

**Technical Committee****TC/59/8****Fifty-Ninth Session  
Geneva, October 23 and 24, 2023****Original:** English  
**Date:** October 4, 2023**PROGRESS REPORTS ON THE WORK OF THE TECHNICAL WORKING PARTIES***Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance***EXECUTIVE SUMMARY**

1. The purpose of this document is to present the reports from the chairpersons and propose the approval of the programs of work in 2024 of the Technical Working Party for Agricultural Crops (TWA), Technical Working Party for Fruit Crops (TWF), Technical Working Party for Ornamental Plants and Forest Trees (TWO) and Technical Working Party for Vegetable Crops (TWV).

2. The TC is invited to:

(a) note the reports from the chairpersons of the TWA, TWF, TWO and TWV, at their sessions in 2023, as presented in the Annexes to this document;

(b) consider the programs of work for the TWA, TWF, TWO and TWV, at their sessions in 2024, as proposed in the Annexes to this document;

(c) note that the TWM did not hold a session in 2023.

3. The structure of this document is as follows:

**EXECUTIVE SUMMARY ..... 1**

Annex I	Report from the chairperson and proposed program of work for the TWA in 2024
Annex II	Report from the chairperson and proposed program of work for the TWF in 2024
Annex III	Report from the chairperson and proposed program of work for the TWO in 2024
Annex IV	Report from the chairperson and proposed program of work for the TWV in 2024

4. The following abbreviations are used in this document:

TC:	Technical Committee
TWA:	Technical Working Party for Agricultural Crops
TWF:	Technical Working Party for Fruit Crops
TWM:	Technical Working Party on Testing Methods and Techniques
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWV:	Technical Working Party for Vegetables
TWPs:	Technical Working Parties

[Annexes follow]

## FIFTY-SECOND SESSION OF THE TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS (TWA)

*Report by Ms. Renée Cloutier (Canada), Chairperson of the TWA*

1. The TWA held its fifty-second session, by virtual means, from May 22 to 26, 2023, and chaired by Ms. Renée Cloutier (Canada). The report of the session is provided in document TWA/52/11 "Report".
2. The session was attended by 143 participants from 39 members of the Union, three observer States and five observer organizations.
3. The TWA discussed the recommendations presented in document TWP/7/1. Clarification was sought from the Office of the Union and although some concerns were expressed by some members, the TWA agreed on the following:
  - to amend the recommendation to read that Technical Working Party meetings should be held on an annual basis as hybrid meetings and that online meetings should be organized whenever no member was available to organize a hybrid meeting
  - to propose the inclusion of calibration exercises in the list of elements for discussion on DUS procedures, according to the crops and facilities in the member of the Union hosting the TWP
  - that hosts of TWP meetings should have flexibility to organize technical visits according to the local conditions and arrangements for DUS examination used
  - to propose exploring alternatives with TWP hosts, such as recording particular aspects of the visits or presentations about DUS procedures in regards to the challenges to enable virtual participation at technical visits
  - that subgroup meetings held outside of TWP sessions, in addition to the sessions themselves, were useful to advance the drafting of Test Guidelines and increasing the participation of crop experts, including plant breeders
  - to propose that the web-based TG template be used for the drafting of members' national test guidelines and noted there were divergent views on whether these should be shared using the same TG template
  - that preparatory webinars were a useful tool for training on topics of particular relevance
  - that the mention to "UPOV certification" should be further clarified.
4. When considering situations described by the TWP to develop guidance on possible exceptions to the requirement to provide example varieties for asterisked quantitative characteristics when illustrations were provided, the TWA agreed that Test Guidelines should provide as much information as possible to clarify the states of expression of a characteristic, such as using illustrations to complement the use of example varieties. As such, the TWA agreed to invite the experts from Germany in collaboration with Canada, Netherlands and United Kingdom to draft a proposal to amend the guidance in document TGP/7, GN 28 "Example Varieties", concerning the situations where illustrations could replace example varieties and their complementary role to clarify the states of expression of a characteristic.
5. The TWA agreed with the TWV that document TGP/7 GN 13 "Characteristics with specific functions" should be amended to clarify that disease resistance characteristics not indicated with an asterisk in the table of characteristics may be presented in Section 5 of Technical Questionnaires (TQ) with the addition of a state of expression "not tested" when the characteristic was not used as a grouping characteristic.
6. The TWA received a presentation on "Development of Statistical Analysis Software: DUSCEL4.5" by an expert from China. A copy of the presentation is provided in document TWA/52/5. The TWA noted the further development on the software, including the calibration work for image analysis of color characteristics.
7. The TWA received a presentation on "Drone Imaging in Winter Wheat DUS Trials" by an expert from Denmark. A copy of the presentation is presented in Annex I to document TWA/52/7. The TWA noted the work reported and agreed to invite the expert from Denmark to report developments at its fifty-third session.
8. The TWA received a presentation on "UAV-Based Field Phenotyping in the United Kingdom Agricultural DUS testing" by an expert from the United Kingdom. A copy of the presentation is presented in Annex II to document TWA/52/7. The TWA noted the work reported and agreed to invite the expert from the United Kingdom to report developments at its fifty-third session.

