

Technical Working Party for Vegetables

TWV/58/11

Fifty-Eighth Session
Virtual meeting, April 22 to 25, 2024

Original: English
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REPORT

Adopted by the Technical Working Party for Vegetables (TWV)

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Opening of the session

1. The Technical Working Party for Vegetables (TWV) held its fifty-eighth session, organized by electronic means, from April 22 to 25, 2024. The list of participants is provided in Annex I to this report.
2. The session was opened by Mr. Yoshiyuki Ohno (Japan), Chairperson of the TWV, who welcomed the participants.
3. The TWV was welcomed by Ms. Yolanda Huerta, Vice Secretary-General, UPOV.

Adoption of the agenda

4. The TWV adopted the agenda as presented in document TWV/58/1 Rev. The TWV noted that no documents had been received for agenda items 3.2 to 3.5, 3.7, 3.9 and 3.10.

Development of guidance and information materials

5. The TWV considered document TWP/8/1.

(a) *Explanatory Notes*

UPOV/EXN/DEN “Explanatory Notes on Variety Denominations under the UPOV Convention” (Revision)

New variety denomination classes for Prunus and situations when a denomination should be compared with other classes within a genus

6. The TWV considered situations when a denomination should be compared with denominations in other classes within a genus or the entire genus, as set out in document TWP/8/1, paragraph 11.
7. The TWV agreed that the situation described for *Prunus* would be applicable to denominations in other classes within a genus, i.e. denominations of interspecific hybrids should be different from those in the classes of all parent species; and denominations for varieties from one of the “Classes within a genus” should be different from denominations of interspecific hybrids with one parent in that class.

(b) *TGP Documents*TGP/5: Section 6 “UPOV Report on Technical Examination and UPOV Variety Description” (Revision)*Subsection “UPOV Variety Description”, item 16 “Similar varieties and differences from these varieties”*

8. The TWV considered the additional explanations proposed for inclusion under Item 16 “Similar varieties and differences from these varieties” in the “UPOV Variety Description”, as set out in document TWP/8/1, paragraph 18.

9. The TWV agreed that information on similar varieties and differences from the candidate variety were important to facilitate cooperation and the exchange of DUS test reports.

10. The TWV agreed that it would not be practical to report in a variety description all the varieties in a collection or a list of varieties tested along with a candidate variety.

11. The TWV agreed that variety descriptions should always provide information on most similar varieties, even if it was a parent or sibling of the candidate. The TWV agreed that the lack of information in item 16 led to uncertainty whether the variety description had been duly filled. The TWV agreed that a standard wording should be developed for such situations.

Subsection “UPOV Variety Description”, item 17 “Additional information”

12. The TWV agreed with the proposal for further explanations under item 17 “Additional Information” in the “UPOV Variety Description”, as set out in document TWP/8/1, paragraph 21, and reproduced as follows:

17. Additional Information

- (a) Additional Data (e.g. COYU or COYD results, measured data supporting certain characteristics, scales for measured characters for example varieties)
- (b) Photograph (if appropriate)
- (c) RHS Colour Chart version used (if appropriate)
- (d) Examples varieties used in testing
- (e) Remarks

13. The TWV agreed that the elements provided under item 17 “Additional information” were examples to be considered on a case-by-case basis, as appropriate, according to crop type and variety described.

TGP/7 “Development of Test Guidelines” (Revision)*Additional Standard Wording (ASW) 3 “Explanation of the growing cycle”*

14. The TWV considered the proposal to amend the standard wording of growing cycle for “fruit species with clearly defined dormant period” in document TGP/7, ASW 3(a), as set out in document TWP/8/1, paragraph 24.

15. The TWV agreed with the proposal while noting it was not common situation in vegetables.

Additional Standard Wording (ASW) 7(b) “Number of plants / parts of plants to be examined”

16. The TWV considered the proposal to amend document TGP/7, ASW 7(b), on the number of parts to be examined from single plants, as set out in document TWP/8/1, paragraph 28.

17. The TWV agreed that the number of parts to be taken from each plant was particularly relevant for assessments on small sample sizes. The TWV agreed that more information would be required on any consequences for international harmonization of not having a precise value provided in the Test Guidelines.

Guidance Note (GN) 28 “Example Varieties” – Example varieties for asterisked quantitative characteristics when illustrations are provided

18. The TWV considered document TWV/58/10, presented by an expert from Germany.
19. The TWV agreed that Test Guidelines should have as much information as possible, including both example varieties and illustrations. The TWV agreed that illustrations provided additional information and could be more informative than example varieties, in some cases.
20. The TWV agreed that illustrations were particularly useful when the example varieties in Test Guidelines were not available or not suitable for cultivation in certain growing conditions. The TWV agreed with the proposal to provide further guidance on the situations where illustrations would complement or could replace example varieties.
21. The TWV considered paragraphs 2.1 to 2.3 of the proposal and agreed to invite the drafter from Germany to provide further explanation on the criteria for decision or examples when illustrations could replace example varieties.

