

Technical Committee**TC/58/17****Fifty-Eighth Session
Geneva, October 24 and 25, 2022****Original:** English
Date: October 5, 2022**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 2023 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 report from the chairperson of the Technical Working Party on Testing Methods and Techniques (TWM) will be presented in an addendum to this document.

3. The TC is invited to:

(a) note the reports from the chairperson of the TWA, TWF, TWO and TWF, as presented in the Annexes to this document;

(b) consider the programs of work for the TWPs, at their sessions in 2023; and

(c) note that the report from the chairperson of the Technical Working Party on Testing Methods and Techniques (TWM) and the proposed program of work for the TWM in 2023 will be presented in an addendum to this document.

4. The structure of this document is as follows:

EXECUTIVE SUMMARY.....	1
Annex II Report from the chairperson and proposed program of work for the TWA in 2023	
Annex II Report from the chairperson and proposed program of work for the TWF in 2023	
Annex III Report from the chairperson and proposed program of work for the TWO in 2023	
Annex IV Report from the chairperson and proposed program of work for the TWV in 2023	

5. The following abbreviations are used in this document:

BMT:	Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular
TC:	Technical Committee
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
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-FIRST 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-first session, in Cambridge, United Kingdom, from May 23 to 27, 2022, under the chairmanship of Ms. Renée Cloutier (Canada). The report of the session is provided in document TWA/51/11 "Report".
2. The session was attended by 127 participants from 32 members of the Union, three observer States and four observer organizations.
3. The TWA was welcomed by Ms. Nicola Spence, Chief Plant Health Officer and Deputy Director Plant and Bee Health, Varieties and Seeds, Department for Environment, Food and Rural Affairs (DEFRA), via video message, and by Ms. Fiona Hopkins, Plant Varieties and Seeds Policy, Animal and Plant Health and Welfare Directorate, DEFRA. The TWA received a presentation on plant variety protection in the United Kingdom from Mr. Richard McIntosh, Controller of Plant Variety Rights, DEFRA, a copy of which is provided in document TWA/51/11 "Report", Annex II.
4. The TWA considered the proposal to amend document TGP/7 to remove the requirement to provide example varieties for asterisked quantitative characteristics if illustrations are provided, as set out in document TWP/6/1, paragraphs 18 and 19. The TWA agreed that example varieties should continue to be required for asterisked quantitative characteristics. The TWA agreed that illustrations were useful and that characteristics should be illustrated as much as possible, in addition to having example varieties. The TWA agreed that example varieties for asterisked quantitative characteristics could be replaced by illustrations under exceptional circumstances when it was not possible to provide example varieties.
5. The TWA considered the Flow Diagram 2 "*Deciding if example varieties are needed: Regional sets of example varieties*", provided in document TGP/7, GN 28. The TWA agreed that the procedure to decide whether example varieties were needed for regional sets of example varieties was the same as for the Test Guidelines. The TWA agreed to propose deleting the "Flow Diagram 2" and amending Flow Diagram 1 to remove the mention to regional sets of example varieties.
6. The TWA considered the proposal to revise document TGP/7 "Development of Test Guidelines" to indicate characteristics in the table of characteristics and technical questionnaire used as grouping characteristics, as set out in document TWP/6/1, paragraph 22. The TWA agreed that no revision of document TGP/7 would be required as information on grouping characteristics was not relevant in the technical questionnaire and it would not be necessary to repeat information from Section 5 in the table of characteristics.
7. The TWA agreed to amend document TGP/7 "Development of Test Guidelines" to convert the standard wording in the Test Guidelines template, paragraph 4.2.2, into additional standard wording (optional), as set out in document TWP/6/1, paragraph 25.
8. The TWA received a presentation on "COYU Splines: Path to implementation in the United Kingdom" by an expert from the United Kingdom. A copy of the presentation is provided in document TWA/51/8. The TWA noted the work reported and agreed to invite the expert from the United Kingdom to report developments at its fifty-second session.
9. The TWA received a presentation on "Estimation of plant length in winter wheat by drone imaging" by an expert from Denmark. A copy of the presentation is provided in document TWA/51/6. The TWA noted the work reported and agreed to invite the expert from Denmark to report developments at its fifty-second session.
10. The TWA received a presentation on "Big Data Platform for DUS Examination" by an expert from China. A copy of the presentation is provided in document TWA/51/7. The TWA noted the work reported agreed to invite the expert from China to report developments at its fifty-second session.
11. The TWA received a presentation on "Examining Wheat Hybrids" by an expert from the United Kingdom. A copy of the presentation is provided in document TWA/51/10. The TWA agreed that there was not enough experience with DUS examination of wheat hybrids produced through different methods of propagation to consider amending uniformity standards in the Test Guidelines.