9. Based on the presentations on the use of new technologies in DUS examination for agricultural crops, the TWA agreed that it is important to consider the limitations and challenges associated with new technologies. As such, the TWA agreed to propose the future organization of a webinar for TWPs on image analysis in DUS examination.
10. The TWA considered document TWP/7/4 and agreed that it would not be possible to achieve consensus on the proposal to create a separate denomination class for Oilseed Rape varieties (UPOV code BRASS\_NAP\_NUS). The TWA noted that certain varieties could be grouped on the basis of end use (forage / oil / vegetable) but in some cases not on the basis of existing DUS characteristics. The TWA noted that it was not possible to agree on the examination of variety denominations for different subspecies of *Brassica napus* as well as *B. nigra* and *B. rapa* under separate denomination classes.
11. The TWA received a presentation on “Confidentiality of Molecular Information” by an expert from CropLife International, on behalf of the African Seed Trade Association (AFSTA), the Asia and Pacific Seed Association (APSA), the International Community of Breeders of Asexually Reproduced Horticultural Plants (CIOFORA), CropLife International, Euroseeds, the International Seed Federation (ISF) and the Seed Association of the Americas (SAA). A copy of the presentation is presented in document TWA/52/8.
12. The TWA received a presentation on the “Argentine experience in rice genotyping” by an expert from Argentina. A copy of the presentation is presented in Annex I document TWA/52/6.
13. The TWA received a presentation on the “Use of molecular techniques in DUS examination: Field trials details of the Argentine Soybean experience” by an expert from Argentina. A copy of the presentation is presented in Annex II document TWA/52/6.
14. The TWA received a presentation “TG Hemp/Cannabis” by an expert from the Netherlands. A copy of the presentation is presented in the Annex to document TWA/52/9.
15. The TWA discussed nine draft Test Guidelines and agreed that the draft Test Guidelines for Oilseed Rape (revision), Safflower (revision) and Maize (partial revision) should be submitted to the TC for adoption.
16. The TWA agreed to discuss the draft Test Guidelines for Grain Amaranth (revision), Bent (revision), Couch Grass/Bermuda Grass, Festulolium (revision), Fodder Beet (revision), Hemp/Cannabis (revision), Mung Bean, Sugarcane (revision), Zoysia Grasses and Maize (partial revision) at its fifty-third session.
17. The TWA noted that no invitations for the venue of its fifty-third session had been received. The TWA noted that a decision on the date and place of its next session would be taken by the Council, at its fifty-seventh session, to be held on October 27, 2023.
18. The TWA agreed that its fifty-third session should be held via electronic means, from May 27 to 31, 2024, if no alternative offer was received from a member of the Union.
19. In order to allow sufficient time in advance of the meeting to post the documents and provide comments, all documents and presentations invited or to be prepared should be sent to the Office of the Union by March 8, 2024.
20. The TWA proposed to discuss the following items at its next session:
  1. Opening of the Session
  2. Adoption of the agenda
  3. Matters for discussion
    - 3.1. Procedures for DUS examination (presentations invited)
    - 3.2. Situations where illustrations could complement or replace example varieties (document to be prepared by Germany in collaboration with Canada, Netherlands and United Kingdom)
    - 3.3. Examining hybrid varieties (documents invited)
    - 3.4. Variety description databases (documents invited)
    - 3.5. Image analysis and new technologies in DUS examination (documents to be prepared by China, Denmark, United Kingdom and presentations invited)
    - 3.6. Presentations on the use of molecular techniques in DUS examination (presentation from Argentina and presentations invited)

