

**Technical Committee****TC/57/INF/9.****Fifty-Seventh Session  
Geneva, October 25 and 26, 2021****Original:** English  
**Date:** September 21, 2021

---

**PROGRESS REPORTS ON THE WORK OF THE TECHNICAL WORKING PARTIES INCLUDING THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR (BMT)***Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*

1. The purpose of this document is to present the reports from the chairpersons 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), at their sessions in 2021.

2. The reports from the chairperson of the Technical Working Party on Automation and Computer Programs (TWC) and the Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular (BMT) will be presented in an addendum to this document.

3. The structure of this document is as follows:

Annex I	Technical Working Party for Agricultural Crops (TWA)
Annex II	Technical Working Party for Fruit Crops (TWF)
Annex III	Technical Working Party for Ornamental Plants and Forest Trees (TWO)
Annex IV	Technical Working Party for Vegetable Crops (TWV)

[Annex I follows]

## ANNEX I

## FIFTIETH SESSION OF THE TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS (TWA)

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

The TWA held its fiftieth session, hosted by the United Republic of Tanzania and organized via electronic means, from June 21 to 25, 2021, under the chairmanship of Ms. Renée Cloutier (Canada). The report of the session is provided in document TWA/50/9 "Report".

The session was attended by 142 participants from 35 members of the Union, three observer States and four observer organizations.

The TWA was welcomed by Mr. Twalib Mustafa Njohole, Registrar of Plant Breeders' Rights, Ministry of Agriculture. A copy of the welcome address is provided in document TWA/50/9 "Report", Annex II.

The TWA considered the proposal to revise document TGP/5, Section 6 "UPOV Report on Technical Examination and UPOV Variety Description" to include additional information in DUS test reports. The TWA agreed with the TWV and TWO that the proposed additional information was not useful for individual DUS test reports and presented practical difficulties for reporting authorities. The TWA agreed with the TWO that authorities should communicate with regard to varieties for inclusion in trials before commissioning examination, or request further information for particular cases.

The TWA considered the proposed revision of document TGP/8, Section 9 "The Combined-Over-Years Uniformity Criterion (COYU) and noted that evaluation versions of software for COYU Splines in both "R" and DUSTNT software would be released in 2021. The TWA agreed to invite the experts from the United Kingdom and France to make a presentation and report developments at its fifty-first session.

For the new proposal for the relevant of document TGP/7 "Development of Test Guidelines", the TWA considered the Test Guidelines for Rape Seed and Sunflower and noted that only seed-propagated varieties existed for these crops. The TWA agreed that the following standard wording in the "Uniformity" chapter of Test Guidelines was not appropriate in such cases:

"4.2.2 These Test Guidelines have been developed for the examination of [type or types of propagation] varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species", Section 4.5: "Testing Uniformity" should be followed."

The TWA proposed deleting the standard wording in paragraph 4.2.2 from the Test Guidelines for Rape Seed and Sunflower and to convert the standard wording in paragraph 4.2.2 into additional standard wording (ASW) in document TGP/7 "Development of Test Guidelines".

In regards to Variety Denominations, the TWA agreed to propose the revision of the list of classes in document UPOV/INF/12/5 "Explanatory Notes on Variety Denominations under the UPOV Convention", Annex I (Part II: Classes encompassing more than one genus) to include the genus *xTrittrigia* in variety denomination Class 201.

The TWA agreed to amend the UPOV code system to provide information on variety types, groups and denomination class, as set out in document UPOV/INF/23/1 Draft 2 and proposed to consider a limit to the number of characters used in the appended element, to avoid unnecessarily long extensions.

