (Germany), in conjunction with the Office of the Union.

ANNEX II TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section 3 - Control of variation due to different observers (Drafter: Mr. Gerie van der Heijden (Netherlands))

51. The TC agreed to request the drafter to prepare a new draft of the Section on the basis of the comments made by the TWPs in 2011, as set out in document TC/48/19 Rev., Annex II.

ANNEX III TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section 6 – Data processing for the assessment of distinctness and for producing variety descriptions (Drafters: experts from France, Germany, Japan, Kenya and the United Kingdom)

52. The TC considered Annex III in conjunction with Annex VIII of document TC/48/19 Rev. It agreed that the information provided in Annex VIII and at the UPOV DUS Seminar, held in Geneva, in March 2010, together with the method provided by Japan and the method used in France for producing variety descriptions for herbage crops, as presented at the TWC, provided a very important first step in developing common guidance on data processing for the assessment of distinctness and for producing variety descriptions, but concluded that the information as presented in Annex VIII would not be appropriate for inclusion in document TGP/8. It agreed that the Office of the Union should summarize the different approaches set out in Annex VIII with regard to aspects in common and aspects where there was divergence. As a next step, on the basis of that summary, consideration could be given to developing general guidance. The TC agreed that the section should include examples to cover the range of variation of characteristics. It further agreed that the detailed information on the methods, as presented in Annex VIII, should be made available via the UPOV website, with references in document TGP/8.

ANNEX IV TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section – Information of good agronomic practices for DUS field trials (Drafters: Mrs. Anne Weitz (European Union) and Argentina and France to contribute))

53. The TC noted the importance of employing good agronomic practice in the conduct of DUS trials and on the need to ensure that staff had the appropriate training and experience for conducting DUS trials. However, it agreed that it would not be desirable to seek to develop detailed guidance in document TGP/8.

ANNEX V TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section after Section COYU Statistical Methods for Very Small Sample Sizes (Drafter: Mr. Gerie van der Heijden (Netherlands))

54. The TC agreed that realistic examples should be included in the document, based on actual cases. If no such cases could be provided, the section should be deleted. The TC noted that the United Kingdom TWO experts would need to provide an example by April 26, 2012, in order that the section could be included in the draft to be considered by the TWPs at their sessions in 2012.

ANNEX VI TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section 11 Examining DUS in bulk samples (Drafter: Mr. Kristian Kristensen (Denmark))

55. The TC agreed that the section should be redrafted with assistance from DUS experts in Denmark in order to focus on guidance for DUS examiners and should replace detailed statistical models with a general reference to suitable statistical methods. It was also agreed that the example of sugar beet should be replaced by a crop for which there were UPOV Test Guidelines.

ANNEX VII TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section 12 - Examining characteristics using image analysis (Drafter: Mr. Gerie van der Heijden (Netherlands))

56. The TC agreed to the development of a questionnaire by Mr. Gerie van der Heijden (Netherlands), the TWC Chairman and the Office of the Union, concerning software and hardware used for image analysis, which would be issued to the TC and TWC representatives of UPOV members. The results of the questionnaire would be presented to the TWC at its thirtieth session, to be held in Chisinau, Republic of Moldova, from June 26 to 29, 2012. The TC also noted that presentations on image analysis would be invited for the thirtieth session of TWC session.

57. The TC agreed that Section 12.1 should be reworded to explain that image analysis would be an alternative method for observing a characteristic, rather than a principal method for observing a characteristic.

58. The TC agreed that the TWC should develop subsection 12.3 "Guidance on the use of image analysis" and agreed that a new section should be prepared on the basis of the discussion on documents TWC/29/19, TWC/29/21, TWC/29/27 and TWC/29/29. The drafters would be the experts from Netherlands (first drafter), Czech Republic, Finland and the United Kingdom.

ANNEX VIII TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section 13 - Methods for data processing for the assessment of distinctness and for producing variety descriptions (Drafters: experts from France, Germany, Japan, Kenya and the United Kingdom)

59. See comments on Annex III.

ANNEX IX TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section - Guidance of data analysis for blind randomized trials (Drafters: France and Israel to provide examples)

60. The TC agreed that the experts from France should develop guidance on data analysis for blind randomized trials from their experience, including their use of blind randomized trials for disease resistance and other examples.

ANNEX X TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

New Section - Statistical methods for visually observed characteristics (Drafter: Kristian Kristensen (Denmark))

61. The TC agreed that the section should be redrafted with assistance from DUS experts in Denmark in order to focus on guidance for DUS examiners and should replace detailed statistical models with a general reference to suitable statistical methods. The TC agreed that the examples based on sugar beet should be replaced by a crop for which there are Test Guidelines and that the example for wheat should be replaced by a realistic example, such as could be found in Hemp or Spinach. The TC also agreed that the TWC should explore the consequences of the decisions for DUS examination, because the method is a test for differences in the distribution (both location and dispersion). It also agreed that the consequences of

excluding certain varieties from the test, where there were insufficient numbers in some cells, should be further investigated.

ANNEX XI TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section - Guidance for the development of variety descriptions (Drafter to be agreed)

62. The TC recalled that, at its forty-sixth session, it had requested that consideration be given to guidance on the development of variety descriptions with information from:

- (i) more than one growing cycle in one location, and
- (ii) more than one location

The TC agreed that the experts from the Netherlands should be invited to draft guidance on the development of variety descriptions with information from more than one growing cycle in one location and more than one location.

ANNEX XII TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 4 – 2x1 % Method - Minimum number of degrees of freedom for the 2x1% Method (Drafter: Sally Watson (United Kingdom))

63. The TC noted that at least 10 degrees of freedom were required for the residual mean square used to estimate the standard error in the t-test in each year. It agreed that further clarification was needed with regard to the significance of the wording “preferably at least 20 degrees of freedom”.

ANNEX XIII TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 9 - The Combined-Over-Years Uniformity Criterion (COYU) - Minimum number of degrees of freedom for COYU (Drafter: Sally Watson (United Kingdom))

64. The TC agreed that the reference to COYD and COYU should be checked throughout the section. The TC also requested data to be provided in support of the proposal to reduce the minimum degrees of freedom for the varieties-by-years mean square in the COYD analysis of variance from 20 to 10. It also agreed that the following wording in Section 3.1 “Summary of requirements for application of method” should be amended because it meant that Long-Term COYD could be used with less than 10 degrees of freedom:

“- there should be at least 10, and preferably at least 20, degrees of freedom for the varieties-by-years mean square in the COYD analysis of variance, or if there are not, then Long-Term COYD can be used (see 3.6.2 below);”

ANNEX XIV TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 10 – Minimum number of comparable varieties for the Relative Variance Method (Drafter: Nik Hulse (Australia))

65. The TC noted the comments of the TWC with regard to certain of the assumptions of the method and noted that further investigations would be done by Australia with respect to these assumptions and the F value used in the calculations.

ANNEX XV WORKPLAN FOR THE DEVELOPMENT OF TGP/8

66. The TC agreed with the workplan for the development of TGP/8 presented in Annex XV to document TC/48/19 Rev., subject to the following amendments:

- (a) Annex VIII to be combined with Annex III;
- (b) Annex IV to be deleted; and
- (c) Annex V to be deleted if no examples provided in 2012

TGP/12: Guidance on Certain Physiological Characteristics

67. The TC considered document TGP/12/2 Draft 2 “Guidance on Certain Physiological Characteristics” and document TC/48/5, Annex I “Guidance on Certain Physiological Characteristics”.

68. The TC agreed to amend document TGP/12/2 Draft 2 to read as follows:

“2.3.2 Quantitative characteristics

“Disease resistances for which there is a continuous range of levels of susceptibility / resistance across varieties, are quantitative characteristics. Guidance for the development of appropriate states of expressions for quantitative characteristics is provided in document TGP/9, Guidance Note GN 20, section 3.

“Example with 1 – 3 scale: Resistance to *Sphaerotheca fuliginea* (*Podosphaera xanthii*) (Powdery mildew) in Melon (UPOV Test Guidelines: TG/104/5)

“[Table]

“Example with 1 – 9 scale: Resistance to *Colletotrichum trifolii* in Lucerne (UPOV Test Guidelines: TG/6/5)

“[Table]”

69. The TC agreed, subject to agreement by the CAJ at its sixty-fifth session, to be held in Geneva on March 29, 2012, to submit document TGP/12/2 Draft 2 “Guidance on Certain Physiological Characteristics” as the basis for adoption of TGP/12 by the Council, at its forty-sixth session, to be held on November 1, 2012. The TC noted that the editing of the original English text and the French, German and Spanish translations would be checked by the relevant members of the Editorial Committee prior to submission of the draft of document TGP/12/2 to the Council.

TGP/14: Glossary of Terms Used in UPOV Documents

70. The TC considered the revision of document TGP/14 “Glossary of Terms Used in UPOV Documents” on the basis of documents TC/48/20 and TC/48/21.

I REVISIONS ON WHICH THE TECHNICAL COMMITTEE HAS REACHED A CONCLUSION

Perspective from which to observe plant shapes

71. The TC recalled that it had agreed to recommend that, where appropriate, an explanation for shape characteristics should provide guidance on the perspective from which to observe the shape.

Definition for Botanical Terms

72. 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 recalled that it had agreed that additional definitions for botanical terms, such as for peduncle and petiole, should be added to document TGP/14 where the provision of such definitions would help to avoid confusion. However, it had 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.”

73. The TC recalled that it had 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 (see document TC/47/26 “Report on the Conclusions”, paragraphs 81 to 83):

Spike	an indeterminate inflorescence with sessile flowers on an unbranched axis.
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II. REVISIONS TO BE CONSIDERED BY THE TECHNICAL COMMITTEE

Components of Shape: states of expression for ratios

74. With regard to the use of characteristics for ratios, the TC agreed that it should be possible to use states such as “high” or “low”, provided that explanations and illustrations were provided to avoid any risk of confusion. It also agreed that it should be possible to use states such as “elongated” and “compressed” for characteristics that were worded as shapes, rather than ratios.

Avoidance of duplication of characteristics

75. The TC welcomed the study concerning “Examination of the use component and composite characters for determining distinctness”, prepared by experts from Denmark, Germany and the United Kingdom, as presented in the Annex to document TC/48/20. The TC agreed that guidance, based on that study, should be prepared for the TWPs sessions in 2012, by the experts from Germany, Denmark and the United Kingdom.

TGP/14 Section 2: Botanical Terms: New Subsection 3: Color

76. The TC considered the draft of Section 2: Botanical Terms, Subsection 3: Color, as set out in the Annex to document TC/48/21.

77. The TC agreed that a new draft, based on the document TC/48/21 and the comments of the TWPs, should be prepared by the experts from Germany and the Netherlands, for consideration by the TWPs at their sessions in 2012. It agreed that a website reference for the Royal Horticultural Society should be included in Part VI: Literature.

PROGRAM FOR THE DEVELOPMENT OF TGP DOCUMENTS

78. The TC approved the program for the development of TGP documents, as set out in Annex II to document TC/48/5, subject to:

- (i) adoption of document TGP/0/5 in 2012 and document TGP/0/6 in 2013;
- (ii) corrections to the numbering of sessions in 2013; and
- (iii) deletion of “(Color Subsection & revisions)” from TWPs in 2013 and addition to CAJ/67 in 2013.

Molecular techniques

79. The TC considered document TC/48/7.

Document BMT/DUS “Possible Use of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”

80. The TC noted the adoption of document UPOV/INF/18/1 “Possible Use of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”.

Development of document TGP/15

81. The TC noted that document TGP/15/1 Draft 2 was considered under agenda item 6 “TGP documents”.

International Guidelines on Molecular Methodologies

82. The TC noted the development of international guidelines on molecular methodologies, as set out in paragraphs 18 to 22 of document TC/48/7. The TC noted the importance of avoiding duplication and promoting harmonization between such international guidelines.

Ad hoc Crop Subgroups on Molecular Techniques (Crop Subgroups)

83. The TC agreed to discontinue separate meetings of the *Ad-hoc* Crop Subgroups and to include the discussions within the BMT sessions, as set out in paragraph 26 of document TC/48/7.