- 3.7. Reports on existing policies on confidentiality of molecular information (presentations invited)
- 3.8. Using the COYU-Splines method in DUS examination (presentations invited)
- 3.9. Experiences with new types and species (oral reports invited)
- 3.10. Developing new characteristics for Barley variety examination (documents to be prepared by France and the United Kingdom)
- 3.11. Discussion on draft Test Guidelines (Subgroups)
- 3.12. Recommendations on draft Test Guidelines
4. Matters for information
  - 4.1. Reports from members and observers (written reports to be prepared by members and observers)
  - 4.2. Report on developments within UPOV (general developments, including variety denominations, information databases, exchange and use of software and equipment)
5. Date and place of the next session
6. Future program
7. Adoption of the Report on the session (if time permits)
8. Closing of the session

[Annex II follows]

## ANNEX II

## FIFTY-FOURTH SESSION OF THE TECHNICAL WORKING PARTY FOR FRUIT CROPS (TWF)

*Report by Mr. Chris Barnaby (New Zealand), Chairperson of the TWF*

1. The TWF held its fifty-fourth session, in Nîmes, France, from July 3 to 7, 2023, and chaired by Mr. Chris Barnaby (New Zealand). The report of the session is provided in document TWF/54/14 "Report".
2. The session was attended by 73 participants from 28 members of the Union and two observer organizations.
3. The TWF was welcomed by Mr. Laurent Jacquiau, Head, *Bureau des semences et des solutions alternatives, Direction générale de l'alimentation, Ministère de l'Agriculture et de la Souveraineté alimentaire*, France, who gave a presentation on plant variety protection and fruit activities in France. A copy of the presentation is provided in Annex II to the meeting report.
4. The TWF received a presentation by Mr. Fabien Masson, Head of the Variety Study Department (SEV), *Groupe d'Etude et de contrôle des Variétés et des Semences (GEVES)*, on the activities of GEVES. A copy of the presentation is provided in Annex III to the meeting report.
5. The TWF considered document TWP/7/1 "Increasing participation in the work of the TC and restructuring the work of the TWPs" and the proposed draft recommendations under development at the Working Group on DUS support. The TWF emphasized the importance of TWP development of Test Guidelines and agreed with the recommendation in paragraph 30 to organize discussions on Test Guidelines as hybrid meetings during the TWP sessions and as separate online meetings to increase the involvement of crop experts and members. The TWF agreed with recommendation in paragraph 35 that discussions on DUS procedures include a technical visit to demonstrate the model and arrangements for DUS examination used by the UPOV member hosting the TWP meeting. Consistent with the view that technical visits and practical evaluation experience is important the TWF visited the *Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE)*, Experimental Unit '*Arboriculture et Horticulture Méditerranéenne*' on the site of l'Amarine. The TWF participated in a practical exercise to assess DUS characteristics in peach, apricot and Japanese plum varieties from the variety collection at l'Amarine,
6. The TWF considered document TWF/54/7 "Cooperation in Examination" and agreed to propose amending document TGP/5, Section 6 "UPOV Report on Technical Examination and UPOV Variety Description" to provide further guidance on information about similar varieties considered in the examination. The proposal included additional explanations under Section 16 to clarify which varieties should be reported.
7. The TWF considered document TWF/54/12 "Access to plant material for the purpose of management of variety collections and DUS examination" and agreed to propose amending document TGP/5, Section 10 "Examples of Policies and Contracts for Material Submitted by the Breeder" to include a list of elements to be considered for inclusion in requests for the submission of plant material of candidate varieties and varieties of common knowledge for DUS examination.
8. The TWF considered document TWF/54/6 "Information on mutant varieties of apple useful for DUS examination" and invited authorities to provide certain information whenever an application for a mutant variety of apple was filed, including parent variety or variety group. Information provided on parentage or variety groups should be treated as privileged information and not be made available outside the participating PVP offices. The TWF acknowledged that not all authorities would be in a position to submit information due to restrictions on disclosing information on parentage or variety group before the information was publicly available. The TWF considered options for hosting the information on mutant varieties of apple and agreed that a restricted area on the UPOV website would be preferred. The TWF agreed to invite the Office of the Union to explore possibilities.
9. The TWF received a presentation on "Pomological descriptive databases" by an expert from the International Community of Breeders of Asexually Reproduced Ornamental and Fruit Varieties (CIOPORA). A copy of the presentation is provided in document TWF/54/8. The databases provide information for fruit varieties bred or in commerce in North America with some information not available elsewhere. The presentation contains public links to the databases.
10. The TWF discussed 10 draft Test Guidelines and agreed that the draft Test Guidelines for Apple (revision), Grapevine (revision), Mulberry, Raspberry (revision), Sour Cherry (revision) and Sweet Cherry (revision) should be submitted to the TC for adoption.