The TWA agreed with the proposal to amend the UPOV codes for *Beta vulgaris* subsp. *vulgaris*, as reproduced in document TWP/5/4, Annex I to establish the following groups:

- |                        |                    |                               |
|------------------------|--------------------|-------------------------------|
| (i) Fodder beet group: | Class 2.1 ("21FB") | UPOV code: BETAA_VUL_VUL_21FB |
| (ii) Sugar beet group: | Class 2.1 ("21SB") | UPOV code: BETAA_VUL_VUL_21SB |
| (iii) Beetroot group:  | Class 2.2 ("22BR") | UPOV code: BETAA_VUL_VUL_22BR |
| (iv) Leaf beet group:  | Class 2.2 ("22LB") | UPOV code: BETAA_VUL_VUL_22LB |

The TWA agreed that the UPOV code for Durango teosinte should not be changed and should remain as ZEAAA\_MAY\_MEX.

The TWA agreed with the proposal to delete the UPOV Codes ZEAAA\_MAY\_SAC, ZEAAA\_MAY\_EVE and ZEAAA\_MAY\_MIC, that would be covered by the UPOV code ZEAAA\_MAY\_MAY, as presented in document TWP/5/4, paragraph 71, to establish the following variety types or groups:

- (a) Corn; Maize: "1MA" (UPOV code ZEAAA\_MAY\_MAY\_1MA);
- (b) Sweet Corn: "2SW" (UPOV code ZEAAA\_MAY\_MAY\_2SW);
- (c) Popcorn: "3PO" (UPOV code ZEAAA\_MAY\_MAY\_3PO).

The TWA received a presentation on "Integration of molecular data into DUS testing in Durum Wheat" by an expert from Austria and agreed to invite the expert to report further developments at its fifty-first session.

The TWA considered the proposals for partial revisions of the Test Guidelines for Maize, Wheat and Hemp to include characteristics from the table of characteristics in the technical questionnaire (TQ) of the Test Guidelines, as set out in document TWP/5/13, paragraph 17 and Annexes I, XI and XII and agreed not to consider the addition of asterisks where the proposed TQ characteristics did not currently have an asterisk in the table of characteristics. The TWA agreed to consider this matter further at the next full revision of the Test Guidelines concerned.

The TWA agreed to propose the partial revision of the Test Guidelines for Hemp (document TG/276/1) to include in the TQ the characteristics proposed in document TWP/5/13, paragraph 17 and Annex XII.

The TWA agreed that further discussion was required on partial revision of the Test Guidelines for Maize and Wheat and agreed to invite experts that had submitted proposals for Wheat (CZ, DK, GB, IL, JP, MD, QZ, SK, UA) to meet by December 2021, along with any other interested experts (see Annex IV). The TWA agreed to invite the United Kingdom to act as leading expert and present a proposal for partial revision of the Test Guidelines for Wheat at the fifty-first sessions of the TWA.

The TWA noted that the TWV had formed a subgroup of experts to discuss the partial revision of the Test Guidelines for Maize (see document TWV/55/16 "Report", paragraph 110) and agreed to propose that the TWA experts (CZ, DK, GB, IL, JP, MD, QZ, SK, UA and any other interested experts, see Annex IV) join the TWV group. The TWA agreed to invite the European Union to act as leading expert and present a proposal for partial revision of the Test Guidelines for Maize at the fifty-first sessions of the TWA.

The TWA agreed that experts discussing the partial revision of the Test Guidelines for Maize and Wheat should consider whether guidance in document TGP/7 "Development of Test Guidelines" concerning the relationship between asterisks in the Test Guidelines and TQ characteristics should be revised. Any proposals should be presented to the TWA at its fifty-first session.

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 for Soybeans, Potato, Oilseed Rape, Hemp, Faba Bean and Wheat. The TWA agreed to invite presentations to be made at its fifty-first session on biochemical and molecular techniques in the different crops discussed.

In regards to the use of molecular techniques in DUS examination, the TWA considered a proposal to revise document TGP/5, Section 3: Model Application Form, to include a request for confidentiality of molecular information of candidate varieties as follows:

*"I/We request that molecular information pertaining to the variety remains confidential and exchange to another UPOV member or examination office is subject to approval by the applicant."*

The TWA noted the importance of confidentiality of molecular information for breeders and agreed that further discussion would be required on the topic. The TWA noted that confidentiality of molecular information could be subject to legislation in different UPOV members and agreed to invite presentations at its fifty-first session.