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

84. The TC noted the report on developments in the BMT, as set out in paragraphs 28 to 30 of document TC/48/7.

85. The TC agreed that it would be appropriate for the Office of the Union to investigate the possibility of a coordinated meeting of the BMT and the Working Group on DNA Methods of the Variety Committee of ISTA, for the fourteenth session of the BMT.

86. The TC approved the program for the fourteenth session of the BMT to be held in 2013, including the dedication of a particular date ("Breeders' Day"), for the items on the use of molecular techniques in the consideration essential derivation and in variety identification, as set out in paragraphs 32 and 33 of document TC/48/7.

87. The TC noted that a presentation on matters considered by the BMT at its thirteenth session, with particular regard to the use of molecular techniques in the consideration of essential derivation and in variety identification, would be made at the sixty-fifth session of the CAJ.

Variety denominations

88. The TC considered document TC/48/8.

89. The TC agreed to propose the creation of a new denomination class in document UPOV/INF/12 "Explanatory notes on variety denominations under the UPOV Convention", Annex I: Part II. "Classes encompassing more than one genus", as follows:

	<u>Botanical names</u>	<u>UPOV codes</u>
Class 213	Eupatorium L. Acanthostyles R. M. King & H. Rob. Ageratina Spach Asplundianthus R. M. King & H. Rob. Bartlettina R. M. King & H. Rob. Campuloclinium DC. Chromolaena DC. Conoclinium DC. Cronquistianthus R. M. King & H. Rob. Eutrochium Raf. Fleischmannia Sch. Bip. Praxelis Cass. Viereckia R. M. King & H. Rob.	EUPAT - AGERT - - - - - - - EUTRO - - -

90. The TC noted the report by the Delegation of Japan that the International Commission for the Nomenclature of Cultivated Plants of the International Union for Biological Sciences (IUBS) (ICNCP) was in the process of revising the Code of Nomenclature for Cultivated Plants and would make proposals to the IUBS Commission for the Nomenclature of Cultivated Plants in 2013. It agreed that the Office of the Union should contact ICNCP in order to explain the guidance provided by UPOV in document UPOV/INF/12 "Explanatory notes on variety denominations under the UPOV Convention".

Information and databases

(a) *UPOV information databases*

91. The TC considered document TC/48/6.

GENIE DATABASE

92. The TC noted the plans of the Office of the Union to introduce a user guide for the GENIE database in 2012, following the revisions to UPOV code system, as set out below.

UPOV CODE SYSTEM

UPOV code developments

93. The TC noted the creation of 173 new UPOV codes and the amendment to 12 UPOV codes, which brought the total number of UPOV codes in the GENIE database at the end of 2011 to 6,851.

94. In accordance with the procedure set out in Section 3.3 of the Guide to the UPOV Code System, the TC noted that the Office of the Union would prepare tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the Technical Working Party (TWP) sessions in 2012.

Proposals to amend the Guide to the UPOV Code System

95. The TC agreed to amend the Guide to the UPOV Code System as follows:

(i) *UPOV codes for hybrids: Section 2.2.6*

96. The approach for introducing UPOV codes for hybrid genera and species will be amended such that a single UPOV code will cover all hybrid combinations of the same genera/species, as follows:

“2.2.6 In the case of UPOV codes for hybrid genera and species, the UPOV code will not distinguish between two hybrids produced using the same parents. A UPOV code is created for the first hybrid notified to UPOV in accordance with the procedure set out in paragraphs 2.2.3 to 2.2.5. However, if a subsequent request is received for a hybrid involving the same genera/species in a different combination, the Principal Botanical Name will be amended to indicate that the UPOV code covers all combinations involving the same genera/species.

Example:

UPOV code request received for: *Alpha one x Alpha two*

<u>UPOV Code</u>	<u>Principal Botanical Name</u>
ALPHA_OTW	<i>Alpha one x Alpha two</i>

Subsequently, UPOV code request received for: *Alpha two x Alpha one*
or
(Alpha one x Alpha two) x Alpha one
etc.

<u>UPOV Code</u>	<u>Principal Botanical Name</u>
ALPHA_OTW	Hybrids between <i>Alpha one</i> and <i>Alpha two</i>

(ii) *UPOV codes for hybrids: Section 2.2.7*

97. Section 2.2.7 to be deleted.

(iii) *UPOV codes for hybrids: Binomial names*

98. To amend the UPOV Code System with regard to hybrids to refer to “binomials”, as follows:

“2.2.2 In the case of a genus which is formed as a hybrid between other genera and for which there is a binomial name which is taxonomically recognized in its own right (e.g. ×*Triticosecale* [= *Triticum* x *Secale*]), the ‘genus element’ of the UPOV code is based on the binomial name taxonomically recognized ‘hybrid’ genus. For example, ×*Triticosecale* has the UPOV code ‘TRITL’.

~~“2.2.3 In the case of a genus which is formed as a hybrid between two genera ('hybrid genus') (e.g. *Alpha* x *Beta*) and for which there is no binomial name which is not taxonomically recognized as a genus in its own right ('hybrid genus'), a UPOV code is created for the new 'hybrid genus'. The genus element of the UPOV code is produced by combining the first two letters of the female parent genus and the first three letters of the male parent genus. For example, a 'hybrid genus' which was formed as a hybrid between *Alpha* (UPOV code: ALPHA) and *Beta* (UPOV code: BETAA) would have the UPOV code 'ALBET' *Carlus* (UPOV code: CARLU) x *Phillipus* (UPOV code: PHILL) would have the UPOV code 'CAPHI'.~~

~~“2.2.4 In the case of a species which is formed as a hybrid between two species and for which there is no binomial name which is not taxonomically recognized as a species in its own right ('hybrid species') (e.g. *Alpha one* x *Alpha two*), a UPOV code is created for the new 'hybrid species'. The species element of the UPOV code is produced by combining the first letter of the female parent species and the first two letters of the male parent species. For example, a 'hybrid species' which was formed as a hybrid between *Alpha one* (UPOV code: ALPHA_ONE) x *Alpha two* (UPOV code: ALPHA_TWO) would have the UPOV code 'ALPHA_OTW'.~~

~~“2.2.5 In the case of a hybrid genus (or species) which is formed as a hybrid between more than two genera (or species) and for which there is no binomial name which is not taxonomically recognized as a genus in its own right, the same general approach is followed as for a hybrid between two genera (or species); the sequence of letters used in the UPOV code is based on the order of female parent followed by male parent.”~~

(iv) *Variety Types*

99. To delete Section 2.4. In agreeing with that deletion, the TC noted that information on types of variety could be provided in GENIE by means of notes. It was also noted that the deletion did not preclude the introduction of new features in GENIE and PLUTO in the future in order to provide relevant information on variety types.

(v) *Publication of UPOV Codes*

100. To amend Section 4, as follows::

“4. Publication of UPOV Codes

“4.1 As explained in Section 3.2, all UPOV codes can be accessed in the GENIE database, which is ~~made~~ available on the ~~freely accessible area of the~~ UPOV website (see <http://www.upov.int/genie/en/>).

“4.2 In addition, the UPOV codes, together with their relevant botanical and common names, and variety denomination class and linked hybrid/parent UPOV codes, as contained in the GENIE database, are published on ~~the first restricted area of the~~ UPOV website (see http://www.upov.int/restrict/en/upov_rom_upov_code_system/index.htm <http://www.upov.int/genie/en/updates/>). That information is published in a form that facilitates electronic downloading of the UPOV codes ~~for use by contributors to the UPOV ROM.~~”

PLANT VARIETY DATABASE

101. The TC considered the program for improvements to the Plant Variety Database (“Program”) on the basis of document TC/48/6.

Title of the Plant Variety Database (Program: Section 1)

102. The TC noted that the name of the Plant Variety Database had been changed to “PLUTO”.

Web-based version of the Plant Variety Database (Program: Section 6)

103. The TC noted the developments concerning the program for improvements to the Plant Variety Database as reported in document TC/48/6, and further noted that the following features would be introduced to PLUTO in 2012:

(a) information on the latest date of submission by the contributors, in the form of a pdf document, with further plans to link the date of submitted information to particular data;

- (b) an explanation of the search rules, which would be developed in conjunction with the introduction of the denomination search facility; and
- (c) a facility to save search settings.

104. The TC agreed to amend the “Program for Improvements to the Plant Variety Database”, as set out in Annex II to document TC/48/6, with regard to Section 3.2 “Data quality and completeness” and Section 3.3 “Mandatory items”, in order to introduce the possibility for contributors to the Plant Variety Database to provide data in the original alphabet, in addition to the data being provided in Latin alphabet. That amendment was on the basis that:

(a) data in the original alphabet could be provided for the following fields (see Section 3.2 “Data quality and completeness”, Table):

- (i) Species: common name (see new TAG <520>);
- (ii) Denomination (see <550>, <551>, <552>, <553>);
- (iii) Breeder’s reference (see <650>);
- (iv) Synonym of variety denomination (see <651>);
- (v) Trade name (see <652>);
- (vi) Applicant’s name (see <750>);
- (vii) Breeder’s name (see <751>);
- (viii) Maintainer’s name (see <752>);
- (ix) Title holder’s name (see <753>);
- (x) Type of other party (see <760>);
- (xi) Other relevant information (see <950>); and
- (xii) Remarks (see <960>); and

(b) data would not be included in the Plant Variety Database unless all data provided in the original alphabet was also provided in Latin alphabet (see Sections 3.2 and 3.3 “Required data”).

Provision of assistance to contributors (Program: Section 2)

105. The TC noted the summary of the contributions to the Plant Variety Database in 2011, as set out in document TC/48/6, Annex III.

106. The TC noted that the WIPO Brand Database Unit had been contacted by the following members of the Union: Albania; Argentina; Azerbaijan; Belarus; Bolivia; China; Colombia; Costa Rica; Croatia; Dominican Republic; Georgia; Iceland; Jordan; Kenya; Kyrgyzstan; Mexico; Morocco; Nicaragua; Oman; Panama; Paraguay; Republic of Korea; Singapore; South Africa; Trinidad and Tobago; Tunisia; Ukraine; Uruguay; Uzbekistan and Viet Nam in order to investigate the arrangements that would be needed in order for them to start to contribute data. It noted that solutions had been developed to allow the contribution of data in non-TAG format by Kenya and South Africa.

107. With regard to contributors that did not provide UPOV codes for their data supplied, the TC noted that a method for providing missing UPOV codes for data submitted for the Plant Variety Database had been developed by the WIPO Brand Database Unit. That method had been used to suggest UPOV codes for consideration by the contributors, in order that UPOV codes could be entered for all data in the Plant Variety Database. On that basis, the TC noted that UPOV codes had been allocated for virtually all entries in the Plant Variety Database.

108. The TC noted that a report on developments concerning the provision of assistance to contributors of data to the Plant Variety Database would be made to the to the CAJ at sixty-fifth session.

Data to be included in the Plant Variety Database (Program: Section 3)

109. The TC agreed to the proposal to amend the “Program for Improvements to the Plant Variety Database”, as set out in Annex II to this document, with regard to Section 3.2 “Data quality and completeness” (see new TAG <800>), in order to introduce the possibility for contributors to the Plant Variety Database to provide information on dates on which a variety was commercialized for the first time in the territory of application and other territories, as set out in document TC/48/6, Annex IV.

110. The TC noted that the following disclaimer would be added:

“The absence of information in [item XXX] does not indicate that a variety has not been commercialized. With regard to any information provided, attention is drawn to the source and status of the information as set out in the fields ‘Source of information’ and ‘Status of information’. However, it should also be noted that the information provided might not be complete and accurate.”

Frequency of data submission (Program: Section 4)

111. The TC agreed that there should be no changes to the frequency for publication of that data, i.e. six updates per annum, for the time being. However, it noted that it would be possible to correct any important data errors in PLUTO at the earliest possible opportunity where requested by the data contributor.