11. The TWF agreed to discuss the draft Test Guidelines for Argania, Goji, Guava (revision), Hazelnut (revision), Japanese Pear (revision), Japanese Plum (revision), Lemon (revision), Mandarin (revision), Granadilla/Passion fruit (revision), Trifoliolate Orange (revision), Blueberry (partial revision), Oranges (partial revision) and Pummelo and Grapefruit (partial revision) at its fifty-fifth session.
12. The TWF agreed to hold its fifty-fifth session from June 3 to 7, 2024, via electronic means.
13. The TWF agreed that documents for its fifty-fifth session should be submitted to the Office of the Union by April 19, 2024. The TWF noted that items would be deleted from the agenda if the planned documents have not reached the Office of the Union by the agreed deadline.
14. The TWF proposed to discuss the following items at its fifty-fifth session:
  1. Opening of the Session
  2. Adoption of the agenda
  3. Matters for discussion
    - 3.1. Procedures for DUS examination (presentations invited)
    - 3.2. Number of growing cycles and concluding examination of fruit crops (document to be prepared by Canada and documents invited)
    - 3.3. Harmonization of content in Technical Questionnaires, Section 7 (document to be prepared by the European Union)
    - 3.4. Variety collections (presentations invited)
    - 3.5. Information databases (presentations invited)
    - 3.6. Information on mutant varieties of apple useful for DUS examination (presentations invited)
    - 3.7. Image analysis and new technologies in DUS examination (presentations invited)
    - 3.8. Molecular techniques in DUS examination (presentations invited)
    - 3.9. Reports on existing policies on confidentiality of molecular information (presentations invited)
    - 3.10. Experiences with new types and species (oral reports invited)
    - 3.11. Discussion on draft Test Guidelines
    - 3.12. Recommendations on draft Test Guidelines
  5. Matters for information
    - 4.1. Reports from members and observers (written reports to be prepared by members and observers)
    - 4.2. Report on developments within UPOV (general developments, including variety denominations, information databases, exchange and use of software and equipment)
  4. Date and place of the next session
  5. Future program
  6. Adoption of the Report on the session (if time permits)
  7. Closing of the session

[Annex III follows]