TGP/12: Guidance on Certain Physiological Characteristics

22. The TWV agreed with the proposal to amend document TGP/12 “Guidance on Certain Physiological Characteristics” to include a table of equivalence of states of expression in Test Guidelines with terminology used in the vegetable seed sector, as set out in document TWP/8/1, paragraph 34, and reproduced as follows:

Equivalence of states of expression in UPOV Test Guidelines with the terminology used in the vegetable seed sector		
	State of expression in UPOV Test Guidelines	Terminology used in the vegetable seed sector ¹
UPOV notes	Resistance to (disease resistance name) is:	Reaction of a plant variety to a specific pest is:
1	absent or low	Susceptibility (S)
2	medium	Intermediate Resistance (IR)
3	high	High Resistance (HR)

23. The TWV agreed with the proposal to add an explanation in document TGP/12 that the table could be used as a reference in case of equivalence between the states of expression according to the method described in the explanation of the characteristic in Section 8.2 of the Test Guidelines.

(c) Access to plant material for the purpose of management of variety collections and DUS examination

24. The TWV considered the proposed elements for inclusion in requests for the submission of plant material of candidate varieties and varieties of common knowledge for DUS examination, as set out in document TWP/8/1, paragraph 41.
25. The TWV noted the experiences reported with a model request for the submission of plant material from plant breeders based on existing regulations in the European Union and France.
26. The TWV agreed that information on the reasons for the request and intended use of the plant material could facilitate the provision of plant material by breeders. The TWV agreed to invite further information on experiences with requests for the submission of plant material to be considered in future meetings.
27. The TWV noted the reports from Germany and Japan on the existence of particular requirements from domestic regulations and agreed that it would not be appropriate to develop guidance on the matter at this stage.

Male sterility in Cauliflower (TG/45/7)

28. The TWV considered document TWV/58/8, presented by an expert from Germany.

¹ source: <https://worldseed.org/>

29. The TWV noted that the partial revision of the Test Guidelines for Cauliflower presented in document TC/59/13 had been adopted by the Technical Committee in 2023. The TWV agreed that discussion on male sterility should consider whether a new partial revision would be appropriate in the future.

30. The TWV agreed that male sterility was a useful characteristic for distinctness in Cauliflower and *Brassica oleracea*, in general. The TWV agreed that the characteristic should be kept in the Test Guidelines.

31. The TWV considered the states of expression and description of percentage of plants expressing the characteristic. The TWV noted a question on whether the expression of the characteristic would be due to segregation between the states absent and present. The TWV noted the explanations from France and the Netherlands (Kingdom of) that the segregation was observed in varieties and remained stable after repeated cycles of propagation.

32. The TWV agreed to invite the Netherlands (Kingdom of) to prepare a proposal for the partial revision of the Test Guidelines for Cauliflower to address the characteristic male sterility, for consideration at its fifty-ninth session. The TWV agreed that the revision should address the states of expression and explanation on the percentage of plants expressing the characteristic, clarify the effect of segregation in genic male sterility (GMS) and the relevance of explanations on genetic background for assessing the characteristic. The TWV agreed that the revision should include the addition of the characteristic in the Technical Questionnaire.

33. The TWV noted the report from the Netherlands (Kingdom of) that the molecular marker had been provided to other UPOV members and was useful to avoid an additional growing cycle to assess the characteristic. The TWV agreed that the use of the protected marker should not provide an advantage to individual breeders.

Implementation of Purdy's notation for pedigrees in UPOV PRISMA

34. The TWV received a presentation from a representative of the International Seed Federation (ISF) on "Implementation of Purdy's notation for pedigrees in UPOV PRISMA", a copy of which is reproduced in document TWP/8/3.

35. The TWV noted the proposal to enable providing pedigree information in UPOV PRISMA using the Purdy's notation. The TWV noted that the same pedigree information required by authorities could be provided using the Purdy's notation as a harmonized standard.

36. The TWV agreed that the development of an interface ("wizard") would be required to convert information provided using Purdy's notation into the different formats currently required by authorities. The TWV agreed to invite experts to evaluate the possible use of Purdy's notation according to their national or regional requirements, including any training or information for applicants.

Assessing distinctness in disease resistance characteristics

37. The TWV received an oral report from the Office of the Union on disease resistance characteristics in Test Guidelines. The TWV noted the challenges arising from the frequent partial revision of Test Guidelines for the inclusion of new races and strains, along with complex explanations and concepts preventing machine translation. The TWV noted the opportunities for further discussing the special features of disease resistance characteristics, including intersessional crop subgroup meetings, enabling the participation of phytopathologists and the open discussion session to be held at the sixtieth session of the Technical Committee.

38. The TWV agreed to invite the Office of the Union to provide information on challenges and opportunities identified for disease resistance characteristics in Test Guidelines, for consideration at its fifty-ninth session.

Disease resistance characteristics, states of expression scales of notes

39. The TWV considered documents TWV/58/3 and TWV/58/3 Add., presented by experts from France and the Netherlands (Kingdom of).

40. The TWV considered the proposal of a new type of expression for disease resistance characteristics, similar to a quantitative (QN) characteristic but with two states of expression and particular features.

41. The TWV noted the explanation from the experts from France and the Netherlands (Kingdom of) that some QN disease resistance characteristics had no example varieties for high-level of resistance and their range of expression was divided into two states only (e.g. “absent or low / medium or high”). The TWV noted that other disease resistance characteristics were only partially continuous, having no example varieties for part of the range of variation.