12. The TWA agreed to continue discussions on the partial revision of the Test Guidelines for Maize at its fifty-second session and agreed to invite Ms. Bronislava Bátorová (European Union) to present a new draft to clarify the wording of options “not applicable”; and to revise characteristic 24.1 and 24.2 “Plant: length”.

13. The TWA held a discussion session to allow participants to exchange information on their work on biochemical and molecular techniques and explore possible areas for cooperation. The TWA considered whether UPOV could support harmonization and cooperation between members already using molecular markers in DUS examination or making information or BMT services available to other UPOV members. The TWA agreed that the Technical Working Parties were a platform for exchanging information about molecular markers in DUS examination, including projects, collaborations and services eventually provided by members. The TWA agreed that UPOV should continue to encourage presentations on using molecular markers in DUS examination, including technical aspects, confidentiality and access to data.

14. The TWA agreed to invite the joint breeders’ organizations to report on the outcomes of the survey on confidentiality of molecular data that was being conducted among plant breeding companies across different organizations at its fifty-second session.

15. The TWA received a presentation on the “Use of molecular techniques in DUS examination: Report from Argentina” by an expert from Argentina. A copy of the presentation is provided in document TWA/51/4.

16. The TWA received a presentation on “Developing a strategy to apply SNP molecular markers in the framework of winter oilseed rape DUS testing” by an expert from France. A copy of the presentation is provided in document TWA/51/4 Add.

17. The TWA discussed 10 draft Test Guidelines and agreed that the draft Test Guidelines for Cocksfoot (revision), Potato (revision), Soya Bean (revision), Sunflower (revision), Rye (partial revision) and Wheat (partial revision) should be submitted to the TC for adoption.

18. The TWA agreed to discuss the draft Test Guidelines for Couch Grass/Bermuda Grass, Fodder Beet (revision), Hemp/Cannabis (revision), Mung Bean, Oilseed Rape (revision), Safflower (revision), Sugarcane (revision), Zoysia Grasses, Barley (partial revision) and Maize (partial revision at its fifty-second session).

19. On the afternoon of May 25, 2022, the TWA visited NIAB headquarters in Cambridge. The TWA was welcomed by Mr. Mario Caccamo, CEO, and Mr. Stuart Knight, Deputy Director and Director of Agronomy, NIAB, and received a presentation from Mr. Knight on the activities of NIAB. A copy of the presentation is provided in Annex III to the TWA meeting report (document TWA/51/11). The TWA visited DUS trials for Barley, Oilseed Rape and Wheat and visited the greenhouses and laboratories of NIAB. The TWA received information on phenotyping based on unmanned aerial vehicles and image analysis.

20. A satisfaction survey was conducted with participants to gauge the participation of the hybrid meeting and is reported at document TC/58/18 “Survey on the needs of members and observers in relation to TWPs”.

21. The TWA noted that no invitations for the venue of its fifty-second 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-sixth session, to be held on October 28, 2022.

22. The TWA noted that UPOV members could contact the Office of the Union with offers of date and place to host the next TWA session. If an offer was received sufficiently before the fifty-sixth session of the Council, the offer could be considered by the Council at its fifty-sixth session.

23. The TWA agreed that its fifty-second session should be held via electronic means, from May 22 to 26, 2023, if no alternative offer was received from a member of the Union.

24. The TWA agreed that documents for its fifty-second session should be submitted to the Office of the Union by April 7, 2023. The TWA 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.