## ANNEX III

## FIFTY-FIFTH SESSION OF THE TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES (TWO)

*Report by Ms. Ashley Balchin (Canada), Chairperson of the TWO*

1. The TWO held its fifty-fifth session, via electronic means, from June 12 to 16, 2023, and chaired by Ms. Ashley Balchin (Canada). The report of the session is provided in document TWO/55/11 "Report".
2. The session was attended by 84 participants from 25 members of the Union, two observer States and three observer organizations.
3. The TWO considered document TWP/7/1 and noted the proposed recommendations under development at the Working Group on DUS support. The TWO agreed to the following:
  - that TWP meetings should allocate more time for discussing DUS procedures and training
  - that Test Guidelines discussions was an important means of harmonizing DUS procedures, providing opportunities for interaction between experts and training.
  - that discussions on Test Guidelines should continue as a central element of TWP meetings, while meetings outside of the TWPs should be used to advance their preparation and to include other crop experts.
  - to support the presence of the Office of the Union at TWP meetings preferably on-site, where appropriate.
  - to further investigate the development of training on drafting test guidelines.
  - that the introduction of a tutor or "buddy" system could support new leading experts of UPOV Test Guidelines and the drafting of national test guidelines.
  - that the TWPs should be kept informed and have sufficient opportunities to participate in discussions on amending or developing guidance in TGP documents
4. The TWO considered the development of guidance on possible exceptions to the requirement to provide example varieties for asterisked quantitative characteristics when illustrations were provided. The TWO recalled that information on the situations where the approach would be applicable had been provided in document TWP/7/2 and agreed that such an approach would also be applicable for species with few example varieties and where there was difficulty obtaining plant material of such varieties. The TWO noted that the TWA, at its fifty-second session, had agreed to invite the experts to draft a proposal to amend document TGP/7, GN 28 "Example Varieties", concerning situations where illustrations could replace example varieties and their complementary role to clarify the states of expression of a characteristic. The TWO agreed to invite the experts from Canada, European Union, France and the United Kingdom to join the TWA experts to draft a proposal to amend document TGP/7, GN 28.
5. The TWO received presentations on situations where examinations are conducted on ornamental varieties of agricultural, fruit or vegetable crops by experts from the United Kingdom and France. Copies of the presentations are provided in document TWO/55/5. The TWO agreed to recommend that drafters of Test Guidelines avoid explicitly excluding ornamental varieties from the coverage of Test Guidelines. The TWO agreed that situations where ornamental varieties of other crop sectors existed should be addressed with the inclusion of the standard wording on "coverage of types of varieties in Test Guidelines" (ASW 0), as follows: "In the case of ornamental 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." The TWO recalled 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.
6. The TWO agreed that Test Guidelines developed for other crop sectors provided a suitable starting point for the testing of ornamental varieties, followed by an assessment on the need for additional characteristics or states of expression. The TWO agreed that using Test Guidelines developed for other crop sectors to examine ornamental varieties could lead to situations where certain characteristics could not be observed. The TWO agreed to consider at every session the list of Test Guidelines under development at other TWPs in case of interest for examination of ornamental varieties, and if applicable, provide interested experts.

7. The TWO considered the proposal presented in document TWO/55/6 by an expert from New Zealand to amend document TGP/5, Section 6, Item 17 “Additional information” to include examples of “(a) additional data” that could be provided with variety descriptions. The TWO agreed to propose that the following non-exhaustive list of examples of additional data was considered for inclusion: “(a) Additional Data (e.g. COYU or COYD results, measured data supporting certain characteristics, scales for measured characters for example varieties)”. The TWO agreed to propose including the following additional element in the list of “Additional Information” under Section 17 of document TGP/5, Section 6: “(d) Examples varieties used in testing in the growing trial”.

8. The TWO considered document TGP/5, Section 6 “UPOV Report on Technical Examination and UPOV Variety Description” and agreed that missing information in Section 16 “Similar varieties and differences from these varieties” would reduce the usefulness of the DUS test reports for exchange. The TWO agreed to recommend that authorities providing test reports supply information in Section 16 of the variety description. Section 16 should be completed to indicate that no similar variety had been identified or in case there was a similar variety (or varieties) they should be mentioned in this section of the test report.