42. The TWV recalled that guidance on the requirement for example varieties in QN characteristics in document TGP/7 “Development of Test Guidelines”, Guidance Note 28, section 2.4, stated that “in general, it is necessary to provide example varieties for more than one state of expression and in the case of QN characteristics:

- (i) “1-9” scale: to provide example varieties for at least three states of expression (e.g. (3), (5) and (7)), although, in exceptional cases, example varieties for only two states of expression may be accepted;
- (ii) “1-5” / “1-4” / “1-3” scales: to provide example varieties for at least two states of expression.”

43. The TWV considered whether example varieties could be provided for two states of expression for some QN disease resistance characteristics and agreed to invite the experts from France and the Netherlands (Kingdom of) to check whether that approach could be used when no example varieties for high-level of resistance or part of the range of variation were available.

44. The TWV considered the division of the range of expression of QN disease resistance characteristics into notes and could not reach an agreement on whether to use the existing types of expression, such as quantitative or pseudo-qualitative.

45. The TWV noted that the new type of expression proposed for QN disease resistance characteristics aimed at establishing distinctness based on a one-note difference for selecting varieties for the growing trial (grouping characteristics). The TWV noted that document TGP/7, GN 13 “Characteristics with specific functions”, paragraph 3.6, stated that:

“GN 13(4)(b) explains that ‘TQ characteristics selected from the Table of Characteristics should, in general, receive an asterisk in the Table of Characteristics’. Certain characteristics, particularly disease resistance characteristics, which are potentially useful as grouping characteristics might not be indicated with an asterisk in the Table of Characteristics. In the case of disease resistance characteristics, for example, there may be obstacles to the use of the characteristic for a number of members of the Union because of technical or quarantine requirements. Those same obstacles might also make it difficult for applicants to provide information on those characteristics. Therefore, disease resistance characteristics not indicated with an asterisk at the Table of Characteristics and not used as grouping characteristic may be presented in Section 5 of Technical Questionnaires (TQ) with the addition of a state of expression ‘not tested’.”

46. The TWV agreed that the use of QN disease resistance characteristics as grouping characteristics in Test Guidelines would normally lead to a compulsory request for that information from applicants.

47. The TWV noted that document TGP/9 “Examining Distinctness” Section 2, provided guidance for selecting varieties for the growing trial, including the use of grouping characteristics, characteristics in combination and the GAIA method. The TWV noted that Section 5 of that document provided guidance on assessing distinctness based on the growing trial (e.g. assessing distinctness of varieties in the same trial). The TWV agreed to invite experts to check whether the methods provided in Section 2 could support the analysis on the use of QN disease resistance characteristics for selecting varieties for the growing trial.

48. The TWV considered the scale of symptoms provided with the explanations for QN disease resistance characteristics and agreed to request further information on how the observations of the different numbers of plants in each class were used to convert observations to notes for the variety description.

49. The TWV noted that guidance in document TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability”, Part I, Section 2.3.2.19 stated that “The distances between the discrete categories of an ordinal scale are not exactly known and not necessarily equal. Therefore, an ordinal scale does not fulfil the condition to calculate arithmetic mean values, which is the equality of intervals throughout the scale.” The TWV agreed to invite the experts from France and the Netherlands (Kingdom of) to check whether QN disease resistance characteristics data would be discrete and not continuous, identifying categories with scales not necessarily equally distant.

50. The TWV noted that document TGP/8, Part II, Section 5, provided guidance on the use of contingency tables with number of plants counted in nine different classes of infection for a QN disease resistance characteristic, using the Pearson's chi-square test for assessing distinctness.

51. The TWV noted that the software PATHOSTAT was used by France and utilized contingency tables with number of plants counted in different classes of infection for QN disease resistance characteristics, also referring to the use of Pearson's chi-square test.

(available at: https://www.upov.int/it_resources/en/exchangeable_software.html).

52. The TWV considered the cut-off points between states of expression to be included in the trials ("threshold controls"). The TWV agreed to invite experts to provide further information on the level of difference required to demonstrate a clear difference between the expression of a characteristic of two varieties that were close to the same border line (e.g. high end of one note and low end of the next), including the use of statistical analysis to establish distinctness.

53. The TWV noted that document TGP/8, Part I, Section 2 "Data to be recorded" provided guidance on scale levels for variety description and agreed to invite the experts from France and the Netherlands (Kingdom of) to check whether it would be useful to distinguish between different process levels for the use of QN disease resistance characteristics as grouping characteristics (e.g. trial data process level 2; variety description process level 3).

Molecular techniques in variety examination

Guidelines for the validation of a new characteristic-specific molecular marker protocol as an alternative method for observation

54. The TWV considered document TWV/58/9, presented by an expert from the Netherlands (Kingdom of).

55. The TWV agreed that guidance on the assessment of characteristics using the molecular markers presented in Test Guidelines would benefit international harmonization.

56. The TWV agreed to propose the deletion of the last sentence in paragraph 5 and the inclusion of reference to the respective UPOV guidance applicable to the ISO standards mentioned.

57. The TWV agreed to propose amending the information provided in the protocol table, item 8, to clarify that "in case the DNA marker test result does not confirm the declaration in the Technical Questionnaire, a field trial or bio-assay should be performed to assess the correctness of the declaration in the Technical Questionnaire."