25. The TWA proposed to discuss the following items at its next session:

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

3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers (written reports to be prepared by members and observers)
 - (b) Report on developments within UPOV (document to be prepared by the Office of the Union)
4. Development of guidance and information materials (documents to be prepared by the Office of the Union)
5. Using the COYU-Splines method in DUS examination (presentation from the United Kingdom and presentations invited)
6. Variety denominations (document to be prepared by the Office of the Union)
7. Information and databases
 - (a) UPOV information databases (document to be prepared by the Office of the Union)
 - (b) Variety description databases (document to be prepared by the Office of the Union and documents invited)
 - (c) Exchange and use of software and equipment (document to be prepared by the Office of the Union and documents invited)
 - (d) UPOV PRISMA (document to be prepared by the Office of the Union)
8. Molecular Techniques
 - (a) Developments in UPOV (document to be prepared by the Office of the Union)
 - (b) Presentation on the use of molecular techniques in DUS examination (presentations by Argentina, Australia and Breeders' Associations and presentations invited)
9. New technologies in DUS examination, e.g. image analysis (documents to be prepared by China, Denmark, United Kingdom and documents invited)
10. DUSCEL statistical analysis software (document to be prepared by China)
11. Examining hybrid varieties (documents to be prepared by Australia and United Kingdom and documents invited)
12. Cooperation in examination (document to be prepared by the Office of the Union and documents invited)
13. Increasing participation in the work of the TC and the TWPs (document to be prepared by the Office of the Union)
14. Experiences with new types and species (oral reports invited)
15. Revision of Test Guidelines (document to be prepared by the Office of the Union)
16. Guidance for drafters of Test Guidelines (document to be prepared by the Office of the Union)
17. Discussion on draft Test Guidelines (Subgroups)
18. Recommendations on draft Test Guidelines
19. Date and place of the next session
20. Future program
21. Adoption of the Report on the session (if time permits)
22. Closing of the session

[Annex II follows]

FIFTY-THIRD 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-third session, organized by electronic means, from July 11 to 15, 2022, under the chairmanship of Mr. Chris Barnaby (New Zealand). The report of the session is provided in document TWF/53/14 "Report".
2. The session was attended by 96 participants from 27 members of the Union, one observer State and one observer organization.
3. The TWF considered document TWF/53/7 and a proposal prepared by experts from Brazil and the European Union to amend guidance in document TGP/9 "Examining Distinctness" to clarify the possibility to include in trials a lower number of plants for varieties of common knowledge under certain circumstances. The TWF agreed there were practical difficulties in implementing DUS trials of fruit crops with the same number of plants indicated in the Test Guidelines for both the candidate variety and a very similar variety of common knowledge. The TWF agreed that it should be possible to use a lower number of plants of the similar variety of common knowledge if uniformity does not need to be assessed.
4. The TWF considered document TWF/53/4 and a proposal to create denomination classes within the genus *Prunus*, as presented by the experts from the Czech Republic. The TWF considered how to address the interspecific hybrids of *Prunus* from species in different proposed denomination classes and agreed that further discussion would be required, including the participation of denomination experts. The TWF noted that hybrid varieties from *Prunus* species in different denomination classes could lead to different approaches in assigning the denomination class.
5. The TWF considered whether to create a common database for mutant varieties of apple to be made available on the UPOV website. The TWF noted the reports from Australia, Brazil and Canada that there could be limitations to disclosing the parentage of candidate varieties in their countries. The TWF agreed that variety information would have value for DUS examination in case the parentage was also provided. The TWF agreed to invite the European Union to review the previous practice of collecting information on applications filed for the protection of mutant varieties of apple and report the outcome at the next session.
6. The TWF received a presentation on "Access to plant material for the purpose of management of variety collections and DUS examination" by an expert from the European Union. A copy of the presentation and a model letter for requesting plant material are provided in document TWF/53/11. The TWF agreed to invite the European Union with the support of Canada, France, Germany, Italy and New Zealand to draft a list of elements to be included in requests for submission of plant material of the candidate variety and for varieties of common knowledge for DUS examination. The TWF agreed that the draft elements may be developed for a future Technical Guidance document.
7. The TWF received a presentation on "The Assessment of Color in Fruit Crops: A Different Approach?" from an expert from New Zealand and noted that RHS Colour Charts were being considered in New Zealand for the assessment of color in fruit crops. The TWF noted a range of challenges to assessing color in fruit crops and agreed that the use of color charts could be considered for variety descriptions and in support of observations. The TWF agreed to include an agenda item and invite presentations on alternative methods for the assessment of color in fruit crops at its Fifty-Fourth session.
8. The TWF considered document TWF/53/6 including the information to be provided in a UPOV variety description to further promote the exchange and takeover of DUS test reports. The TWF agreed that information should always be provided in Section 16 "Similar Varieties and Differences from These Varieties" to clarify the existence or not of similar varieties. The TWF noted the different possibilities to provide information in Section 16, including to list one or several varieties considered as most similar; and listing only one or multiple characteristics per variety providing distinctness. The TWF agreed that it should always be indicated when no similar varieties had been identified. The TWF agreed that discussions should be continued to develop a proposal for guidance on how to complete Section 16 of the UPOV variety description.
9. The TWF received a presentation on "Application of molecular techniques in DUS testing and PBR enforcement of fruit sector in China" by an expert from China. Following the presentation from China, the TWF had an open discussion about the use of molecular markers in DUS examination and variety identification. The following aspects were mentioned by participants:

- Possibilities for cooperation on the constitution of common databases, including for authorities receiving relatively few applications for particular crops
- Origin of plant material for DNA extraction (e.g. material provided for DUS testing)
- Selection of markers for each crop, according to intended use (e.g. for PBR and/or variety identification).
- Selecting one or more laboratories capable of providing high-quality molecular profiles (e.g. security back-up);
- High cost for harmonizing methodologies for DNA profiling among different laboratories;
- Difficulties to obtain the same results even for laboratories using harmonized methodologies.

10. The TWF discussed 15 draft Test Guidelines and agreed that the draft Test Guidelines for Apple (revision), Strawberry (revision), Blueberry (partial revision), and Walnut (partial revision) should be submitted to the TC for adoption.

11. The TWF agreed to discuss the draft Test Guidelines for Goji, Grapevine (revision), Guava (revision), Hazelnut (revision), Lemon (revision), Mandarin (revision), Mulberry, Granadilla/Passion fruit (revision), Raspberry (revision), Sour Cherry (revision), Sweet Cherry (revision), Trifoliolate Orange (revision), Blueberry (partial revision), Oranges (partial revision) and Pummelo and Grapefruit (partial revision) at its fifty-fourth session.

12. At the invitation of France, the TWF agreed to hold its fifty-fourth session in Nîmes, France, from July 3 to 7, 2023.

13. The TWF agreed that documents for its fifty-fourth session should be submitted to the Office of the Union by May 19, 2023. The TWF 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.

14. The TWF proposed to discuss the following items at its fifty-fourth session:

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers (written reports to be prepared by members and observers)
 - (b) Reports on developments within UPOV (oral report by the Office of the Union)
4. Molecular Techniques (document to be prepared by the Office of the Union)
 - (c) Developments in UPOV (document to be prepared by the Office of the Union)
 - (d) Presentation on the use of molecular techniques in DUS examination (presentations from the European Union and France and presentations invited from members of the Union)
5. Development of guidance and information materials (documents to be prepared by the Office of the Union)
6. Variety denominations (documents to be prepared by the Office of the Union and the Czech Republic)
7. Information and databases
 - (a) UPOV information databases (documents to be prepared by the Office of the Union)
 - (b) Variety description databases (documents to be prepared by the Office of the Union and documents invited)
 - (c) Exchange and use of software and equipment (document to be prepared by the Office of the Union and documents invited)
 - (d) UPOV PRISMA (document to be prepared by the Office of the Union)
8. Experiences with new types and species (oral reports invited)

9. Cooperation in examination (document to be prepared by the Office of the Union and documents invited)
10. Access to plant material for the purpose of management of variety collections and DUS examination (document to be prepared by the European Union)
11. Information on mutant varieties of apple useful for DUS examination (document to be prepared by European Union)
12. Matters relevant in DUS examination for the fruit sector (documents invited)
13. Number of plants of similar varieties of common knowledge (document to be prepared by Brazil and the European Union)
14. Number of growing cycles and concluding examination of fruit crops (document to be prepared by Canada and documents invited)
15. Harmonization of content in Technical Questionnaires, Section 7 (document to be prepared by (document to be prepared by the European Union)
16. The assessment of color in fruit crops (presentations invited)
17. Guidance for drafters of Test Guidelines (document to be prepared by the Office of the Union)
18. Matters to be resolved concerning Test Guidelines put forward for adoption by the Technical Committee (if appropriate)
19. Discussion on draft Test Guidelines (Subgroups)
20. Recommendations on draft Test Guidelines
21. Date and place of the next session
22. Future program
23. Adoption of the Report of the session (if time permits)

[Annex III follows]