112. The TC noted that the Office of the Union had issued circular E-12/013, on January 23, 2012, to recipients of the UPOV-ROM, informing them of the launch of the freely-accessible PLUTO database on the UPOV website and requesting an indication on whether they wished to continue to receive the UPOV-ROM. In the replies received: 14 recipients from members of the Union had indicated that they wished to continue to receive the UPOV-ROM; and 13 recipients from members of the Union and 7 paying subscribers, had indicated that they did not wish to continue to receive the UPOV-ROM. The TC also noted the plans for WIPO Brand Database Unit to develop its own version of the UPOV-ROM as a part of the program for improvements to the Plant Variety Database.

Common search platform (Program: Section 7)

113. The TC noted that there had been no substantial developments concerning the development of a common search platform since 2010. It also noted that WIPO, CPVO, the Royal General Bulb Growers' Association (KAVB) (Netherlands) and the Commission for Nomenclature and Cultivar Registration of the International Society for Horticultural Science (ISHS) might be consulted on possible approaches later in 2012.

(b) Variety description databases

114. The TC considered document TC/48/9.

115. The TC noted the information provided on variety description databases at the sessions of the TWA, TWC, TWV, TWO, TWF and BMT, held in 2011.

116. The TC requested the experts from France to continue their work on grouping characteristics and on the development of a database containing Pea variety descriptions of members of the Union, as set out in paragraphs 7 to 10 of document TC/48/9, and to report on their work to the TWPs at their sessions in 2012 and to the TC at its forty-ninth session.

(c) Exchangeable software

117. The TC considered document TC/48/12.

118. The TC noted the adoption of document UPOV/INF/16/2 “Exchangeable Software”.

119. The TC noted that the Consultative Committee, at its eighty-second session, held in Geneva on October 19 and on the morning of October 20, 2011, had endorsed the inclusion of the offers by Naktuinbouw, provided in the form of a helpdesk on practical technical questions as well as information on internship, in section “(ii) Offers of assistance for the development of plant variety protection” of the “Assistance” webpage. It noted that the Consultative Committee had also endorsed the inclusion of the offer for assistance on the development of electronic office management systems made by the Community Plant Variety Office of the European Union (CPVO) in section “(ii) Offers of assistance for the development of plant variety protection” of the “Assistance” webpage.

120. The TC considered the recommendation of the TWC at its twenty-ninth session concerning the inclusion of “Bionumerics Software for Databasing and Data Analysis” in document UPOV/INF/16, in conjunction with the comments of the TWV, TWF, TWO and BMT. The TC noted different views on whether

commercial software should be considered in document UPOV/INF/16 and suggested that it would be appropriate to review the title of document UPOV/INF/16 “Exchangeable Software” and Section “1. Requirements for exchangeable software”, before taking a view on the inclusion of the “Bionumerics Software for Databasing and Data Analysis” software. It agreed that the review should be included in the agenda for its forty-ninth session.

(d) *Electronic application systems*

Standard References to the UPOV Model Application Form

121. The TC considered document TC/48/13.

122. The TC noted that the Office of the Union would issue a survey on the extent to which members of the Union use the standard references of the UPOV Model Application Form in their application forms and would present the results of that survey to the CAJ at its sixty-sixth session, to be held in October 2012.

Electronic Version of the UPOV Model Application Form

123. The TC noted the developments concerning meetings between experts of UPOV, WIPO, CPVO and ISF, in order to develop proposals for consideration by the CAJ.

124. The TC noted that the CAJ would be invited to consider whether to discuss the potential benefits of a unique variety identifier, as set out in paragraph 24 of document TC/48/13.

Method of calculation of COYU

125. The TC considered document TC/48/11.

126. The TC noted the latest developments concerning the method of calculation of COYU, as set out in paragraphs 10 to 13 of document TC/48/11.

127. The TC agreed to request the TWC to continue its work with the aim of developing recommendations to the TC concerning the proposals to address the bias in the present method of calculation of COYU.

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

128. The TC considered document TC/48/14.

129. The TC requested the Office of the Union to prepare a summary of the information in the Annexes to document TC/48/14, corresponding to the assessment of uniformity by off-types on the basis of more than one sample or sub-sample. The summary would categorize the different situations where more than one sample or sub-sample were used and how the results from separate samples / sub-samples were combined for an overall assessment of uniformity of a variety.

130. The TC agreed to invite the TWC to consider the information contained in the replies to the questionnaire “Population standards used for assessing uniformity by off types on the basis of more than one sample”, as contained in the annexes to document TC/48/14 and in the summary to be produced by the Office of the Union, and to provide guidance on the consequences of different approaches.

DUS examination of seed-propagated varieties of Papaya

131. The TC considered documents TC/48/15 Rev. and TG/264/2(proj.3).

132. The TC noted the progress in the development of the draft of the Test Guidelines for Papaya, in order to cover seed-propagated varieties. The TC noted that it would be difficult to assess the proportion of male plants, hermaphrodite plants and female plants (Chars. 17-19) on the basis of the proposed sample sizes: 5 plants and 20 plants. Therefore, it agreed that the draft Test Guidelines for Papaya be referred back to the TWF for further consideration in that regard.

133. The TC agreed with the general approach taken in the Test Guidelines in order to cover seed-propagated varieties of Papaya. In particular, it noted that the use of characteristics such as "Plant: proportion of hermaphrodite plants", "Plant: proportion of female plants" and "Plant: proportion of male plants" was an approach that had already been used for other adopted Test Guidelines.

Preparatory workshops

134. The TC considered document TC/48/10.

135. The TC noted the report of the preparatory workshops held in 2011 and the high level of participation by observer States.

136. The TC approved the proposed program for 2012, as set out in document TC/48/10, subject to the inclusion of an item on information on the use of molecular techniques in the examination of DUS.

Webcasting of UPOV sessions

137. The TC considered document TC/48/16.

138. The TC agreed that it would be appropriate to consider broadcasting live webcasts, and place video recordings on the UPOV website, for future sessions of the TC, subject to arrangements to be agreed by the Consultative Committee. It noted that the WebEx facility for the Enlarged Editorial Committee (TC-EDC) meeting had been very effective and endorsed the continuation of that practice. The TC also agreed that the Office of the Union should discuss with the hosts of the TWPs in 2012 whether they would wish to arrange for WebEx to be used for selected Test Guidelines' subgroup (TG Subgroup) discussions. It welcomed the offer of France to test WebEx for [a] selected TG Subgroup[s] at the forty-first session of the TWA, to be held in Angers, France, from May 21 to 25, 2012, and invited the host and the Chairperson of the TWA to investigate a suitable TG Subgroup, in conjunction with the Office of the Union and the relevant Leading Expert[s]. It also noted that the Chairman of the TWC and the hosts of the thirtieth session of the TWC, to be held in Chisinau, Republic of Moldova, June 26 to 29, 2012, would discuss possibilities to make selected presentations via the internet.

139. The TC agreed to request the Office of the Union to prepare a report on the use of WebEx at the TWP session[s], in order that the TC could review how to develop that approach further.

Test Guidelines

140. The TC considered document TC/48/2 and TC/48/17.

Test Guidelines for Adoption

141. The TC noted the procedure for the adoption of Test Guidelines as set out in paragraphs 2 and 3 of document TC/48/2.

142. The TC noted the adoption of the Test Guidelines, as set out in paragraphs 4 and 5 of document TC/48/2.

143. The TC adopted the Test Guidelines listed in the table below on the basis of the amendments, as specified in Annex II to this document, which was circulated in advance, and the linguistic changes

recommended by the TC-EDC and agreed that they should be published on the UPOV website at the earliest opportunity:

**	TWP	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							
JP	TWA	TG/FAGOP(proj.7)	Buckwheat	Blé noir; Sarrasin	Buchweizen	Alforfón	<i>Fagopyrum esculentum</i> Moench (<i>Fagopyrum</i> <i>sagittatum</i> Gilib.)
FR	TWO	TG/CANNA(proj.10)	Canna	Balisier; Canna	Blumenrohr	Platanillo	<i>Canna</i> L.
PL/GB	TWO/ TWW	TG/ECNCE(proj.6)	Echinacea, Cone flower	Échinacée	Igelkopf		<i>Echinacea</i> Moench.
NL	TWA	TG/CAN_SAT(proj.6)	Hemp	Chanvre	Hanf	Cáñamo	<i>Cannabis sativa</i> L.
GB	TWO	TG/HEUCH(proj.6)	Heuchera, Coral Flower, Heucherella, Foamy Bells	Heuchera	Purpurglöckchen		<i>Heuchera</i> L., <i>xHeucherella</i> H. R. Wehrh., <i>Heuchera x Tiarella</i>
DE	TWF	TG/LONIC(proj.4)	Blue Honeysuckle, Bush Honeysuckle; Honeyberry		Blaue Honigbeere		<i>Lonicera caerulea</i> L.
JP	TWO	TG/ONCID(proj.6)	Oncidium	Orchidée danseuse, Oncidium	Oncidium	Oncidium	<i>Oncidium</i> Sw.
JP	TWV	TG/SHIITK(proj.5)	Shiitake	Shiitake	Pasaniapilz	Shiitake	<i>Lentinula edodes</i> (Berk.) Pegler <i>Lentinus edodes</i> (Berk.) Sing.
REVISIONS OF TEST GUIDELINES							
NZ	TWF	TG/98/7(proj.5)	Actinidia, Kiwifruit	Actinidia	Actinidia	Actinidia	<i>Actinidia</i> Lindl.
AU/ES	TWA	TG/120/4(proj.5)	Durum wheat, Hard Wheat, Macaroni Wheat	Blé dur	Durumweizen; Hartweizen	Trigo duro	<i>Triticum turgidum</i> L. subsp. <i>durum</i> (Desf.) Husn., <i>Triticum durum</i> Desf., <i>Triticum turgidum</i> subsp. <i>turgidum</i> conv. <i>durum</i> (Desf.) MacKey, <i>Triticum turgidum</i> L.
GB	TWV	TG/218/2(proj.3)	Parsnip	Panais	Pastinake	Chirivía	<i>Pastinaca sativa</i> L.
DE	TWV	TG/63/7(proj.7)- TG/64/7(proj.6)	Black radish, Oriental radish	Radis rave	Rettich	Rabano de invierno, Rabano negro	<i>Raphanus sativus</i> L. var. <i>niger</i> (Mill.) S. Kerner, = (N) <i>Raphanus sativus</i> L. var. <i>longipinnatus</i> L.H. Bailey
			Radish, Garden Radish, European Radish, Chinese Small Radish, Western Radish	Radis de tous les mois	Radieschen	Rabanito	<i>Raphanus sativus</i> L. var <i>sativus</i> = (S)
PARTIAL REVISIONS OF TEST GUIDELINES							
FR	TWV/T WA	TG/12/9 Rev. (TC/48/2, TC/48/17)	French Bean	Haricot	Gartenbohne	Judía común, Alubia	<i>Phaseolus vulgaris</i> L.
DE	TWO	TG/78/4 (TC/48/2, TC/48/17)	Kalanchoe	Kalanchoe	Kalanchoe, Flammendes Kätchen	Kalancho	<i>Kalanchoe blossfeldiana</i> Poelln. and its hybrids
DE	TWO	TG/196/2 (TC/48/2, TC/48/17)	New Guinea Impatiens	Impatiente de Nouvelle- Guinée	Neu-Guinea- Impatiens	Impatiens de Nueva Guinea	New Guinea Impatiens Group
DE	TWF	TG/22/10 (TC/48/2, TC/48/17)	Strawberry	Fraisier	Erdbeere	Fresa, Frutilla	<i>Fragaria</i> L.

144. The TC noted the following comments of the Delegation of Italy on the Test Guidelines for Durum Wheat (document TG/120/4(proj.5)):

- Importance of single ear rows testing for uniformity assessment (optional in Test Guidelines);
- Sample size of 20 plants in the first step for uniformity assessment might be too small; and
- Characteristic 19 "Lower glume": hairiness of external surface should be assessed in a sample of 2,000 plants ("B"), not on the sample of 100 plants ("A").

145. The TC agreed that the Test Guidelines for *Oncidium* should be adopted subject to the relevant amendments, being approved by the TWO by correspondence.