9. The TWO received a presentation on “UPOV Information databases: Issues linked to UPOV codes and the update of the botanical nomenclature” by an expert from the European Union. A copy of the presentation is provided in document TWO/55/9. The TWO considered the proposal to introduce a system to alert whenever a botanical name used in GENIE was updated in the Germplasm Resources Information Network (GRIN) database, as set out in document TWO/55/9. The TWO agreed to invite the Office of the Union to investigate the resource implications to develop a procedure for updating the principal botanical names of species in the GENIE database following developments in GRIN. The TWO received an oral report from the Office of the Union that 55 genera in GENIE had been identified with redundant UPOV codes as a result of taxonomic changes. The TWO agreed to invite the Office of the Union to periodically check the GENIE database for the existence of redundant UPOV codes for synonym genera.

10. The TWO discussed 10 draft Test Guidelines and agreed that the draft Test Guidelines for *Amaryllis* (revision), *Lavender* (revision), *Oxypetalum coeruleum* (D. Don) Decne, *Weigela* (revision) and *Oncidium* (partial revision) should be submitted to the TC for adoption.

11. The TWO agreed to discuss the draft Test Guidelines for *Ginkgo*, *Leucanthemum* Mill., *Lotus*, *Magnolia*, *Poinsettia* (revision), *Pot Azalea* and *Rhododendron* (Revision to combine TGs), *Zantedeschia*, *Aloe* (partial revision) and *Carnation* (partial revision) at its fifty-sixth session.

12. The TWO noted that no invitations for the venue of its fifty-sixth session had been received. The TWO noted that a decision on the date and place of its next session would be taken by the Council, at its fifty-seventh session, to be held on October 27, 2023.

13. The TWO agreed that its fifty-sixth session should be held via electronic means, from April 29 to May 3, 2024, if no alternative offer was received from a member of the Union.

14. The TWO agreed that documents for its fifty-sixth session should be submitted to the Office of the Union by March 18, 2024. The TWO noted that items would be deleted from the agenda if the planned documents have not reached the Office of the Union by the agreed deadline.

15. The TWO agreed to discuss the following items at its next session:

1. Opening of the Session
2. Adoption of the agenda
3. Matters for discussion
  - 3.1. Procedures for DUS examination (presentations invited)
  - 3.2. Variety collections (presentations invited)
  - 3.3. Image analysis and new technologies in DUS examination (presentations invited)
  - 3.4. Molecular techniques in DUS examination (presentations invited)
  - 3.5. Reports on existing policies on confidentiality of molecular information (presentations invited)
  - 3.6. Ornamental varieties of agricultural, fruit or vegetable crops (presentations invited)
  - 3.7. Information required to enhance the use of existing DUS test reports (presentations invited)



- 3.8. Situations where illustrations could complement or replace example varieties (document to be prepared by Germany in collaboration with Canada, Netherlands and United Kingdom)
- 3.9. Information databases (presentations invited)
- 3.10. Experiences with new types and species (oral reports invited)
- 3.11. Discussion on draft Test Guidelines (Subgroups)
- 3.12. Recommendations on draft Test Guidelines
4. Matters for information
  - 4.1. Reports from members and observers (written reports to be prepared by members and observers)
  - 4.2. Report on developments within UPOV (general developments, including variety denominations, information databases, exchange and use of software and equipment)
5. Date and place of the next session
6. Future program
7. Adoption of the Report on the session (if time permits)
8. Closing of the session

[Annex IV follows]

## ANNEX IV

## FIFTY-SEVENTH SESSION OF THE TECHNICAL WORKING PARTY FOR VEGETABLES (TWV)

*Report by Ms. Marian van Leeuwen (Netherlands), Chairperson of the TWV*

1. The TWV held its fifty-seventh session in Antalya, Türkiye, from May 1 to 5, 2023, and chaired by Ms. Marian van Leeuwen (Netherlands). The report of the session is provided in document TWV/57/26 "Report".
2. The session was attended by 99 participants from 26 members of the Union, one observer State and four observer organizations.
3. The TWV was welcomed by Mr. Mehmet Hasdemir, General Director of Plant Production, Ministry of Agriculture and Forestry, and received welcoming remarks from Mr. Muhtesem Torun, Secretary General, Turkish Seed Union (TÜRKTÖB).