ANNEX III

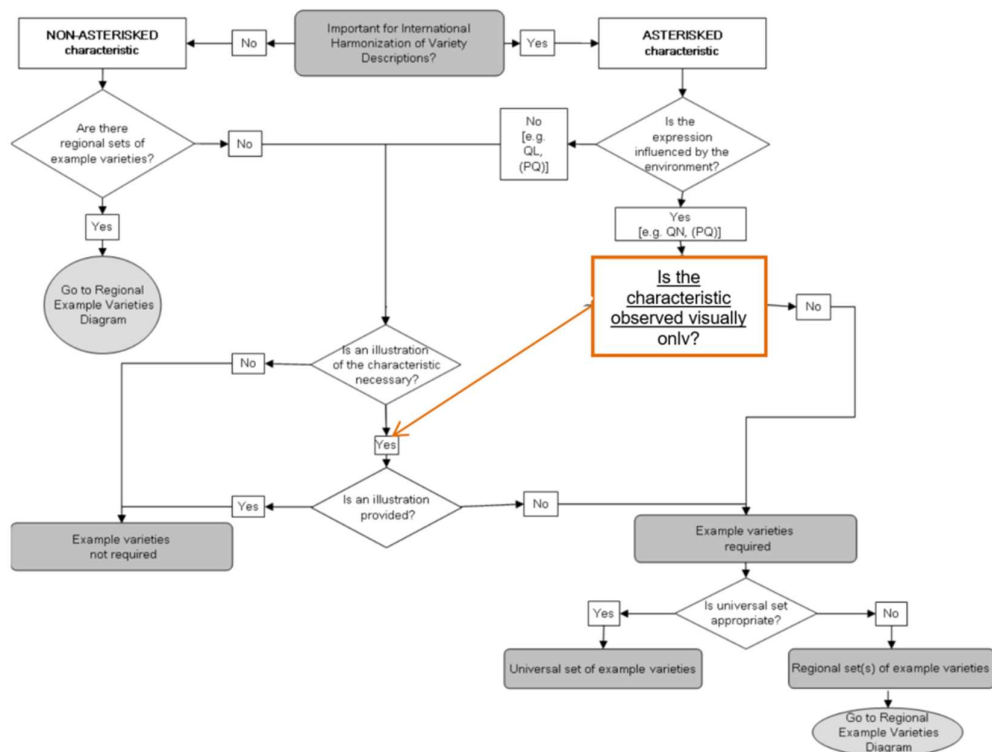
FIFTY-FOURTH SESSION OF THE TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES (TWO)

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

1. The TWO held its fifty-fourth session, hosted by Germany and organized by electronic means, from June 13 to 17, 2022, under the chairmanship of Ms. Ashley Balchin (Canada). The report of the session is provided in document TWO/54/6 "Report".
2. The session was attended by 82 participants from 28 members of the Union, one observer State and one observer organization.
3. The TWO was welcomed by Mr. Elmar Pfülb, President, Bundessortenamt, and received a presentation on the history of variety testing in Germany, the tasks and responsibilities of Bundessortenamt.
4. The TWO also received a presentation on DUS testing of ornamental crops and forest trees at the Bundessortenamt from Ms. Andrea Menne, Head of Section, DUS Testing Ornamentals, Bundessortenamt.
5. The TWO is often faced with difficulties providing example varieties for visually assessed quantitative and pseudo-qualitative characteristics. Test guidelines for ornamental plants cover a very large range of species where an extensive list of examples varieties is not always known or available, they contain many characteristics on small organs or very small parts of organs and are typically visually assessed. For this reason, the TWO agreed to propose amending document TGP/7 to allow flexibility in the requirement to provide example varieties for asterisked quantitative and pseudo-qualitative characteristics if the characteristic is visually assessed only and illustrations are provided. The proposed amendment to TGP/7 could read as follows:

"(iii) If a characteristic is important for the international harmonization of variety descriptions (asterisked characteristics) and is influenced by the environment and cannot be illustrated by photographs or drawings in a meaningful way (most quantitative and pseudo-qualitative characteristics) or example varieties are necessary for illustration of the characteristic (see Section 3.4) it is necessary to provide example varieties.