146. The TC noted that, in response to a number of technical questions raised by interested experts after the TWA session, it was agreed by the Chairperson and former Chairperson of the TWA, and the Leading Experts to consider a new draft of TG/SESAME at the forty-first session of the Technical Working Party for Agricultural Crops to be held in Angers, France, from May 21 to 25, 2012.

147. The TC noted that, in response to a number of technical questions concerning disease resistance, raised by interested experts after the TWV session, it was agreed by the Chairperson and former Chairperson of the TWV, and the Leading Expert to consider a new draft of the Test Guidelines for Tomato Rootstocks and the partial revision of the Test Guidelines for Tomato at the forty-sixth session of the Technical Working Party for Vegetables to be held near the city of Venlo, Netherlands, from June 11 to 15, 2012.

148. The TC considered the proposed revision of the Test Guidelines for Papaya, as set out in document TG/264/2(proj.3) and summarized in Annex V to document TC/48/15 Rev., in conjunction with the consideration of the TWF and the recommendation of the TC-EDC, as set out in paragraphs 30 to 32 of document TC/48/15 Rev.

149. The TC agreed with the recommendation of the TC-EDC, as set out in paragraph 32 of document TC/48/15 Rev., that the draft Test Guidelines for Papaya be referred back to the TWF for further consideration.

150. The TC agreed, on the basis of the recommendation of the TC-EDC, that the draft Test Guidelines for Tree Paeony should be referred back to the TWO in order to resolve technical issues as presented in the comments by the TC-EDC, as set out in Annex II to this document.

151. The TC agreed that, on the basis of the recommendation of the TC-EDC, that the draft Test Guidelines for Pineapple should be referred back to the TWF in order to resolve technical issues, as presented in the comments by the TC-EDC, as set out in Annex II to this document.

Additional Characteristics

152. The TC agreed that, in the first instance, additional characteristics should be posted in the TG Drafters' Webpage. Further consideration to the publication of additional characteristics on the general website could be considered at a later date.

Draft Test Guidelines Discussed by the Technical Working Parties in 2011

153. The TC noted the draft Test Guidelines discussed by the Technical Working Parties at their sessions in 2011, as listed in Annex II to document TC/48/2.

Draft Test Guidelines to be discussed by the Technical Working Parties in 2012

154. The TC agreed the program for the development of new Test Guidelines and for the revision of Test Guidelines, as shown in Annex III to document TC/48/2.

155. The TC noted the status of the existing Test Guidelines as listed in Annex IV to document TC/48/2.

Test Guidelines on the UPOV Website

156. The TC noted that Word versions of all adopted Test Guidelines were made available on the UPOV website, as set out in paragraph 24 of document TC/48/2.

157. The TC agreed to add a cover page to all previous adopted versions of the Test Guidelines, indicating their status before those documents were published on the UPOV website. The TC further agreed that consideration should be given to adding a disclaimer to all UPOV session documents in order to clarify the status of the documents.

158. The TC noted the list of adopted Test Guidelines that have since been replaced, as presented in Annex V to document TC/48/2.

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

159. The TC noted the information provided in document TC/48/4 and heard that the number of genera and species for which members of the Union had practical experience had increased from 2,679 in 2011 to 2,726 in 2012.

160. The TC agreed that document TC/48/4 should be updated for the forty-ninth session of the TC.

Program for the forty-ninth session

161. The following draft agenda was agreed for the forty-ninth session of the TC, to be held in Geneva in 2013:

1. Opening of the session
2. Adoption of the agenda
3. Discussion on:
 - (a) molecular techniques:
 - (i) application of models by members of the Union; and
 - (ii) presentation of the situation with regard to molecular techniques in other international organizations;
 - (b) use of DUS test reports by members of the Union
4. Report on developments in UPOV including relevant matters discussed in the last sessions of the Administrative and Legal Committee, the Consultative Committee and the Council (oral report by the Vice Secretary-General)
5. 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
6. Matters arising from the Technical Working Parties
7. TGP documents
8. Molecular techniques
9. Variety denominations
10. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
11. Method of calculation of COYU
12. Assessing uniformity by off-types on the basis of more than one sample or sub samples
13. Electronic communications for the TC, TC-EDC and TWPs
14. Preparatory workshops
15. Test Guidelines
16. List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability
17. Program for the fiftieth session
18. Adoption of the report on the conclusions (if time permits)
19. Closing of the session

162. The TC agreed that the forty-ninth session should be held over three days: Monday morning to Wednesday afternoon. It agreed that the discussions under agenda item 3 should be organized for Monday afternoon and Tuesday morning or afternoon. The TC agreed that the TWP chairpersons should be invited to make a visual presentation under agenda item 5 in the same way as for the forty-eighth session. It agreed that the TC-EDC should hold a two-day meeting in January 2013.

163. The TC adopted this report at the close of its session on March 28, 2012.

[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 names in French 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]

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

Document TC/48/17 Partial Revisions of Test Guidelines

Test Guidelines for French Bean (TG/12/9)

Proposed new char. 50	to be indicated as PQ <i>Agreed by TWV and TWA by correspondence</i>
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1. NEW TEST GUIDELINES

Blue Honeyberry (*Lonicera caerulea* L.) TG/LONIC(proj.4)

(a) Changes to document TG/LONIC(proj.3), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/LONIC(proj.4), submitted to the TC:

Alternative names	to add Spanish name "Madreselva Azul" <i>Leading Expert agreed</i>
5.3 (d)	char. 36 instead of char. 30 <i>Leading Expert agreed</i>
Chars. 11, 12, 13, 23, 24	to check with Leading Expert whether to be indicated as VG/MS and (d) <i>Leading Expert agreed</i>
Chars. 20, 21, 24	to add explanation or example varieties <i>Leading Expert provided new drawings for chars. 20 and 21 and provided example varieties for char. 24</i>
Char. 28	to check with Leading Expert whether to be indicated as VG and (d) <i>Leading Expert agreed</i>
Char. 30	state (2) to read "medium" instead of "intermediate" <i>Leading Expert agreed</i>
Char. 32	to add example varieties <i>Leading Expert provided example varieties</i>
8.1 (b)	to be deleted <i>Leading Expert agreed</i>
Ad. 34 and 35	to be reconsidered (10% of 5 plants?) <i>Leading Expert provided new wording for both Ads. Both chars. are indicated as MG, so it is not 10% of 5 plants, but 10% of all flowers in the plot, which consists of 5 plants.</i>

(b) Changes proposed by the TC-EDC in March 2012, which are to be included in the Test Guidelines submitted to the TC:

Char. 24	to delete example varieties for state (1): "Nimfa", "Sinaja ptica" state (3): "Lipnická", "Mailon", "Tomička", "Zoluska"
Char. 26	to read "Fruit: shape in lateral view"
Char. 32	to delete example varieties for state (1): "Bakcarskaja", "Gerda", "Nimfa"; state (5): "Tomička", "Viola"
8.1	See (b) in proj. 3. It was not intended to delete (b) but only to correct it as follows: "(b) All observations on the leaf should be made at the stage of fully developed leaves at fruit maturity on the upper third of typical one-year-old shoots."
Ad. 25	to be presented without table
9.	to add "František Paprštejn a kol., 2009: Technologie pěstování zimolezu (<i>Lonicera</i> sp.), Výzkumný a šlechtitelský ústav ovocnářský Holovousy s.r.o., Mendelova zemědělská a lesnická univerzita v Brně, Výzkumný ústav rostlinné výroby v.v.i. Praha Ruzyně, p. 36, CZ"

Buckwheat (<i>Fagopyrum esculentum</i> Moench)	TG/FAGOP(proj.7)
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Changes to document TG/FAGOP(PROJ.6), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/FAGOP(PROJ.7), submitted to the TC:

General remark	to check with Leading Expert whether “fruit” can be changed to “seed” throughout the whole document, put “fruit” in brackets after “seed”? <i>Leading Expert: to use “seed”</i>
Alternative names	to add Spanish name “Trigo sarranceno” <i>Leading Expert agreed</i>
2.3	last sentence: to delete comma after “should”
Char. 1	to delete (+) and Ad. 1 <i>Leading Expert agreed</i>
Char. 6	to have states (1) determinate and (2) indeterminate <i>Leading Expert agreed</i>
Char. 8	to review order of states to have states (1) truncate, (2) weakly cordate, (3) strongly cordate, (4) sagittate <i>Leading Expert agreed</i>
Char. 11	to change order between “white” and “light green” according to the TGP/14 2.4.2 „Order of states of expression“. <i>Leading Expert agreed</i>
Char. 12, Ad. 12	to read “Flower: length of pedicel” (according to Ad. 12 it is a pedicel and not a peduncle) <i>Leading Expert agreed</i>
Ad. 6 and 13	to be combined <i>Leading Expert agreed</i>
Ad. 7	first sentence to be deleted (as agreed by the TWA 2011)
Ad. 8, 12	to update according to char. 8 and 12 <i>Leading Expert agreed</i>
8.3	to add before table: “The growth stages are adapted from the BBCH scale (Meyer, 1997) as follows:”
9.	to add publication Meyer, 1997.

Canna (<i>Canna</i> L.)	TG/CANNA(proj.10)
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(a) Changes to document TG/CANNA(proj.9), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/CANNA(proj.10), submitted to the TC:

2.3	to read “8 young plants or 8 rhizomes.” <i>Leading Expert agreed</i>
Char. 5	to add a space to read “Leaf blade: glossiness”
Chars. 8, 9	to correct spelling of ex. variety Cléopatre to “Cleopatra” <i>Leading Expert agreed</i>
Char. 19, Ad. 19	to read “Staminode: ground color of blotches”
Ad. 9	to add note (3) Leading Expert to add an explanation to explain differences between states (2) and (3) <i>Leading Expert: to add example variety “Stuttgart” for state (3)</i>
Ad. 17	to add arrows to photographs and to add state of expression for which the photograph stands
Ad. 18	to add arrows to show flames (red part) to both photographs and to add state of expression for which the photograph stands
Ad. 19	to add arrows to indicate the blotches and to add state of expression for which the photograph stands
Ad. 20	to add arrows to indicate marginal zone and to add state of expression for which the photograph stands
Ad. 21	to change 10 % to 50 % (according to TWO report)

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Chars. 3, 4	to be indicated as MS
Char. 9	to combine states (2) and (3) in one state "marbled" with note (2) and example varieties "Stuttgart" and "Cleopatra"; to be indicated as QL
Ad. 9	keep both pictures of states (2) and (3) for new state (2) "marbled"

Echinacea (<i>Echinacea</i> Moench)	TG/ECNCE(proj.6)
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(a) Changes to document TG/ECNCE(proj.5), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/ECNCE(proj.6), submitted to the TC:

Alternative names	to add Spanish name "Equinácea" <i>Leading Expert agrees</i>
4.1.5	to delete quotation mark at the end of before last paragraph
4.2	to delete headings (a) and (b) paragraph on cross-pollinated varieties to read: "The assessment of uniformity of seed-propagated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction." <i>Leading Expert agrees</i> <i>Office added numbering instead of headings</i>
Char. 3	state (7): According to Ad. 3 state 7 looks more like a state 9 or 8. To consider to change the photo. <i>Leading Expert agrees that the photograph for 7 does look more like state 9 and provided a new photograph for state 7</i>
Chars. 7, 8, 9, 20, 21, 22, 27, 28, 29, 40 to 45, 53, 54	to delete MG <i>Leading Expert agrees</i>
Char. 16	to replace breeder's reference by ex. variety "Pineapple Sundae" (check spelling) <i>Leading Expert: agrees, spelling is correct</i>
Chars. 24, 25, 26	to add an explanation to what "relative" relates <i>Leading Expert provided explanation for Ad. 24, 25 and 26</i>
Char. 33	to be indicated as PQ <i>Leading Expert agreed</i>
Chars. 34, 35	to be indicated as QN <i>Leading Expert agreed</i>
Char. 35	to check scale and add ex. varieties <i>Leading Expert: to remove state 5 "very strong". Cannot provide another example variety – there is a variety with quite strong twisting but we have not grown it, and so cannot confirm which state it would fall into.</i>
Char. 51	to read " <u>Only varieties with disc type: daisy</u> : Disc: presence of ray florets within the disc" <i>Leading Expert agreed</i>
Char. 52	to read : " <u>Only varieties with disc type: daisy</u> : with ray florets within the disc: Disc: number of ray florets within the disc" <i>Leading Expert agreed</i>
Ad. 44	to correct title
Ad. 47, 48	to be checked <i>Leading Expert provided combined Ad. 47, 48</i>
Ad. 52	to be added from proj. 4 <i>Leading Expert provided corrected Ad. 51 and Ad. 52</i>
Ad. 55	to correct spelling of "reflexed"
9.	to check the number of pages and the form of citations

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Char. 45	to underline the first part of the characteristic up to the end of the word 'anemone'
Ad. 56	Illustration for (3) should be improved, otherwise (1) would hardly be possible.