58. The TWV noted that characteristic-specific molecular markers could be used by the breeders and agreed that they were entitled to inform the examiner on the method of assessment used to assess characteristics in the Technical Questionnaire, in cases where a molecular marker was available as alternative to the one indicated in the Technical Questionnaire.

Reports on existing policies on confidentiality of molecular information

59. The TWV noted that no reports on existing policies on confidentiality had been reported.

Experiences with new types and species

60. The TWV noted that no experiences with new types and species had been reported.

Discussions on draft Test GuidelinesFull draft Test Guidelines*Eggplant (*Solanum melongena* L.) (Revision)

61. The subgroup discussed document TG/117/5(proj.4), presented by Ms. Céline Morineau (European Union), and agreed the following:

4.2	to add new paragraph after 4.2.2 to read “The assessment of uniformity for cross-pollinated should be according to the recommendations for cross-pollinated varieties in the General Introduction.”
Char. 8	state 1 to read “absent or...”
Char. 21	state 1 to read “absent or...” and to delete “depth of”
Char. 22	state 1 to read “absent or...”
Char. 23, 26, 27	to review the approach how to present color, color patterns and distribution (e.g. ground color and over color; or main color and secondary color; combine different patterns in one char.)
Char. 23	- to check whether to read “Fruit: color of skin” - to check whether state 3 to read “violet” and replace current example variety with “Diletta” - to check whether state 4 to read “purple”
Char. 24	to check whether to read “Only for varieties with green, violet, or purple skin color: Fruit: intensity of color of skin”
Char. 29	to add example variety “Ratlada” for state 1
Char. 32	- to add (*) - to add as grouping characteristic and to TQ 5
Char. 34	to add example varieties “Diletta, Gioleta” for state 9
8.1	to delete indication of plant part from the individual illustrations (plant and stem, ...) and to read “Observations should be made...”
8.1 (c)	last sentence to read “...made on fresh, fully open flowers.”
Ad. 2	to read “Observations should be made on plants grown under natural conditions. It might not be possible to observe this characteristic in trials where plants are staked or grown on a wire and pruned.”
Ad. 4	to add illustration
Ad. 8	to read “Observations should be made on the situation caused by the incisions, and not involving the undulation of the leaf margin.”
Ad. 12	to add the following illustrations:  1 absent (one to three flowers)  9 present (more than three flowers)
Ad. 15	to read “(to be observed at the broadest part)”
Ad. 20	to read “... in lateral view.”
Ad. 23	to read “For varieties with striped fruits, the color with the largest surface should be considered. Observations should preferably be made by comparing with example varieties. Violet has a blueish or pinkish hue and purple has a reddish or brownish hue.”
Ad. 26	to read “Observations should be made...”
Ad. 28	- to read “Observations should be made on the color contrast, between the stripes and the main color.” - to add “See Ad. 23”

Ad. 34	to be deleted
Ad. 35	- to read "... the number of spines." - to delete photos and keep drawings only

Garlic (*Allium sativum* L.) (Revision)

62. The subgroup discussed document TG/162/5(proj.1), presented by Ms. Chrystelle Jouy (France), and agreed the following:

2.3	- to check whether to reduce to 60 bulbs as minimum quantity to be supplied for vegetatively propagated varieties - last paragraph to be moved to TQ 9. along with ASW 17 ASW 17 (Chapter 10: TQ 9.3) – Tests for the presence of virus or other pathogens "9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens? Yes [] (please provide details as specified by the Authority) No []"
3.4.2	to check whether to reduce number of plants to at least 60
3.4.4	second paragraph to be deleted
4.2.3	current wording to be deleted and replaced with "The assessment of uniformity for cross-pollinated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction." (ASW 8) ASW 8.1 (Chapter 4.2) – Uniformity assessment: types of propagation covered ASW 8.2 (Chapter 4.2) – Uniformity assessment: recommended procedures
4.2.4	population standard to be indicated as 2% and number of off-types to be updated accordingly
4.2.5	to check whether to reduce number of plants to 60 and number of off-types to be updated accordingly
Char. 1	to replace "loose" with "sparse"
Char. 5, 6	to delete wording in brackets and add explanation (+) Ad. 5, Ad. 6 "Observations should be made on the longest leaf."
Char. 8	to delete "intensity of"
Char. 9	to delete "the"
Char. 13	to check whether to be indicated as QN and to have states "absent or weak", "medium" and "strong" or rename the char. "Flowering stem: ability to produce bulblets through the pseudo stem" absent / present
Char. 16	to check whether to be indicated as PQ and have three states: - either "circular", "narrow elliptic" or "medium elliptic" and "broad elliptic"; or - "circular", "elliptic" and third shape (see TGP/14, subsection 2 for guidance on shapes)
Char. 20	to add explanation what should be observed
8.1 (a), (b)	to read "Observations should be made..."
Ad. 2	to add indication which part of the leaf to access (to check whether to use explanation as in agricultural crops)

Ginger (*Zingiber officinale* Rosc.) (Revision)

63. The subgroup discussed document TG/153/4(proj.1), presented by Mr. Toshiya Kobayashi (Japan), and agreed the following:

2.3	to check whether to replace the indication of weight with a description of the requirements of the plant material
Table of chars.	to add example varieties
Char. 9	to have states from "very small" to "very large"
Char. 16 to 18	to add explanation or drawing to clarify "sections" (are they e.g. branches or internodes?)
8.1	to check whether to combine (a) and (b)

Ad. 2	- to read "Observations should be made from ground level..." - to check whether to replace "to the top of the mains stem" with "to the highest point."
Ad. 13	to delete illustrations for color (see TGP/7, GN 36)

Parsley (*Petroselinum crispum* (Mill.) Nyman ex A.W. Hill) (Revision)

64. The subgroup discussed document TG/136/6(proj.2), presented by Ms. Swenja Tams (Germany), and agreed the following:

6.5	to add information on types on varieties and abbreviations as in chapter 5.3
Table of chars.	- to add example varieties (e.g. char. 10, 12) - to correct spelling of example variety "A grosse racine gros hâtif (R)" (hâtif)
Char. 4	to check whether to replace "loose" with "sparse"
Char. 6	example variety "Gigante d'Italia (FL)" to be moved to state 5
Char. 8	- to add explanation to explain difference to char. 4 (observation of individual leaves instead of foliage) - to have the same example varieties as in Char. 4 to demonstrate difference between chars. 4 and 8
Char. 21, 22	to add illustration
Char. 23	to have states from "low" to "high"
Ad. 4	to check whether to include additional information on difference with char. 8
Ad. 9	to check whether to use illustration or zoom in the photos to better indicate the part to be observed
Ad. 15	to check whether to improve illustrations to better see the incisions

Partial revisions

*Asparagus (*Asparagus officinalis* L.)

65. The subgroup discussed document TWV/58/5, presented by Mr. Yoshiyuki Ohno (Japan), and agreed the following:

Char. 16	to delete wording in brackets from state 3 (covered in the explanation)
Ad. 16	- to replace "rudiment style" with "style rudiment" in the second and third upper illustrations - to check whether the resolution of the upper illustrations can be improved

*Cucumber, Gherkin (*Cucumis sativus* L.)

66. The subgroup discussed document TWV/58/6, presented by Ms. Gosia Blokker (Netherlands (Kingdom of the)), and agreed the following:

Ad. 52, 5.	to add "Other validated isolates may be used, as long as producing the same results on the differential set."
Ad. 52, 9.1	to read "Number of plants per genotype" and "At least 20 plants"
Ad. 52, 9.6	to replace "d/n" with "day/night"
Ad. 52, 11.3	to read "Bluesbrother" (to delete "s")
Ad. 52, 13.	to delete graph at the bottom of the explanation

*Lettuce (*Lactuca sativa* L.)

67. The subgroup discussed document TWV/58/7, presented by Mr. Dominique Rousseau (France), and agreed the following:

Ad. NEW, 5.	to add "Other validated isolates may be used, as long as producing the same results on the differential set."
Ad. NEW, 9.1	to read "at least 30 plants, in case of doubt 60 plants"

Ad. NEW, 9.2	to read “at least 2 replicates”
TQ 7.3	to delete “not tested” from “Resistance to <i>Bremia lactucae</i> (BI) Isolate BI: 29EU”

*Maize (*Zea mays* L.)

68. The subgroup discussed document TWV/58/4-TWA/53/4, presented by Ms. Cécile Marchenay (Netherlands (Kingdom of the)), and agreed the following:

NEW (after 8)	- to delete (*) - to check whether to add that only applicable for sweet and popcorn varieties
Ad. NEW (after 8.)	to be improved
NEW (after 35.)	- to check whether to delete (*) - to check whether not to include the characteristic in the TG
NEW (after 38.)	to be discussed at TWV/59

69. The TWV could not reach a consensus on the proposal for partial revision of the Test Guidelines for Maize. The TWV agreed that discussions could be continued with subgroup meetings, as appropriate, in preparation for discussions on the same proposal at the fifty-third session of the TWA, to be held from May 27 to May 30, 2024.

Recommendations on draft Test Guidelines

(a) *Test Guidelines to be put forward for adoption by the Technical Committee*

70. The TWV agreed that the following draft Test Guidelines be submitted to the TC for adoption at sixtieth session, to be held in Geneva on October 21 and 22, 2024, on the basis of the following documents and the agreed changes presented in this report:

Partial revisions

Subject	Basic Document(s) (2024)
*Asparagus (<i>Asparagus officinalis</i> L.) - Char. 16 “Type of flowering”	TG/130/4, TWV/58/5
*Cucumber, Gherkin (<i>Cucumis sativus</i> L.) - addition of resistance to Cucumber green mottle mosaic virus	TG/61/7 Rev. 3, TWV/58/6
*Lettuce (<i>Lactuca sativa</i> L.) - Resistance to <i>Bremia lactucae</i> Races 16EU to 27EU (chars. 38 to 47, including grouping characteristics) - revision of <i>Fusarium oxysporum</i> f. sp. <i>lactucae</i> Race 1 - addition of Resistance to <i>Fusarium oxysporum</i> f. sp. <i>lactucae</i> Race 4	TG/13/11 Rev. 2, TWV/58/7