"In species where the range of expression is high at the variety level for a quantitative characteristic (which cannot be measured), it would not be appropriate to illustrate the states of expression exclusively with a drawing or photograph. In these cases, example varieties would be required."
6. The TWO agreed that the use of illustrations would be suitable to replace example varieties for such characteristics and further facilitate international harmonization. The TWO proposed several examples of characteristics where this approach, to replace example varieties when illustrations were provided, could be used (See TWO report).
7. The TWO noted that the term "controlled environment" in Flow Diagram 1 of document TGP/7, GN 28, was not explained in the text of GN 28. The TWO agreed that the environment could not be fully controlled even under greenhouse conditions. The TWO agreed to propose that Flow Diagram 1 be amended to replace the question "is the environment controlled" by "is the characteristic observed visually only?", as follows:



8. The TWO received a presentation on “Resistance to *Puccinia horiana* in Chrysanthemum - Progress report concerning a potential new DUS characteristic” by an expert from the Netherlands. A copy of the presentation is provided in document TWO/54/4. The TWO noted work reported and agreed to invite the expert from the Netherlands to report developments at its fifty-fifth session. The TWO noted that resistance to *P. horiana* is a current breeding objective and that it was not yet used in DUS examination. The TWO noted the invitation for further participation in the development of the methodology to assess the characteristic. The TWO noted the particular requirements for maintenance of the isolates of *P. horiana* and agreed that further consideration would be required before introducing such characteristic in the Test Guidelines for Chrysanthemum.

9. The TWO agreed to amend the UPOV Codes HYLOC, HYLOC_COS, HYLOC_GUA, HYLOC_GUN, HYLOC_POL and HYLOC_UND, following the reclassification of certain *Hylocereus* species to *Selenicereus*, as set out in document TWP/6/4, paragraph 34.

10. The TWO agreed to amend the UPOV Codes CALAT_CRO, CALAT_LOE, CALAT_LRO, CALAT_ROS and CALAT_WAR, following the reclassification of certain *Calathea* species to *Geoppertia*, as set out in document TWP/6/2, paragraph 38.

11. The TWO received a report from an expert from the European Union on applications received for ornamental varieties of *Colocasia esculenta* (L.) Schott. The TWO noted that the Test Guidelines for Colocasia (document TG/255/1) was not developed for ornamental varieties and noted there was no experience among participants in DUS examination of the crop.

12. The TWO discussed 10 draft Test Guidelines and agreed that the draft Test Guidelines for Anthurium (revision), Ling/Scots Heather (revision), Statice (revision) and Rose (partial revision) should be submitted to the TC for adoption.

13. The TWO agreed to discuss the draft Test Guidelines for Amaryllis (revision), Ginkgo, Lavender (revision), Lotus, Magnolia, *Leucanthemum* Mill., *Oxypetalum coeruleum* (D. Don) Decne, Poinsettia (revision), Weigela (revision) and Oncidium (partial revision) at its fifty-fifth session.

14. The TWO noted that no invitations for the venue of its fifty-fifth 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-sixth session, to be held on October 28, 2022.

15. The TWO noted that UPOV members could contact the Office of the Union with offers of date and place to host the next TWO session. If an offer was received sufficiently before the fifty-sixth session of the Council, the offer could be considered by the Council at its fifty-sixth session.

16. The TWO agreed that its fifty-fifth session should be held via electronic means, from June 12 to 16, 2023, if no alternative offer was received from a member of the Union.

17. The TWO agreed that documents for its fifty-fifth session should be submitted to the Office of the Union by April 29, 2023. 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.

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

1. Opening of the session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers (written reports to be prepared by members and observers)
 - (b) Reports on developments within UPOV (document to be prepared by the Office of the Union)
4. Development of guidance and information materials (documents to be prepared by the Office of the Union)
5. Information and databases
 - (a) UPOV information databases (document to be prepared by the Office of the Union)
 - (b) Variety description databases (document to be prepared by the Office of the Union and documents invited)
 - (c) UPOV PRISMA (document to be prepared by the Office of the Union)
 - (d) Exchange and use of software and equipment (document to be prepared by the Office of the Union and documents invited)
6. Cooperation in examination (document to be prepared by the Office of the Union)
7. Information required to enhance the use of existing DUS test reports (document to be prepared by New Zealand and documents invited)
8. Increasing participation in the work of the TC and the TWPs (document to be prepared by the Office of the Union)
9. Disease resistance in ornamental crops (document to be prepared by the Netherlands)
10. New issues arising for DUS examination (documents invited)
11. Molecular techniques (document to be prepared by the Office of the Union)
12. Variety denominations (document to be prepared by the Office of the Union and documents invited)
13. Report on court cases dealing with technical matters (document invited)
14. Experiences with new types and species (oral reports invited)
15. Ornamental varieties of agricultural, fruit or vegetable crops (document to be prepared by France, the United Kingdom and documents invited)
16. Using Test Guidelines for hybrids of ornamental plants not covered by Test Guidelines (documents to be prepared by the European Union and Germany and documents invited)
17. Test Guidelines
 - (i) Guidance for drafters of Test Guidelines (document to be prepared by the Office of the Union)
 - (ii) Revision of Test Guidelines (documents to be prepared by the Office of the Union)
 - (iii) Matters to be resolved concerning Test Guidelines adopted by the Technical Committee (if applicable)