Hemp (<i>Cannabis sativa</i> L.)	TG/CAN_SAT(proj.6)
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(a) Changes to document TG/CAN_SAT(proj.5), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/CAN_SAT(proj.6), submitted to the TC:

General remark	to check format of numbers (e. g. 0.22 instead of 0,22) <i>Leading Expert agreed</i>
Char. 4	to delete state (9) – no example varieties <i>Leading Expert agreed</i>
Char. 7	English to read “Leaf” instead of “Hoja”
Ad. 11	staminate = male pistillate = female It is sufficient to have “male flowers” and “female flowers”; “staminate” and “pistillate” should be deleted (alternatively, to delete male and female). to read “Monoecious varieties: 50% of all plants with first male flower open. Other varieties: 50% of all male plants with first male flower open. First male flowers mostly appear from the axils of the leaves on the main stem. Male flowers usually appear about 2 weeks before the styles of female flowers are visible.” <i>Leading Expert agreed to delete “staminate” and “pistillate”</i>
Ad. 13	under “4. Gas chromatography” to check with Leading Expert whether “25 m” is correct (2.5m?) <i>Leading Expert: 25 m is correct</i>
Ad. 14, 15, 16	table of proportions note (1) to read “<= 5 %”, note (5) to read “>= 96 %” to add to sentence under table “...vegetatively propagated varieties (numbers are rounded to whole numbers).” <i>Leading Expert agreed</i>
Ad. 22	sentence to be deleted, see 8.1 (c). <i>Leading Expert agreed</i>

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

TQ 9.3	to be deleted
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Heuchera and Heucherella (<i>Heuchera</i> L.; <i>xHeucherella</i> H. R. Wehrh.)	TG/HEUCH(proj.6)
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(a) Changes to document TG/HEUCH(proj.5), made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/HEUCH(proj.6)), submitted to the TC:

Botanical names	to read “ <i>xHeucherella</i> H. R. Wehrh., <i>Heuchera x Tiarella</i> ”
Alternative names	to add Spanish name “Coralito” and “Flor de Coral”
1.	to add a space: “These Test Guidelines apply to all varieties of <i>Heuchera</i> L. and <i>x Heucherella</i> H. R. Wehrh..”
4.1.5	to delete quotation mark at the end of before last paragraph
Char. 32	to have notes (1), (3), (5), (7)

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Box on cover page	- to add French common name: "Heucherella" - to add German common name: "Bastardschaum" - to add botanical name as common name in Spanish
Chars. 23, 24, 25	to replace MG by MS
Chars. 56, 57, 58	to replace MG by MS
Chars. 62, 63	to replace MG by MS
Ad. 62, 63, 64	to move text and diagram on one page

Oncidium (<i>Oncidium</i> Sw.)	TG/ONCID(proj.6)
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(a) Changes to document TG/ONCID(proj.5), made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/ONCID(proj.6)), submitted to the TC:

Alternative names	to add Spanish name "Dama Danzante" <i>Leading Expert agreed</i>
4.1.5	to delete quotation mark at the end of before last paragraph
Char. 29	to have states (1), (3), (5), (7), (9)
Chars. 37, 57, 77 of (proj.4)	to add "(if present)"
Chars. 65, 66 of (proj.4)	to be indicated as VG/MG
Char. 75 of (proj.4)	to read "Petal: size of spots (if present)" and to delete "absent or" in state (1)
Char. 83 of (proj.4)	to read "Petal: size of macule (if present)" and to delete "absent or" in state (1)
Chars. 95, 96, 98, 99 of (proj.4)	to be deleted
Chars. 105, 106, 107, 108 of (proj.4)	to be deleted
Ad. General remark	to delete spaces before colon in titles of ads.
Ad. 31, 51, 71, 92, 97	to replace current explanation with the following definition: "GROUND COLOR: The first color to appear chronologically during the development of the plant part. Other colors may develop in time in the form of spots, blotches, or a color flush or blush. The ground color is not always the color occupying the largest surface area of the plant part concerned. The ground color can be the main color of the lower side of an organ."
Ad. 32, 52, 72, 93	to replace current explanation with the following definition: "OVER COLOR: In the case of a plant part which has a ground color upon which a second color such as a flush develops over time, the flush is considered the over color. The over color is not always the color occupying the smallest surface area of the plant part concerned."
Ad. 37, 57, 77	to add illustration
Ad. 40, 60, 80	to add illustration
Ad. 42, 62, 82	to add illustration

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Botanical names	last botanical name in table: to read: "x <i>Zelenkocidium</i> ..."
1.	- to delete "Cochlioda Lindle., Cyrtochilum" - some botanical names should be changed to Italic.
2.2	to read "The material is to be supplied in the form of plants with a developing inflorescence that have not previously flowered."
General remark T.o.C.	to review denomination of example varieties
Char. 5, Ad. 5	to have states (1) "very narrow oblate", (2) "narrow oblate", (3) "oblate", (4) "circular"
Chars. 6, 7, 8, 9, 14, 15, 16, 17, 18, 22, 25, 26	to be indicated as VG/MS
Char. 46	state (4) to read "medium obovate"
Char. 34, 35, 37, 38, 39, 41, 42, 43, 52, 54, 55, 57, 58, 59, 61, 62, 63, 72, 74, 75, 77, 78, 79, 81, 82, 83, 93, 94, 95, 96	to delete "if present" if there is a preceding characteristic
Char. 44, 45, 64, 65	to be indicated as VG/MS
Char. 88 to 97	to read "Apical lobe of lip: ..." (e.g. "Apical lobe of lip: shape")
Char. 98	to read: "Lip: color of callus"
Ad. 15	to delete extra colon before "inflorescence"
Ad. 27, 46 and 66	to add legend on both sides of grid as stated in TGP/14
Ad. 46	to put state (4) and (6) together in the grid
Ad. 71	to correct name of Ad.
8.3	to be deleted
TQ 1	to add a section "Others"

Pineapple (<i>Ananas comosus</i> (L.) Merr.)	TG/PINEAP(proj.9)
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The TC-EDC recommended that the draft Test Guidelines for Pineapple should be referred back to the TWF in order to resolve technical issues as presented in the comments by the TC-EDC.

(a) Changes to document TG/PINEAP(proj.8) made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/PINEAP(proj.9)), submitted to the TC:

1.	to correct 2nd sentence: "The characteristics in these Test Guidelines..."
3.3.2	to correct reference to chapter 8.3 (instead of 8.4)
5.4	to read "...document TGP/9 "Examining Distinctness"
Before char. 10	The line that divides the characteristic is missing.
Char. 10	to change the title of the char. to „ Only varieties with spines visible: Leaf: density of spines“ and the same for the char. 12 and 13 to include the type of char. and method of observation <i>Leading Expert: to be indicated as QN, VS, 1-7, (a)</i>
Chars. 12, 13	see char. 10
Char. 19	state (5) to read "red" instead of "medium red" <i>Leading Expert agreed</i>
Char. 24	to read "Plant: number of aerial suckers on stem (cloves)"
Char. 25	to read "Plant: size of aerial suckers on stem (cloves)"

Char. 27	to indicate type of char. and method of observation <i>Leading Expert: to be indicated as QN, VG/MS, (e)</i>
Char. 28	to read "Crown: number" (to delete "with states")
Char. 42	to delete (+)
8.1 (c), (d), (e)	to delete colon after brackets "(Characteristics...)- "
8.2	to correct spaces in the list of synonyms of example varieties
Ad. 2	to add full stop at the end of the sentence to improve explanation <i>Leading Expert provided improved explanation</i>
Ad. 26	to correct quotation marks to read 'Raised margins'
Ad. 37, 38	to correct position of "floral bract" and "eye" to correspond to the respective arrows
Ad. 43	to add „Can be assessed using a penetrometer or manually.“ or „to be assessed using a penetrometer“. <i>Leading Expert: to read "To be assessed using a penetrometer."</i>
9.	Collins and Kerns (1946) should be added since is cited in Ad. 8. <i>Leading Expert provided literature reference</i>

(b) Changes proposed by the TC-EDC in January and March 2012, 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 aerial suckers, crowns, slips or young plants as specified by the authority."
3.1.2	to read "The growing cycle is considered to be the period ranging from the beginning of active vegetative growth, continuing through active vegetative growth and fruit development and concluding with the harvesting of fruit."
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."
5.3/TQ 5	Grouping characteristics: 6 ,9, 34 and 39 TQ characteristics: 1, 8, 9, 11, 26, 31, 34, 37 and 39. They should be the same.
6.5	to add reference to growth stages
Char. 10	- to replace VS by VG - to read "Only varieties with spines: Leaf: density of spines"
Char. 11	to read "Only varieties with spines: Leaf: position of spines at margin"
Char. 12	to read "Only varieties with spines: Leaf: color of spine"
Char. 13	to read "Only varieties with spines: Leaf: size of the spine"
Chars. 21, 27	to add (+)
Char. 24, 25	- to delete "(cloves)" - to add "(cloves)" behind "7. Aerial suckers" in Ad. 21, 24, 27, 29
Char. 25	to add VG
Char. 28	to delete MS
8.1	- to delete growth stages - (b) should leaf be in italics ?
8.1 (a)	to be deleted
8.2	presentation of example varieties and synonyms to be improved
Ad. 2	to read "Leaves produced between planting and floral induction."
Ad. 7	Not clear. Does it mean: "The density of trichomes including hairs should be observed."?
Ad. 8	Rather: "The meaning of piping is thatthe upper surface to produce a narrow silvery stripe."
Ad. 11	illustrations must be improved
Ad. 14	How can observations on the fruit be made <u>before fruit development</u> ?
Ad. 26	to be deleted and to delete (+) in table of characteristics
Ad. 43	to check whether explanation should be improved
Ad. 47	to read "Free acid content is determined by titration of 10 ml filtered juice with 0.1 NaOH with phenolphthaleine as indicator." The dimension is not relevant for description and DUS.
Ad. 48	is "recorded with a " not "via refractometer"
8.3	- 1-T to read "1-T: At fully vegetative growth stage, immediately before floral induction" - to provide explanation for "floral induction" - to review other growth stages

9.	to add "Bartholomew, D. P., Paul, R. E., and Rohrbach, K. G., eds. (2002): The Pineapple: Botany, Production and Uses; editors., University of Hawaii, Manoa, Honolulu, USA. 320 p." are two different references
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Sesame (<i>Sesamum indicum</i> L.)	TG/SESAME(proj.7)
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In response to a number of technical questions raised by interested experts after the TWA session, it was agreed by the Chairperson and former Chairperson of the TWA, and the Leading Experts to consider a new draft of TG/SESAME at the forty-first session of the Technical Working Party for Agricultural Crops to be held in Angers, France, from May 21 to 25, 2012.

Changes to document TG/SESAME(proj.7) made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are to be included in the draft Test Guidelines (document TG/SESAME(proj.8)), to be submitted to the TWA.