Disease resistance characteristics

*Addition of state of expression and placement of non-asterisked disease resistance characteristics in Section 5 of the Technical Questionnaire*

4. The TWV agreed to amend document TGP/7 GN 13 "Characteristics with specific functions" to clarify that disease resistance characteristics not indicated with an asterisk in the table of characteristics may be presented in Section 5 of Technical Questionnaires (TQ) with the addition of a state of expression "not tested", as set out in document TWP/7/2, paragraph 21, when the characteristic was not used as a grouping characteristic.

*Example disease resistance characteristic: Word "highly" in only one state of expression*

5. The TWV considered whether to revise the states of expression in the example characteristic, in this case for melon, in document TGP/12/2, Section 2.3.2. This revision is meant to address the use of the word "highly" in only one state of expression. The TWV agreed that the example characteristic in document TGP/12 from should be amended as in the proposed revision of TG melon (TWV/57/22), to read as follows:

<b>70. VG</b>	<b>Resistance to <i>Podosphaera xanthii</i> (Px) (ex <i>Sphaerotheca fuliginea</i>) (Powdery mildew)</b>		
<b>70.1</b>	<b>Race 1 (Px: 1)</b>		
<b>(+)</b>			
<b>QN</b>	absent or low	Védrantais	1
	medium	Escrito	2
	high	Arum	3

*Assessing distinctness in disease resistance characteristics*

Disease resistance characteristics with a condensed scale (Notes 1-3)

6. The TWV considered the criteria for disease resistance characteristics in UPOV Test Guidelines, as set out in document TWV/57/10, paragraph 11. It agreed that the standard scales of notes for quantitative (QN) characteristics should be used where appropriate for disease resistance characteristics, such as the condensed scale (Notes 1-3) in the following example: "Resistance to disease 'x'" with states of expression "absent or low", note 1; "medium", note 2; and "high", note 3.
7. The TWV considered the assessment of distinctness on the basis of a one note difference for disease resistance characteristics using a condensed quantitative scale of three notes (Notes 1-3). The TWV recalled that, on a side-by-side comparison, "a difference between two varieties is acceptable as soon as it can be

assessed visually and could be measured, although such measurement might be impractical or require unreasonable effort”, as set out in document TG/1/3 “General Introduction”, section 5.5.2.2.2.

8. The TWV recalled that, for side-by-side visual comparisons, “when the comparison was performed at the level of measured values (MG, mean of MS) a difference smaller than two Notes might represent a clear difference”, as set out in document TGP/9 “Examining Distinctness”, Section 5.2.3.2.3.3.

9. The TWV noted that statistical methods were used for the assessment of distinctness for disease resistance characteristics and recalled that “[...] two varieties which are found to be significantly different for one or more quantitative characteristics may be considered to be distinct” (see document TGP/9 “Examining Distinctness”, Section 5.2.4.5.3).

#### Quantitative disease resistance characteristics with only two states of expression

10. The TWV agreed there were certain quantitative (QN) disease resistance characteristics where it was not possible to describe different levels of resistance according to QN states of expression because of the influence of testing conditions and the lack of information on genetic background.

The TWV agreed to invite the experts from France and the Netherlands, with the support of the European Union, Japan and the breeders’ organizations, to draft a proposal for a special type of quantitative disease resistance characteristic with only two states of expression. The TWV agreed that the proposal with an explanation on the criteria for using this type of characteristic should be presented at the fifty-eighth session of the TWV.

#### Equivalence of states of expression in UPOV Test Guidelines with the terminology used in the vegetable seed sector

11. The TWV received a presentation on “Disease resistance characteristics” by an expert from Euroseeds, on behalf of CropLife International, Euroseeds and the International Seed Federation (ISF). A copy of the presentation is presented in document TWV/57/10 Add.

12. The TWV noted that the terminology used in the condensed scale of notes (notes 1; 2; 3) for quantitative disease resistance characteristics in UPOV Test Guidelines differed from the terminology used in the vegetable seed sector.