- (iv) Discussion on draft Test Guidelines (Subgroups)
- (v) Recommendations on draft Test Guidelines
- 18. Date and place of the next session
- 19. Future program
- 20. Adoption of the Report on the session (if time permits)
- 21. Closing of the session

[Annex IV follows]

FIFTY-SIXTH 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-sixth session by electronic means, from April 18 to 22, 2022, under the chairmanship of Ms. Marian van Leeuwen (Netherlands). The report of the session is provided in document TWV/56/22 "Report".
2. The session was attended by 97 participants from 34 members of the Union, one observer State and three observer organizations.
3. The TWV agreed to revise document UPOV/INF/23 "Guide to the UPOV Code System" to clarify the maximum number of characters to be used in the appended element to UPOV codes, as set out in document TWP/6/1, paragraph 13.
4. The TWV considered the proposal to amend document TGP/7 to remove the requirement to provide example varieties for asterisked quantitative characteristics if illustrations are provided, as set out in document TWP/6/1, paragraphs 18 and 19. It agreed that example varieties should continue to be provided for asterisked quantitative characteristics for vegetable crops and that example varieties could be easily provided for vegetable crops and were useful for harmonizing DUS examination and producing variety descriptions. The TWV recalled that guidance in document TGP/7 required example varieties for three or two states of expression, according to the scale of notes used.
5. The TWV agreed to revise document TGP/7 "Development of Test Guidelines" to indicate characteristics in the table of characteristics and technical questionnaire used as grouping characteristics, as set out in document TWP/6/1, paragraph 22.
6. The TWV agreed to amend document TGP/7 "Development of Test Guidelines" to convert the standard wording in the Test Guidelines template, paragraph 4.2.2, into additional standard wording (optional), as set out in document TWP/6/1, paragraph 25.
7. The TWV considered whether to revise the states of expression in the example characteristic in document TGP/12/2, Section 2.3.2, to address the use of the word "highly" in only one state of expression. The TWV noted that the scale "susceptible; intermediately resistant; and highly resistant" had been previously used in the Test Guidelines for Cucumber, Lettuce and Melon and was commonly used in the vegetable sector. The TWV discussed how to apply general UPOV guidance for drafting disease resistance characteristics and agreed there was no consensus to amend guidance in document TGP/12 to delete the word "highly" from state of expression "highly resistant".
8. The TWV agreed to invite the experts from France and the Netherlands to propose draft guidance explaining the particular features of disease resistance characteristics that require special treatment in relation to general UPOV guidance, to be presented to the TWV, at its fifty-seventh session. The draft guidance should address matters such as establishing clear distinctness for quantitative disease resistance characteristics on the basis of a difference of one note between varieties; and explore possibilities for correlating the scales of UPOV characteristics with those used by phytopathologists for variety descriptions (e.g.: UPOV "Resistant" = phytopathology "Highly Resistant").
9. The TWV, having noted presentations on Use of variety groups in the UPOV system, agreed that variety groups should be used to replace complex infraspecific botanical names, such as for *Beta vulgaris*, *Brassica oleracea* and *Cichorium intybus*. The TWV agreed to invite the Netherlands to further develop the proposal to create variety groups for *B. vulgaris*, *B. oleracea* and *C. intybus*, to be presented at the fifty-seventh session of the TWV.
10. The TWV agreed to invite the Office of the Union to develop proposals for revising the UPOV codes with appended information according to the approach to use variety groups for complex botanical names, to be presented at the fifty-seventh session of the TWV.
11. The TWV recalled that, at its fifty-fourth session, it had noted that approximately 1200 varieties with UPOV code CICHO_INT in the PLUTO database could not be allocated with certainty to any variety group.