Char. 2	see Ad. 2
Char. 6	to delete (c)
Char. 15	(a), not (b)
Char. 16	It is necessary to indicate on which leaf this observation must be done
Char. 17	(a), not (b)
8.1	(a), (b) and (c) should be revised. The time of observation could be better indicated by growth stages e.g. 65 – Full flowering: 50% of flowers open 89 – Fully ripe: fruit shows fully-ripe color, beginning of fruit abscission (other definition to be provided by leading expert e.g. see Ad. 30). Then, only (a) is necessary as follows: All observations on the leaf, the capsules and the seed should be made on the lower part of the plant.
8.1 (a)	to indicate when observations should be made, at the beginning of flowering or when?
Ad. 2	The explanations results in: (1) 0-1 (2) 2 (3) 3-4 (4) 5 (5) >5 Is the scale appropriate? to read "...and very many means more than five branches per plant."
Ad. 4	Drawing to be improved or to be deleted. Not the nodes bur the internodes are indicated. According to Ad. 1, determinate plants have no main stem.
Ad. 6	To be replaced by growing stage in table of char.
Ad. 18	the illustrations are not very relevant Images are not appropriate: flower in the first photo are much darker than as shown for state (4) dark
Ad. 21	Photo to be improved. It is not useful to have 3 identical flowers for (9) but no for (1).
Ad. 29	In general, the first flower in the plot is not a stable characteristic. Usually we use more stable stages, e.g. at least one open flower on 10 % of plants.

Shiitake (<i>Lentinula edodes</i> (Berk.) Pegler)	TG/SHIITK(proj.5)
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(a) Changes to document TG/SHIITK(proj.4) made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/SHIITK(proj.5)), submitted to the TC:

General	there is no information on (B) or (S) type except example varieties for chars. 34 and 35 <i>Leading Expert: to change wording of chapter 6.4</i>
Alternative names	to add German name "Shiitake"

4.1.4	It should be clarified that it is one fruit body from each of 60 blocks (see 3.4.1). <i>Leading Expert: The following should be added after "Unless ... part taken from each of 60 first bodies": "which are taken from bed-logs or sawdust blocks respectively one by one"</i>
4.2.2	Sample size for uniformity not clear. Why less than for distinctness? Does the sample refer to single fruit bodies only or also to "blocks", e.g. char. 34 + 35? <i>Leading Expert: "50" is a mistake. "50" is corrected to "60"</i>
5.3	to delete (a)
6.5	to check if indication of (B) and (S) necessary. <i>Leading Expert: to delete (B) and (S) from Chapter 6.5</i>
Char. 12	to be indicated as VG/MS instead of MS – to be consistent with char. 10
Char. 13	to be indicated as VG instead of VS (see char. 30)
Char. 14	probably "scales" instead of scale? <i>Leading Expert: change to "scales"</i> According to char. 16 and Ad. 16 it seems doubtful that char. 14 is appropriate. To check if 14 and 16 should be merged. <i>Leading Expert: to combine Char.14 with Char.16. So, "State 1" of Char. 16 is made "absent or very small" and the example variety of state 1 is made "KX-S034". Therefore, Chapter 5.3 grouping character "(d) Cap: presence of scale (characteristic 14)" is deleted.</i>
Char. 16	See char. 14
Char. 20	to read "Gill: arrangement"
Char. 22	to read "Gill: density"
Chars. 25, 26, 31, 32	to be indicated as VG/MS - to be consistent with chars. 10, 12
Char. 31	to delete (+) The diameter can be smaller or larger than a length, but not shorter or longer. <i>Leading Expert: "shorter or longer" should be corrected to "smaller or larger"</i>
8.1 (a)	Information on "observation" to be moved to Ad. 1 and Ad. 2 respectively. "Number of plates: more than two <u>at least 3</u> "??? <i>Leading Expert agreed:</i> <i>to delete sentence "Observation (Hyphae)..." from 8.1 (a)</i> <i>Ad. 1 to read "The density of hyphae should be observed when it has developed on about 70% of the diameter of the plate (see 8.1 (a))"</i> <i>Ad. 2: to change see "8.1 (b)" to "8.1 (a)"</i> If $\pm 2^{\circ}\text{C}$ results in different growing rates (see char. 3) a condition of $25\pm 2^{\circ}\text{C}$ is not appropriate to observe char. 1. I can hardly imagine that density of hyphae is stable between 23 and 27°C and that G x E interaction can be excluded. <i>Leading Expert: "25\pm2$^{\circ}$C" to be corrected to "25\pm1$^{\circ}$C".</i>
8.1 (b)	"Number of tubes/plates: more than five <u>at least 6</u> "? <i>Leading Expert agreed</i>
Ad. 10, 12, 21	Explanation not clear. Clarification necessary. <i>Leading Expert provided combined illustration for Ad. 10, 11, 26, 27, 31, 32</i>
Ad. 10, 12, 21, 25, 26	to be put together <i>Leading Expert provided combined illustration for Ad. 10, 11, 26, 27, 31, 32</i>
Ad. 16	How looks state 1 - having in mind that "very small" shall be clearly different from absent (see char. 14) <i>Leading Expert: see char. 14, L.E provided improved photographs</i>
Ad. 17	tinging of scale is not clear from pictures <i>Leading Expert: to add explanation</i>
Ad. 19	to delete lower drawings. <i>Leading Expert agreed</i>
Ad. 27, 29	not clear to which characteristic pictures belong to add Ad. 31 and Ad. 32 – together with Ad. 21, 25 and 26 <i>Leading Expert: see above, new illustration for Ad. 10, 11, 26, 27, 31, 32</i> These photos are not useful. Difference is obviously due to the quality of the photo but not to a different expression of the varieties. In the second it is hardly possible to see any stipe under the fluff. <i>Leading Expert provided new illustration and added an explanation</i>
Ad. 33	to read "The fruiting body should be dried at 60°C until a constant weight."
Ad. 34, 35	Explanation to be improved. It seems that the conditions are very important but no conditions are defined. <i>Leading Expert provided new explanation and illustration</i>

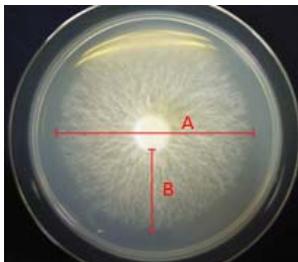
8.3	<p>“Bed-long cultivation” to read either “the cultivation period is very long” and to delete a rest of the sentence or “the cultivation is longer than the sawdust cultivation types” <i>Leading Expert: to read “the cultivation period is longer than the sawdust cultivation type” and to put “Bed-log cultivation type” and “Sawdust cultivation type” in singular</i></p> <p>Reference to 3.3.1 is not correct. Rewording necessary in order to focus on the information which is necessary to test DUS having in mind that the applicant has to indicate the type in the TQ. <i>Leading Expert: to add the following to Chapter 3.3: “In particular, it may be necessary for separate growing trials to be established for bed-log cultivation type and sawdust cultivation type in order to ensure the satisfactory growth of varieties of those types (see Chapter 8.3). These Test Guidelines provide information to cover such situations.”</i></p>
TQ 5.1	to be deleted because covered in TQ 7.3.1 and update other characteristics

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

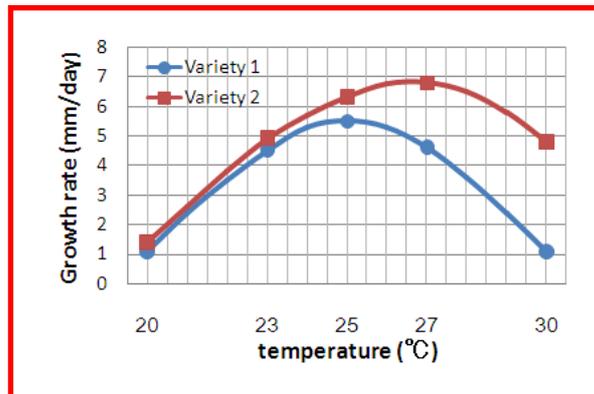
Char. 31 (old 32)	to be deleted
Ad. 3	to read as follows:

Ad. 3: Mycelium: optimum temperature for growth
Ad. 4, 5, 6, 7, 8: Mycelium: growth rate at 10°C, 15°C, 20°C, 25°C, 30°C

The incubation temperature of mycelium which combined the char. 3 to 8 is examined about 10 °C, 15°C, 20 °C, 23 °C, 25 °C, 28 °C and 30 °C. Measure the length or diameter (see 8.1(b) tube/plate) that grew up on the 14th day from the 4th day of mycelium cultured at each temperature. Amount of mycelium growth per day at each temperature are considered to be the growth rate. The optimal temperature of mycelium is the incubation temperature which shows the highest growth rate. These characteristics should be evaluated by drawing of mycelium growth curve (see following graph).



A: diameter of mycelium
B: length of colony

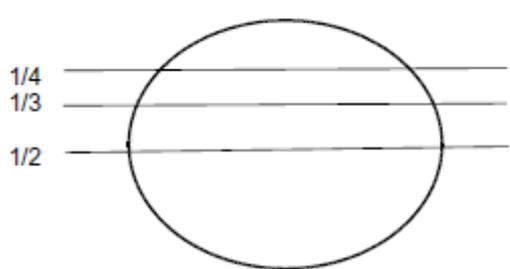


Ad. 13	to read “Determined by hand. The hardness of the cap is compared to standard varieties.”
Ad. 24	<p>to have states (1) “broader toward base”, state (3) “broader toward cap”. example variety: state (1) “JMS 7H-1”, state (3) “Susono 360”, and to delete “Kinko 115” (state 2)</p> <p>1 broader toward base 2 cylindrical 3 broader toward cap</p> <p>to correct number, should be Ad. 23</p>

Tomato rootstocks (<i>Solanum lycopersicum</i> L. x <i>Solanum habrochaites</i> S. Knapp & D.M. Spooner)	TG/TOM_ROOT(proj.2)
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In response to a number of technical questions concerning disease resistance raised by interested experts after the TWV session, it was agreed by the Chairperson and former Chairperson of the TWV, and the Leading Expert to consider a new document for Tomato Rootstocks at the forty-sixth session of the Technical Working Party for Vegetables to be held near the city of Venlo, Netherlands, from June 11 to 15, 2012.

Changes to document TG/TOM_ROOT(proj.2) made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are to be included in the draft Test Guidelines (document TG/TOM_ROOT(proj.3)), to be submitted to the TWV:

General remark	All characteristics which correspond to Tomato should be presented in the same way as in TG/44/11 (proj.5). Currently there are many unnecessary deviations in EN as well as in the translations (e.g. char. 4, 7, 9, 10, 11, 13, 22).
Botanical name and 1.	To clarify if the names refer to synonyms or different interspecific crosses. Cover page and/or sect. 1 to be adopted.
1.	Reference should be made to TG/44/11, not to TG/44/10.
2.3	2.3 is the only section where vegetatively propagated varieties are mentioned. Not considered in 4.2 Uniformity and in diseases resistance methods. If vegetatively propagated varieties exist the TG has to be amended accordingly. If it is only a possibility for the future it should be deleted in 2.3
2.3	"... For disease resistance testing, additional plant material may be requested." Not appropriate for seed and already covered above for vegetatively propagated varieties.
4.2.2	Species <i>Solanum</i> (<i>Lycopersicum</i>) is usually considered self-pollinated ???
Chars. 4, 7, 15, 16, 17, 18	to delete explanations in brackets
Char. 4	to delete brackets (see +).
Chars. 5, 6	to be indicated as MS instead of MG
Char. 7	to delete either the text in parenthesis or the explanation to delete brackets (see +)
Char. 9	to check if "as for 7" is appropriate. In Tomato these char. are not observed just in the middle leaflets but in the middle of the plant.
Chars. 9, 10	either to condense scales 1 to 5 – or to add example varieties
Char. 11	Is it the pedicel (stipe of inflorescence) or the peduncle (stipe of flower)? Translations are different.
Char. 13	(2) slightly flattened oblate (DE: breitrund)
Char. 14	to read "two and three" instead of "two or three"
Char. 15	Is it appropriate to have 15. And 16.? Example variety of 15. should also be used in 16..
Chars. 15 to 17	Reference to "before maturity" to be deleted – see (c)
Char. 16	proposal to add explanation (from CPVO draft protocol for tomato)  3: small (1/4) 5: medium (1/3) 7: large (1/2)
Char. 18	Reference to "before maturity" to be deleted and to add (c)
Char. 22	susceptible – moderately resistant – highly resistant (... as for Tomato)