13. The TWV agreed that the following table provided the equivalence of states of expression in UPOV Test Guidelines with the terminology used in the vegetable seed sector:

Equivalence of states of expression in UPOV Test Guidelines with the terminology used in the vegetable seed sector		
	<b>State of expression in UPOV Test Guidelines</b>	<b>Terminology used in the vegetable seed sector</b>
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)

Source: <https://worldseed.org/>

14. The TWV agreed to propose that the table of equivalence was added to document TGP/12 “Guidance on Certain Physiological Characteristics” as part of the explanations to the Standard Resistance Protocol in that document. The TWV agreed that the same table should be included in explanations for quantitative disease resistance characteristics when the condensed scale of notes was used.

#### Revision of test guidelines containing disease resistance characteristics

15. From the four full draft Test Guidelines to be submitted to the Technical Committee in 2023, two contain disease resistance characteristics. From the 17 draft partial revisions of Test Guidelines to be submitted to the Technical Committee in 2023, four contain disease resistance characteristics. None of the disease resistance characteristics in the drafts have an asterisk, they were deleted or not added during the drafting process.

16. The TWV agreed to discuss at its fifty-eight session four full draft Test Guidelines, of which none containing disease resistance characteristics, and 11 partial revisions of Test Guidelines of which five *Brassica oleracea* species to add the new resistance to clubroot, and three other crops containing disease resistance characteristics .

17. The TWV discussed 23 draft Test Guidelines and agreed that the draft Test Guidelines for Chinese Cabbage (revision), Kale (revision), Pepper (revision), Tomato (revision), Broccoli (partial revision), Brussels Sprouts (partial revision), Cabbage (partial revision), Carrot (partial revision), Cauliflower (partial revision), Cornsalad (partial revision), Cucumber, Gherkin (partial revision), Industrial Chicory (partial revision), Kohlrabi (partial revision), Lettuce (partial revision), Maize (partial revision), Melon (partial revision), Radish/Black Radish (partial revision), Spinach (partial revision), Swede/Rutabaga (partial revision), Vegetable Marrow, Squash (partial revision) and Watermelon (partial revision) should be submitted to the TC for adoption.

18. The TWV agreed to discuss at its fifty-eight session the draft Test Guidelines for Chinese Cabbage (revision), Egg plant (revision), Garlic (revision), Ginger (revision), Parsley (revision), Asparagus (partial revision), Broccoli (partial revision), Brussels Sprouts (partial revision), Cabbage (partial revision), Cauliflower (partial revision), Cucumber, Gherkin (partial revision), Kohlrabi (partial revision), Lettuce (partial revision), Maize (partial revision), Pea (partial revision), Tomato (partial revision).

19. The TWV agreed to hold its fifty-eighth session by virtual means from April 22 to 26, 2024.

20. The TWV agreed that in order to allow sufficient time in advance of the meeting to post the documents and provide comments, all documents and presentations invited or to be prepared should be sent to the Office of the Union by March 8, 2024.

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

1. Opening of the Session
2. Adoption of the agenda
3. Matters for discussion
  - 3.1. Procedures for DUS examination (presentations invited)
  - 3.2. Proposals for ring-tests (presentations invited)
  - 3.3. Characteristics with one single observation in multi-annual testing (presentations invited)
  - 3.4. Acceptance of final reports based on variety descriptions with the same notes (presentations invited)
  - 3.5. Issue of reporting of the absence of similar varieties mentioned under chapter 16 of variety descriptions (presentations invited)
  - 3.6. Assessing distinctness in disease resistance characteristics (document to be prepared by France and the Netherlands)
  - 3.7. Image analysis of vegetable crops (presentations invited)
  - 3.8. Molecular techniques in variety examination (presentations invited)
  - 3.9. Experiences with new types and species (oral reports invited)
  - 3.10. Discussions on draft Test Guidelines (Subgroups)
  - 3.11. Recommendations on draft Test Guidelines
4. Matters for information
  - 4.1. Reports from members and observers (reports invited)
  - 4.2. Reports on developments within UPOV (general developments, including variety denominations, information databases, exchange and use of software and equipment)
5. Date and place of the next session
6. Future program
7. Adoption of the Report on the session (if time permits)
8. Closing of the session