The TWV agreed to invite contributors to the PLUTO database to further precise whether the varieties belonged to the groups “forage-”, “industrial-”, “leaf-” or “witloof-chicory”.

12. The TWV noted that a number of UPOV members published variety descriptions and/or provided information on protected varieties. The TWV agreed with the TWF, that the Office of the Union should be invited to check whether the information on webpages with variety descriptions could be made available on the UPOV website.

13. The TWV considered document TWV/56/4 and the changes proposed to variety denomination classes for *Brassica* and creation of new classes within *Allium* and *Prunus*, as presented by an expert from the Czech Republic. It considered the different species within the proposed classes for *Allium* and *Brassica* and agreed that further discussion was required. The TWV agreed that *Allium* species used as vegetable crops should be individually listed to create a separate denomination class from other species used as ornamental plants and agreed to invite the experts from the Czech Republic and the Netherlands to develop a new proposal to amend the denomination classes for *Allium* and *Brassica*, to be presented to the TWV at its fifty-seventh session.

14. The TWV received a presentation on “International harmonization and validation of a SNP set for the management of tomato reference collection” by an expert from the Netherlands. The TWV discussed the process of authorization from breeders for using varieties in the project and noted the importance of the agreement established to regulate access to genetic information from varieties and confidentiality aspects.

15. The TWV discussed 14 draft Test Guidelines and agreed that the draft Test Guidelines for Garden Rocket (partial revision), Garlic (partial revision), Kohlrabi (partial revision), Leaf Chicory (partial revision), Pea (partial revision), Spinach (partial revision), Tomato Rootstocks (partial revision), and Wild Rocket (partial revision) should be submitted to the TC for adoption.

16. The TWV agreed to discuss the draft Test Guidelines for Chinese Cabbage (revision), Egg plant (revision), Kale (revision), Parsley, Pepper (revision), Tomato (revision), Brussels Sprouts (partial revision), Cabbage (partial revision), Cauliflower (partial revision), Cornsalad (partial revision), Industrial Chicory (partial revision), Kohlrabi (partial revision), Lettuce (partial revision), Melon (partial revision), Pea (partial revision), Radish/Black Radish (partial revision), Spinach (partial revision), Swede/Rutabaga (partial revision), Vegetable Marrow, Squash (partial revision) and Watermelon (partial revision) at its fifty-seventh session.

17. At the invitation of Turkey, the TWV agreed to hold its fifty-seventh session in Antalya, Turkey, from May 1 to 5, 2023.

18. 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 3, 2023.

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

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV (report by the Office of the Union)
4. Molecular Techniques
 - (a) Developments in UPOV (document to be prepared by the Office of the Union)
 - (b) Presentation on the use of molecular techniques in DUS examination (presentations invited)
5. Development of guidance and information materials (documents to be prepared by the Office of the Union)
6. Possible use of COYU Splines for vegetable crops (document and presentation to be prepared by the United Kingdom)
7. Variety denominations (document to be prepared by the Office of the Union)
8. Replacing botanical nomenclature by variety groups (document to be prepared by the Netherlands)
9. Information and databases
 - (a) UPOV information databases (document to be prepared by the Office of the Union)

- (b) Variety description databases (document to be prepared by the Office of the Union and presentations invited)
- (c) Exchange and use of software and equipment (document to be prepared by the Office of the Union)
- (d) UPOV PRISMA (document to be prepared by the Office of the Union)
- 10. Image analysis of vegetable crops (document to be prepared by China and documents invited)
- 11. Experiences with new types and species (oral reports invited)
- 12. New issues arising for DUS examination (presentations invited)
- 13. Revision of Test guidelines (document to be prepared by the Office of the Union, and documents invited)
- 14. Assessing distinctness in disease resistance characteristics and correlation among scales of notes (document to be prepared by France and Netherlands and documents invited)
- 15. Use of disease resistance characteristics (presentations invited from France and presentations invited)
- 16. Matters to be resolved concerning Test Guidelines put forward for adoption by the Technical Committee (if appropriate)
- 17. Discussions on draft Test Guidelines (Subgroups)
- 18. Recommendations on draft Test Guidelines
- 19. Guidance for drafters of Test Guidelines
- 20. Date and place of the next session
- 21. Future program
- 22. Report on the session (if time permits)
- 23. Closing of the session

[End of Annex IV and of document]