(b) *Test Guidelines to be discussed at the fifty-ninth session*

71. The TWV agreed to discuss the following draft Test Guidelines at its fifty-ninth session:

Full draft Test Guidelines

Subject	Basic Document(s) (2024)
Asparagus (<i>Asparagus officinalis</i> L.)	TG/130/4
*Eggplant (<i>Solanum melongena</i> L.) (Revision)	TG/117/5(proj.4)
Garlic (<i>Allium sativum</i> L.) (Revision)	TG/162/5(proj.1)
Ginger (<i>Zingiber officinale</i> Rosc.) (Revision)	TG/153/4(proj.1)
*Parsley (<i>Petroselinum crispum</i> (Mill.) Nyman ex A.W. Hill)	TG/136/6(proj.2)

Partial revisions

Subject	Basic Document(s) (2024)
*Broccoli (<i>Brassica oleracea</i> L. var. <i>italica</i> Plenck) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/151/5 Rev.
*Brussels Sprouts (<i>Brassica oleracea</i> L. var. <i>gemmifera</i> DC.) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/54/7 Rev. 2
*Cabbage (<i>Brassica oleracea</i> L.: <i>Brassica</i> (White Cabbage Group); <i>Brassica</i> (Savoy Cabbage Group); <i>Brassica</i> (Red Cabbage Group)) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/48/7 Rev. 2
*Cauliflower (<i>Brassica oleracea</i> L. convar. <i>botrytis</i> (L.) Alef. var. <i>botrytis</i> L.) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot) - Revision of char. 28 "Male sterility" - TQ	TG/45/7 Rev. 2
*Kohlrabi (<i>Brassica oleracea</i> L. convar. <i>acephala</i> (DC.) Alef. var. <i>gongylodes</i> L. (<i>Brassica oleracea</i> L. <i>Gongylodes</i> Group)) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/65/4 Rev. 2
*Lettuce (<i>Lactuca sativa</i> L.) - Addition of <i>Bremia lactucae</i> Isolates BL: 36EU, BI: 38EU, BI: 39EU, BI: 40EU and other possible new isolates	TG/13/11 Rev. 2,
*Maize (<i>Zea mays</i> L.) - Characteristics 24.1 and 24.2 - Addition of new characteristics Tassel: sterility of male flowers Secondary color of grain Sweetness - addition of characteristic to TQ 5	TG/2/7, TWV/57/4-TWA/52/4
*Melon (<i>Cucumis melo</i> L.) - Resistance to <i>Podosphaera xanthii</i> (<i>Sphaerotheca fuliginea</i>) (Powdery mildew) (Char. 70) - Resistance to <i>Golovinomyces cichoracearum</i> (<i>Erysiphe cichoracearum</i>) Race 1 (Powdery mildew) (Char. 71) - Resistance to colonization by <i>Aphis gossypii</i> (Char. 72)	TG/104/5 Rev. 2
*Shiitake (<i>Lentinula edodes</i> (Berk.) Pegler) - Char. 4 "Mycelium: growth rate at 10°C" - Char. 5 "Mycelium: growth rate at 15°C" - Char. 6 "Mycelium: growth rate at 20°C" - Char. 7 "Mycelium: growth rate at 25°C" - Char. 8 "Mycelium: growth rate at 30°C" - Char. 12 "Cap: height" - Char. 20 "Gill: width"	TG/282/1 Rev.
*Tomato (<i>Solanum lycopersicum</i> L.) - to add race H to <i>Passalora fulva</i> - to add an alternative molecular marker method (using makers on I2 + I3) for resistance for <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> (Fol) (race 1EU/2US and 2EU/3US) - to add an alternative molecular marker method for <i>Passalora fulva</i> (based on Cf4, Cf9, Cf2, Cf5) next to bio assay	TG/44/12(proj.4)
*Tomato Rootstocks - <i>Meloidogyne incognita</i> (Nematodes): to change the states of expression (same as tomato) and control varieties - to add an alternative molecular marker method (based on I2) for resistance test on <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> (Fol) race 1EU/2US next to bio assay	TG/294/1 Rev. 5

72. The leading experts, interested experts and timetables for the development of the Test Guidelines are set out in Annex II to this report.

(c) Participation in discussions of Test Guidelines from other TWPs

73. The TWV noted that no Interested Experts were identified to participate in the development by the TWA of a new Test Guidelines for Mung Bean (*Vigna radiata* (L.) R. Wilczek).

74. The TWV noted that no Interested Experts were identified to participate in the development by the TWO of a new Test Guidelines for Lotus (*Nelumbo Adans.*).

Matters for information

Reports on developments in plant variety protection from members and observers

75. The TWV noted the information on developments in plant variety protection from members and observers provided in document TWV/58/2 Prov. The TWV noted that reports submitted to the Office of the Union after April 15, 2024, and until April 25, 2024, would be included in the final version of document TWV/58/2.

Reports on developments in UPOV

76. The TWV received a presentation from the Office of the Union on developments in UPOV, a copy of which is provided in document TWP/8/2.