8.1 (c)	“All observations on the green shoulder <u>and meridian stripes</u> of the fruit should be made on the plant before maturity.
Ad. 1	To be deleted because not useful. Redundant.
Ad. 3	Second part of last sentence is very confusing and makes the whole characteristic doubtful. Photos to be deleted. Photos are in bad quality and in contradiction to wording, if intensity of expression is variable due to environment.
Ad. 4	to read “In case of measurements, this measure is divided...” instead of “When this observation/measure is divided ...” because observation cannot be divided
Ad. 7	either to delete text in parenthesis or to delete explanation
Ad. 13	To use images from TG/44/11 (proj.5) char. 28 state 1, 2 and 3.
Ad. 21	Is it a separate test?
Ad. 22 to 32	The presentation of the methods is confusing and partly imprecise. In general, more stringent wording is necessary. I will not comment on all details but give only some examples: - All methods refer to seed or seedlings. How to deal with vegetatively propagated varieties? - Indication of host is unclear, at least the species covered by the TG must be hosts as well – otherwise no susceptibility possible - Repetitions in sect. 8 and 10 should be prevented, sometimes information is not conform in sect 8 and 10 - Relation between time(s) of observation and end of test is not clear, e.g. Ad. 22 10.7 or Ad. 23 10.5 to 10.7 etc. - ... - Title of par. 12 should be reworded: “Interpretation of data in terms of <u>UPOV characteristic states of expression</u> ” I wonder if the presented document was agreed by TWV because chapter 8 is completely different to the draft considered by TWV 2011.
Ad. 22	to check if 11.4 really refers to off-types For resistant varieties there seems to be a contradiction between 11.4 and 12. Note 3
Ad. 23	According to the last sentence in par. 13 it is questionable if absent-present is appropriate.
Ad. 24	According to the last sentence in par. 13 it is questionable if absent-present is appropriate.
Ad. 25	11.1 Method: not very clear
Ad. 26	6. Establishment of isolate identity to read “with genetically defined differentials from GEVES (FR): race 0 and race 2-4-5 or from Naktuinbouw: A (Cf-2), B (Cf-4), C (Cf-2-4), D (Cf-5), E (Cf-2-4-5)”
Ad. 27	Remark in par. 11.2: IT is not clear to which type of varieties the remark refers.
Ad. 31	Par. 13: If there exists another method than using the pathogen this method should be mentioned.
Ad. 32	Par. 13: If resistance is race specific but it is not possible to test race specific, the characteristic does not seem to be appropriate for DUS.

Tree Paeony (<i>Paeonia</i> Sect. <i>Moutan</i>)	TG/PAEON(proj.6)
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The TC-EDC recommended that the draft Test Guidelines for Tree Paeony should be referred back to the TWO in order to resolve technical issues as presented in the comments by the TC-EDC.

(a) Changes to document TG/PAEON(proj.5), made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/PAEON(proj.6)), submitted to the TC:

Ad. 5, 19, 21, 33, 38	The legend of length/width should be placed separately
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(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

General remark	Because of many fundamental changes/open questions on characteristics and in section 8, in my opinion the document is not ready for adaptation by the TC and should go back to the TWO.
Box on front page, Botanical names, Chapter 1	to review consistency of coverage of Test Guidelines
Cover page	- to correct Spanish name to "Peonia" - to correct French name to "Pivoine arbustive" - to add space after comma in third line of botanical names
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. 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."
5.3	Number and quality of grouping characteristics should be checked.
Char. 2	to be indicated as VG/MS
Char. 10	to be indicated as VG/MS
Char. 12	to delete MG
Char. 13	to be indicated as PQ
Char. 14	to be indicated as MS
Char. 15	to be indicated as MS
Char. 16	to be indicated as VG
Char. 23	- to read "Flower: form" and to add explanation that the most complex flower within a plant should be observed - to check if high number of states is appropriate
Chars. 24	VG or MS, but not MG
Char. 25, 29, 30, 31, 46, 47, 48	to delete reference to "most complex form" and add explanation in 8.1 that observation should be done on flowers with most complex form
Chars. 26 and 27	to check whether to add color groups to chapter 5.3 and/or TQ 5.11 and 5.12
Char. 27	explanation missing.
Char. 33	Differences between the forms are not clear. Too many states?
Char. 34	to be indicated VG/MS
Char. 50	to read "Time of beginning of the first flowering"
8.1 (a)	- to delete 8.1(a) and remove (a) from char. 1 - to add to Ad. 1: "Observed after leaf fall in the winter" - to add (+) to char. 2 and create the following Ad. 2: <u>"Ad. 2: Plant height</u> Observed when plants are in flower."
8.1 (b)	reword to read "Observations on the mixed bud shape and color should be made on the first lateral bud from the apex on a current year branch during after leaf fall in the autumn. A current year branch is a branch which is current or belongs to the present year."
8.1 (c)	- to delete 8.1 (c) and remove (c) from char. 8 - to add (+) to char. 8 and create following Ad. 8: <u>"Ad. 8: One year old branch: length</u> Observed after leaf fall on current year branches, excluding basal shoots." - to add (+) to char. 9 and create following Ad. 9: <u>"Ad. 9: Two-year-old branch: number of flowering branches</u> Two year old branches are those developed and flower buds differentiated on last year." [should this be "on last year's branches"?]
8.1 (d)	- to move to Ad. 7 and reword to read "Very young shoots are less than 10 cm in length. The color of very young shoots excludes that of flower buds." - to remove (d) from char. 7
8.1 (e)	- to amend to read "Except for leaf color, all observations on the petiole, leaf and leaflet should be made on the third and fourth fully developed leaves from the base on current year's branch in flower." - to add (e) to char. 13

8.1 (f)	<ul style="list-style-type: none"> - to delete 8.1 (f) - char. 16: to delete (f) and add (+) - char. 17: to change (f) to (e) - char. 18: to change (f) to (e) - to create following Ad. 16: <u>"Ad16: Leaf: color of upper side</u> Observed at the beginning of flowering."
8.1 (g)	to read "All observations on flower, petal, stamen and pistil should be made on the terminal flower on a primary branch. Observations on the shape of flower bud should be made when the bud is beginning to show the color. All observations on the petal should be made when the flower is fully open, except for the observations on the petal color which are made on the middle part of the petal at the time of flower opening."
8.1 (h)	to read "Blotch: an irregularly shaped and sized spot at the base of the petal. All observations on the blotch should be made on the first inner 1~2 wheel petals when the flower is fully open."
8.2	several explanations are missing
Ad. 3, 4	current Ad. 3, 4, 5 does not cover chars. 3 and 4; Ad. 3 and 4 should be added to add Ad. 3 and 4 according to TWO report and as provided by Leading Expert:
	<p><u>Ad. 3</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>1 upward</p> </div> <div style="text-align: center;">  <p>2 outward</p> </div> <div style="text-align: center;">  <p>3 downward</p> </div> </div> <p><u>Ad. 4</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>3 within</p> </div> <div style="text-align: center;">  <p>5 same level or nearly same level</p> </div> <div style="text-align: center;">  <p>7 above</p> </div> </div>
Ad. 5	presentation in table not appropriate
Ad. 10, 14, 15	to delete small arrows.
Ad. 19, 20	Presentation to be improved. Difficult to identify which illustration shall show what.
Ad. 21	presentation in table not appropriate
Ad. 22	could be deleted
Ad. 23	See char. 23 - What is the "most complex form"?
Ad. 27	to be provided
Ad. 38	Presentation in table not appropriate.
Ad. 42	Images not clear.
Ad. 44	Shall it be texture? Photos do not provide useful information
Ad. 47	Difference between (1) and (2) not clear
Ad. 50	<ul style="list-style-type: none"> - to read "The beginning of flowering is determined when 10% of all flower buds have opened." - (d) is not correct, to be deleted?
TQ 1.3	to add "(Please indicate)"
TQ 5	<ul style="list-style-type: none"> - to check if all requested characteristics are appropriate. - to add char. 13 and 24 (grouping chars.)

2. REVISIONS

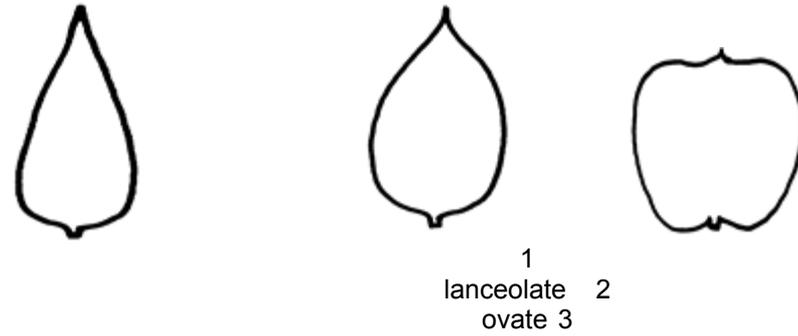
Actinidia (<i>Actinidia</i> Lindl.)	TG/98/7(proj.5)
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(a) Changes to document TG/98/7(proj.4), made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/98/7(proj.5)), submitted to the TC:

Cover page	to read UPOV Code: ACTIN (to delete full stop at the end)
3.1	to justify paragraph
3.1.2	to delete quotation mark at the end of the sentence
3.4.1	to add full stop at the end of the sentence
Char. 70	to read "Fruit: general shape of core in cross section" <i>Leading Expert: Since it can be seen in Ad. 67 that in some cases the shape is not uniform (see State 4 that is more like an oblong), or to consider having more States.</i>
Char. 76	state (3): to delete example variety "Hongyang (A)"
8.1 (a)	The wording is confusing. Should read "Observations on the young shoot should be made during active vegetative growth. Observation of hairs should be made on internodes from the middle third of growing shoots"
Ad. 19	to correct numbering: rounded = 5, retuse = 6
TQ 5	Now that ploidy is in TQ 7, the numbering should be: 5.1 (75) Time of beginning of flowering For female and hermaphrodite varieties 5.2 (46) Fruit weight 5.3 (50) Fruit shape 5.4 – 5.8
TQ 7	to have only one table for "Plant: ploidy" as the character applies to all varieties

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

2.3	to read "The minimum quantity of plant material, to be supplied by the applicant, should be: 5 plants on their own roots or, 5 plants on the clonal rootstock as specified by the authority"
2.2	- to read "The material is to be supplied in the form of plants on their own roots or plants on a clonal rootstock. The competent authorities should specify the form of material to be supplied and select the most appropriate rootstock." - to move last sentence "For female varieties, the competent authorities should ensure that an appropriate male variety is available for adequate pollination." to Chapter 3.3
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. 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. 18	to delete (+)
Char. 27	to delete "if present"
Chars. 47, 48	to be indicated as VG/MS
Char. 49	to be indicated as VG/MG
Char. 54	states to read (1) absent or weakly expressed, (2) medium expressed, (3) strongly expressed
Chars. 56, 57	to delete MG
Char. 59	state (1): to delete example variety "Shouwa (B)" and add "a-Shouwa (B)"
Char. 67	to delete "(if present)"
Char. 69	to delete MG
Char. 72	to be indicated as MS only
Char. 73	to delete VG
8.1	to read "(1) Applies to Group A type varieties only" "(2) Applies to Group B type varieties only"

Ad. 16	to replace photographs with explanation “Lamellate: The pith consists of layers of thin plates, one against an other Solid: The pith consists of a dense mass”
Ad. 17	to replace with new illustration:  obovate 1 lanceolate 2 ovate 3
Ad. 67	to use new illustration provided by Leading Expert
TQ 7.1	- state (4): example variety “Kaimutu (A)” to be replaced by “Kuimi (A)” - state (6): “Mitukou (B)” to be replaced by “Mitsukou (B)”

Durum wheat (<i>Triticum turgidum</i> L. subsp. <i>durum</i> (Desf.) Husn.)	TG/120/4(proj.5)
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(a) Changes to document TG/120/4(proj.4), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/120/4(proj.5), submitted to the TC:

3.3.2	to read “... The stages of development denoted by each number are described in the descriptions of the growth stages of the Zadoks decimal code for cereals at the end of <u>in</u> Chapter 8.3.”
3.4.3	to be divided: new sub-chapter 3.4.4 from the sentence “In case of hybrids...”
4.2.3	to correct first sentence and to separate paragraph to read “4.2.3 For the assessment of uniformity of in a sample of 100 plants or parts of plants and ear-rows, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 100 plants, parts of plants or ear-rows, 3 off-types plants/ear-rows are allowed. An ear-row is considered to be an off-type if there is more than one off-type plant within that ear row. Characteristics which should be observed on a sample size of 100 plants are indicated by an “A” in the Table of Characteristics. “4.2.4 For these “A” characteristics, with the exception of characteristic 1, the assessment of uniformity can be done in 2 steps. In a first step, 20 plants or parts of plants are observed. If no off-types are observed, the variety is declared to be uniform. If more than 3 off-types are observed, the variety is declared not to be uniform. If 1 to 3 off-types are observed, an additional sample of 80 plants or parts of plants must be observed.”
Char. 4	to replace VG by MG, to delete states (1) and (9)
Chars. 7, 8, 10, 11, 17, 27	to delete state (9)
Char. 14, Ad. 14	to have states (2) medium oblong and (3) narrow oblong
Chars. 22, 24	to delete states (1) and (9)
Char. 23	to read “Ear: coloration”
Char. 26	- to have states (1) slightly elongated, (2) moderately elongated (3) strongly elongated - to be indicated as QN
General remark on Ads.	to delete states (1) and/or (9) when necessary (see comments on chars. above)
Ad. 2	to read “The growth habit at tillering stage (growth stages 25-29) should be assessed visually from the attitude of the leaves and tillers at tillering stage (growth stages 25-29). The angle formed by the outer leaves and the tillers with an imaginary middle axis should be used.”
Ad. 26	to correct states to (1), (2), (3); to add “To be observed in dorsal view.”

8.3	to add "Zadoks et al, 1974" format: less lines in the table
9.	first reference to read "...Genetic Resources and Crop Evolution 41: 47-54." third reference to read "...Weed Research 14: 415-421." to check literature
TQ 7	to delete request for photograph.

Papaya (<i>Carica papaya</i> L.)	TG/264/2(proj.3)
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The TC-EDC, at its session held in Geneva, on January 11 and 12, 2012, considered documents TG/264/2(proj.2) and TC-EDC/Jan12/7 "DUS Examination of Seed-Propagated Varieties of Papaya" and noted the progress in the development of the draft of the Test Guidelines. It noted that it would be difficult to assess the proportion of male plants, hermaphrodite plants and female plants (Chars. 17-19) on the basis of the proposed sample sizes: 5 plants and 20 plants. Therefore, the TC-EDC recommended that the draft Test Guidelines for Papaya be referred back to the TWF for further consideration in that regard.

(a) Changes to document TG/264/2(proj.2) made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are to be included in the draft Test Guidelines (document TG/264/2(proj.4)), to be submitted to the TWF:

4.1.4	to read "Unless otherwise indicated, for the purpose of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants in the case of seed-propagated varieties and 5 plants or parts taken from each of 5 plants in the case of vegetatively propagated varieties, in both types of propagation disregarding any off-type plants."
4.2.4	to be deleted
Char. 12	- to move after char. 15 - to delete VG - to add (+) and explanation
Chars. 17 to 19	to delete VG, to be reconsidered by the Leading Expert (How to be assessed on 5, 20 plants?)
Char. 21	to add example varieties for state (2) and/or (3)
Char. 33	to add (f)
Char. 37	to delete VG
Chars. 43 to 38	Leading Expert to check order of seed characteristics
Chars. 42, 44, 45, 46	to be indicated as VG/MS
8.1 (b)	to read "...or single flower has appeared."
8.1 (c)	to add "In seed-propagated varieties" before last sentence
8.1 (d)	to be deleted, text to be improved and moved to Ad. 22 and 23
8.1 (e)	to add "In seed-propagated varieties" before last sentence
8.1 (f)	to read "Fruit: ..."

(b) Changes proposed by the TC-EDC in March 2012, which are to be included in the Test Guidelines submitted to the TC:

4.1.4	to read "Unless otherwise indicated, for the purpose of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants in the case of seed-propagated varieties disregarding any off-type plants. In the case of vegetatively propagated varieties all observations on single plants should be made on 5 plants or parts taken from each of 5 plants."
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Parsnip (<i>Pastinaca sativa</i> L.)	TG/218/2(proj.3)
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(a) Changes to document TG/218/2(proj.2), proposed by the Enlarged Editorial Committee at its meeting on January 11 and 12, 2012, which are already incorporated in the draft Test Guidelines TG/218/2(proj.3), submitted to the TC:

4.2.3	<p>“In addition, for hybrids, the same population standard and acceptance probability should be applied to clearly recognizable inbred plants. In the case of a sample size of 200 plants, 7 clearly recognizable inbred plants are allowed.” to check with Leading Expert whether these additional sentences is necessary <i>Leading Expert: 4.2.3 should read as follows:</i></p> <p>“(b) <i>Hybrid varieties/Inbred lines</i></p> <p>4.2.3 <i>For the assessment of uniformity of single cross hybrids and self-pollinated varieties (inbred lines), a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 200 plants, 7 off-types are allowed. In the case of of a sample size of 30 plants, 2 off-types are allowed.</i>”</p>
Ad. 9	<p>to read “Leaflet size refers to the area of the leaflet. Assessment should be made on the second leaflet from the bottom on one side of the midrib for each leaf recorded (see Ad. 11). <i>Leading Expert: to read:</i> “Leaflet size refers to the area of the leaflet. Assessment should be made on the second leaflet from the bottom on one side of the midrib for each leaf recorded.”</p>
Ad. 23	<p>to improve explanation <i>Leading Expert: to read after “...presence or absence of pollen.”:</i> “At least 30 roots of each variety to be assessed should be grown on to flowering.”</p>
TQ 5.2 (Char. 12)	to delete ex. variety “MS2”

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Char. 17	state (2) to read “medium obtriangular”, state (4) to read “medium obovate”
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Radish, Black Radish (<i>Raphanus sativus</i> L.)	TG/63/7(proj.7)-TG/64/7(proj.6)
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(a) Changes to document TG/63/7(proj.6)-TG/64/7(proj.5), made on the basis of comments received from members of the Enlarged Editorial Committee in January 2012, which are already incorporated in the draft Test Guidelines (document TG/63/7(proj.7)-TG/64/7(proj.6)), submitted to the TC:

Box on front page	to delete bracket and to read “ <i>Raphanus sativus</i> L. var <i>sativus</i> ; <i>Raphanus sativus</i> L. var. <i>niger</i> (Mill.) S. Kerner”
Botanical name	to read “ <i>Raphanus sativus</i> L. var. <i>sativus</i> = (S)”
Spanish name	to read “Rábano de invierno, Rábano negro” and to include the name “Rábano” in “ <i>Raphanus sativus</i> L. var. <i>sativus</i> = (S)”
1.	name to read “ <i>Raphanus sativus</i> L. var. <i>sativus</i> ”
3.4.1	Reference should be made to chapter 8.1, not to 5.3. <i>Leading Expert agrees</i>
6.4 and 6.5	The way to indicate the type of example varieties should follow TG/46 Onion/Shallot or TG/57 Flax/Linseed. <i>Leading Expert agrees</i>
All Chars.	To use consistently “Only N-type varieties” <u>or</u> “Only for N-type varieties” (respectively S-type) <i>Leading Expert: Use: Only N-type varieties</i>
Char.1, Ad.1, TQ 5.1	to read “ <u>Only for N-type varieties: Ploidy</u> ” <i>Leading Expert: “to read Only for N-type varieties: Ploidy” (see comment above)</i>

Char. 6	The term blunt is unsharpened or rounded; it is not defined in TGP/14 and in Ad. 6 like obtuse. In 1 “slightly pointed” should be “acute”. <i>Leading Expert agrees</i>
Char. 7	to check whether is applicable for “S” type - there is only one “S” type variety example <i>Leading Expert: Colors can be observed in one scale for both types, even though there might be less variation in S-type. There have been two leaf blade color char. in the former small radish guideline, which have been merged into Char. 7</i>
Char. 9	to add explanation for blade with leaflets – which leaflets should be observed (see Ad. 6) <i>Leading Expert: The depth of incision of margin is the same for all leaflets of a leaf. To avoid confusion, I provided a new illustration for Ad. 6 (only one photograph per state)</i>
Char. 10	to delete notes (2), (4), (6), (8) <i>Leading Expert agreed</i>
	To delete “Only for N-type varieties”. Example varieties for (9) have to be checked (were taken over from old TG where it was absent / present in N-type). <i>Leading Expert agreed</i>
Char. 17	to reorder the stage 9 and 10 - to read medium oblate 9, narrow oblate 10 (from elongated to compressed) <i>Leading Expert agreed</i>
Char. 19	if considered as lateral view to have states (1) truncate, (3) obtuse <i>Leading Expert agrees</i>
Char. 26	To delete “very” in (1) and (5) <i>Leading Expert agreed</i>
Char. 28	States should be renamed or to separate in to characteristic for each type (S and N) <i>Leading Expert agreed</i>
Ad. 1	“The ploidy status ... • and length of stomata on the lower side of the cotyledon (tetraploid varieties have more and longer stomata than diploid varieties) ...”
Ad. 2	to add: “S-type should be observed at the time of harvest maturity” <i>Leading Expert agreed</i>
Ad. 3, 4, 5	to delete and should be explained 8.2 (b)
	The same explanation applies probably also to characteristics 6 to 9. It should be checked if it is more appropriate to move the wording to 8.2 and to add a letter. <i>Leading Expert agrees:</i> 8.2 (c) to read “All observations on the leaf should be made on fully developed leaves”, to add (c) to chars. 3 to 9
Ad. 17	to read “medium oblate” (9), “narrow oblate” (10) (from elongated to compressed)
Ad. 20	to use improved illustrations provided by Leading Expert (drawings are improved in respect of the position of the dotted lines)
Ad. 22	to use improved illustration provided by Leading Expert (drawings are improved in respect of the position of the dotted lines)
Ad. 25	to use improved illustration provided by Leading Expert (drawings are improved in respect of the position of the dotted lines)
Ad. 27	Observation in longitudinal section? <i>Leading Expert: to add “To be observed in longitudinal section.”</i>
Ad. 28	“Time of harvest maturity is reached should be observed at growth stage 48 (see Chapter 8.4).”
8.4	first sentence to read “... (radish = <i>Raphanus sativus</i> L. ssp.) Feller et al. (1995).”
	to add literature source: “(Meyer, 1997)”
8.4, 41:	to read (diameter > 0.5 cm)
9.	to include Feller et al. (1995). in the literature since is cited in 8.4
TQ 1.1.1	<i>Raphanus sativus</i> L. var. <i>longipinnatus</i> L.H. Bailey should be deleted. According to cover page it is a synonym. (Otherwise 1. Subject of these Test Guidelines needs modification.)
TQ 5.10 (17)	to revise notes 9 and 10 to add “grid” <i>Leading Expert agreed</i>
TQ 7.2	Chapter 7.2 should follow TGP/7 strictly. “Use” to be moved to 7.3 <i>Leading Expert agreed</i>
TQ 7.3	7.3.1 Type of use ...
	7.3.2 Other information <i>Leading Expert agreed</i>

(b) Changes proposed by the TC-EDC in January and March 2012, which are to be included in the Test Guidelines submitted to the TC:

Botanical names	to delete "(N)" and "(S)" in botanical name.
6.4	to delete 6.4.2 and numbering of 6.4.1
6.5	"(S) S- type varieties: see Chapter 8.1" "(N) N- type varieties: see Chapter 8.1"
Char. 7	to add (N) after ex. var. "Miura"
Char. 13	to add (N) after ex. var. "Minowase Summer Cross No. 3"
Char. 17	state (12) in French to read "en cloche"
Char. 21	to be indicated as QL
Char. 23	to delete (+)
8.4	to read "Phenological growth stages and BBCH-Identification keys of non-thickened root and stem vegetables (radish = <i>Raphanus sativus</i> L.) Feller et al., 1995 (Meier, 1997)"
9.	fourth reference to read "Meier" instead of "Meyer"

[End of Annex II and of document]