Technical Committee subgroup on Test Guidelines

77. The TWV received an oral report from the leading expert of the subgroup, Ms. Margaret Wallace (United Kingdom). The following summary was provided by Ms. Wallace:

“Summary of outcomes so far:

- “Test Guidelines are essential for international harmonization of DUS testing.
- “Some participants wanted to develop an electronic version of the TG while others wanted to retain the printable function. Many of the users who print a copy for use in the field, often restrict this to the table of characteristics and accompanying explanation notes.
- “The majority of testing authorities adopt a national test protocol from the UPOV TG, rather than use the UPOV TG during the test.
- “The use of example varieties and usefulness of diagrams and photographs was discussed. This may be addressed by the revision of GN28 being considered by the TWPs.
- “The adoption of national protocols based on the TG-template was generally supported but concerns about whether this is the most effective use of funds were raised.

“TWV participants are invited to contact Margaret Wallace to contribute to the work of the sub-group, with particular interest to the accommodation of disease resistance characteristics and the associated details.

“The work of the sub-group will be presented to each of the TWPs in their 2024 sessions. A document will be produced by the sub-group for consideration at the 60th session of the Technical Committee.”

Date and place of the next session

78. The TWV agreed to hold its fifty-ninth session by virtual means from May 5 to 8, 2025.

Future program

79. The TWV agreed that documents for its fifty-ninth session should be submitted to the Office of the Union by March 21, 2025. The TWV noted that items would be deleted from the agenda if the planned documents did not reach the Office of the Union by the agreed deadline.

80. The TWV proposed to discuss the following items at its next session:

1. Opening of the session
2. Adoption of the agenda

Matters for discussion

3. Procedures for DUS examination (presentations invited)
4. Guidelines on access and the use of plant material for the purpose of managing variety collections and DUS examination (presentations invited)
5. Proposals for ring-tests (presentations invited)
6. Assessing distinctness in disease resistance characteristics (document to be prepared by France and the Netherlands (Kingdom of) and presentations invited)
7. Image analysis of vegetable crops (presentations invited)
8. Molecular techniques in variety examination (presentations invited)
9. Experiences with new types and species (oral reports invited)
10. Discussions on draft Test Guidelines (Subgroups)
11. Recommendations on draft Test Guidelines
12. Date and place of the next session
13. Future program
14. Adoption of the report of the session (if time permits)

Matters for information

15. Reports on developments in plant variety protection from members and observers (reports invited)
16. Reports on developments in UPOV (general developments, including variety denominations, information databases, exchange and use of software and equipment)
17. Closing of the session

81. The TWV adopted this report at the close of its session.

[Annex I follows]

ANNEX I

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[Annex II follows]

LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED
TO THE TECHNICAL COMMITTEE IN 2024**

All requested information to be submitted to the Office of the Union

before June 7, 2024

Partial revisions

Species	Basic Document	Leading Expert(s)
*Asparagus (<i>Asparagus officinalis</i> L.) - Char. 16 "Type of flowering"	TG/130/4, TWV/58/5	Mr. Yoshiyuki Ohno (JP)
*Cucumber, Gherkin (<i>Cucumis sativus</i> L.) - addition of resistance to Cucumber green mottle mosaic virus	TG/61/7 Rev. 3, TWV/58/6	Ms. Gosia Blokker (NL)
*Lettuce (<i>Lactuca sativa</i> L.) - Resistance to <i>Bremia lactucae</i> Races 16EU to 27EU (chars. 38 to 47, including grouping characteristics) - revision of <i>Fusarium oxysporum</i> f. sp. <i>lactucae</i> Race 1 - addition of Resistance to <i>Fusarium</i> <i>oxysporum</i> f. sp. <i>lactucae</i> Race 4	TG/13/11 Rev. 2, TWV/58/7	Mr. Dominique Rousseau (FR)

DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWV/59
(* indicates possible final draft Test Guidelines)

**(Guideline date for Subgroup draft to be circulated by Leading Expert: January 24, 2025
Guideline date for comments to Leading Expert by Subgroup: February 21, 2025)**

New draft to be submitted to the Office of the Union
by March 22, 2025

Full draft Test Guidelines

Species	Basic Document	Leading Expert(s)	Interested Experts (State / Organization) ²
Asparagus (<i>Asparagus officinalis</i> L.)	TG/130/4	Ms. Gosia Blokker (NL)	DE, ES, FR, IT, JP, QZ, CLI, Euroseeds, ISF, Office
*Eggplant (<i>Solanum melongena</i> L.) (Revision)	TG/117/5(proj.4)	Ms. Cécile Marchenay (NL)	AU, BG, BR, CN, ES, FR, HU, IT, JP, KE, KR, QZ, SK, TR, ZA, CLI, Euroseeds, ISF, Office
Garlic (<i>Allium sativum</i> L.) (Revision)	TG/162/5(proj.1)	Ms. Chrystelle Jouy (FR)	AU, CN, CZ, ES, IT, JP, KR, NL, QZ, TR, Euroseeds, ISF, Office
Ginger (<i>Zingiber officinale</i> Rosc.) (Revision)	TG/153/4(proj.1)	Mr. Toshiya Kobayashi (JP)	KR, NZ, QZ, Euroseeds, ISF, Office
*Parsley (<i>Petroselinum crispum</i> (Mill.) Nyman ex A.W. Hill)	TG/136/6(proj.2)	Ms. Swenja Tams (DE)	AU, CN, ES, FR, IT, JP, NL, QZ, TR, Euroseeds, ISF, Office

Partial revisions

Species	Basic Document	Leading Expert(s)	Interested Experts (State / Organization) ²
*Broccoli (<i>Brassica oleracea</i> L. var. <i>italica</i> Plenck) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/151/5 Rev.	Ms. Gosia Blokker (NL)	DE, ES, FR, IT, JP, QZ, ZA, CLI, Euroseeds, ISF, Office
*Brussels Sprouts (<i>Brassica oleracea</i> L. var. <i>gemmifera</i> DC.) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/54/7 Rev. 2	Ms. Gosia Blokker (NL)	DE, FR, GB, IT, JP, QZ, CLI, Euroseeds, ISF, Office
*Cabbage (<i>Brassica oleracea</i> L.: <i>Brassica</i> (White Cabbage Group); <i>Brassica</i> (Savoy Cabbage Group); <i>Brassica</i> (Red Cabbage Group)) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot)	TG/48/7 Rev. 2	Ms. Gosia Blokker (NL)	BG, CN, CZ, DE, ES, FR, IT, JP, QZ, RU, ZA, CLI, Euroseeds, ISF, Office
*Cauliflower (<i>Brassica oleracea</i> L. convar. <i>botrytis</i> (L.) Alef. var. <i>botrytis</i> L.) - to add new characteristic "Resistance to <i>Plasmodiophora brassicae</i> (Pb)" (clubroot) - Revision of char. 28 "Male sterility" - TQ	TG/45/7 Rev. 2	Ms. Gosia Blokker (NL)	CN, DE, ES, FR, IT, JP, QZ, CLI, Euroseeds, ISF, Office

² for name of experts, see list of participants

Species	Basic Document	Leading Expert(s)	Interested Experts (State / Organization) ²
*Kohlrabi (<i>Brassica oleracea</i> L. convar. <i>acephala</i> (DC.) Alef. var. <i>gongylodes</i> L. (<i>Brassica oleracea</i> L. <i>Gongylodes</i> Group)) - to add new characteristic "Resistance to <i>Plasmidiophora brassicae</i> (Pb)" (clubroot)	TG/65/4 Rev. 2	Ms. Gosia Blokker (NL)	CZ, DE, ES, FR, QZ, CLI, Euroseeds, ISF, Office
*Lettuce (<i>Lactuca sativa</i> L.) - Addition of <i>Bremia lactucae</i> Isolates BL: 36EU, BI: 38EU, BI: 39EU, BI: 40EU and other possible new isolates	TG/13/11 Rev. 2,	Mr. Dominique Rousseau (FR)	AU, CA, DE, ES, IT, NL, JP, QZ, CLI, ZA, Euroseeds, ISF, SAA, Office
*Maize (<i>Zea mays</i> L.) - Characteristics 24.1 and 24.2 - Addition of new characteristics Tassel: sterility of male flowers Secondary color of grain Sweetness - addition of characteristic to TQ 5	TG/2/7, TWV/57/4-TWA/52/4	Ms. Cécile Marchenay (NL)	BG, CN, DE, ES, FR, HU, JP, KR, QZ, SK, TR, TZ, US, ZA, CLI, Euroseeds, ISF, SAA, Office
*Melon (<i>Cucumis melo</i> L.) - Resistance to <i>Podosphaera xanthii</i> (<i>Sphaerotheca fuliginea</i>) (Powdery mildew) (Char. 70) - Resistance to <i>Golovinomyces cichoracearum</i> (<i>Erysiphe cichoracearum</i>) Race 1 (Powdery mildew) (Char. 71) - Resistance to colonization by <i>Aphis gossypii</i> (Char. 72)	TG/104/5 Rev. 2	Ms. Chrystelle Jouy (FR)	ES, JP, NL, QZ, CLI, Euroseeds, ISF, Office
*Shiitake (<i>Lentinula edodes</i> (Berk.) Pegler) - Char. 4 "Mycelium: growth rate at 10°C" - Char. 5 "Mycelium: growth rate at 15°C" - Char. 6 "Mycelium: growth rate at 20°C" - Char. 7 "Mycelium: growth rate at 25°C" - Char. 8 "Mycelium: growth rate at 30°C" - Char. 12 "Cap: height" - Char. 20 "Gill: width"	TG/282/1 Rev.	Mr. Yoshiyuki Ohno (JP)	CN, QZ, Euroseeds, ISF, Office
*Tomato (<i>Solanum lycopersicum</i> L.) - to add race H to <i>Passalora fulva</i> - to add an alternative molecular marker method (using makers on I2 + I3) for resistance for <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> (Fol) (race 1EU/2US and 2EU/3US) - to add an alternative molecular marker method for <i>Passalora fulva</i> (based on Cf4, Cf9, Cf2, Cf5) next to bio assay	TG/44/12(proj.4)	Ms. Cécile Marchenay (NL)	ES, FR, JP, QZ, ZA, CLI, Euroseeds, ISF, Office
*Tomato Rootstocks - <i>Meloidogyne incognita</i> (Nematodes): to change the states of expression (same as tomato) and control varieties - to add an alternative molecular marker method (based on I2) for resistance test on <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> (Fol) race 1EU/2US next to bio assay	TG/294/1 Rev. 5	Ms. Cécile Marchenay (NL)	ES, FR, JP, QZ, ZA, CLI, Euroseeds, ISF, Office

[End of Annex II and of document]