In regards to New technologies in DUS examination, the TWA received the following presentations, on "Using new technology in DUS-testing", from an expert from Denmark and "Image Analysis in United Kingdom Agricultural DUS testing", from an expert from the United Kingdom and agreed to invite the experts from Denmark and the United Kingdom to report developments at its fifty-first session.

The TWA discussed seven draft Test Guidelines and agreed that the draft Test Guidelines for Hemp (partial revision) should be submitted to the TC for adoption.

The TWA agreed to discuss the draft Test Guidelines Cocksfoot (revision), Couch Grass/Bermuda Grass, Hemp (revision), Potato (revision), Rape Seed (revision), Soya Bean (revision), Sugarcane (revision), Sunflower (revision), Zoysia Grasses, Maize (partial revision), Rye (partial revision) and Wheat (partial revision) at its fifty-first session.

The TWA noted that no invitations for the venue of its fifty-first 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-fifth session, to be held on October 29, 2021.

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-fifth session of the Council, the offer could be considered by the Council at its fifty-fifth session.

The TWA agreed that its fifty-first session should be held via electronic means, from May 23 to 27, 2022, if no alternative offer was received from a member of the Union.

The TWA agreed that documents for its fifty-fifth session should be submitted to the Office of the Union by March 25, 2022. 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.

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 (presentations from France and 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, France and presentations invited)
9. New technologies in DUS examination (documents to be prepared by Denmark, United Kingdom and documents invited)
10. Big data platform for DUS examination (document to be prepared by China)
11. Examining hybrid varieties (document to be prepared by United Kingdom and documents invited)
12. Cooperation in examination (document to be prepared by the Office of the Union)
13. Increasing participation in the work of the TC and the TWPs
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]

## ANNEX II

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

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

The TWF held its fifty-second session, hosted by China and organized by electronic means, from July 12 to 16, 2021, under the chairmanship of Mr. Chris Barnaby (New Zealand). The report of the session is provided in document TWF/52/10 "Report".

The session was attended by 109 participants from 29 members of the Union, one observer State and two observer organizations.

The TWF was welcomed by Mr. Xinming Zhang, Division Director of PVP, Development Center of Science and Technology, Ministry of Agriculture and Rural Affairs. A copy of the presentation is provided in document TWF/52/10 "Report", Annex II.

The TWF held a discussion session to allow participants to exchange information on their work on biochemical and molecular techniques and explore areas for cooperation for Apple, Strawberry and Peach. The TWF agreed to invite the experts from the European Union and France to make presentations on the use of molecular techniques in DUS examination of apple varieties, at its fifty-third session.

The TWF received a presentation on "Confidentiality & Ownership of Molecular Information" from the representative of 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 (CIOPORA), CropLife International, Euroseeds, the International Seed Federation (ISF) and the Seed Association of the Americas (SAA). The TWF noted that the matter of confidentiality and ownership of molecular information had not been considered in any detail in the fruit sector and agreed that further discussion was required. The TWF agreed to invite presentations from members and observers on this topic under the agenda item "Presentation on the use of molecular techniques in DUS examination" at its fifty-third session.

The TWF considered the proposal to revise document TGP/5, Section 6 "UPOV Report on Technical Examination and UPOV Variety Description" to include additional information in DUS test reports. The proposed additional information was not useful for individual DUS test reports and presented practical difficulties for reporting authorities; however the TWF agreed that authorities providing DUS test reports should provide information on the most similar variety, as far as possible, in accordance with guidance in the UPOV variety description (document TGP/5 Section 6). The TWF agreed to invite the expert from New Zealand to make a presentation at its fifty-third session, on what should be required as information to enhance the use of existing DUS test reports.

The TWF agreed to amend the UPOV code CITRU\_AUM, following the reclassification of *Citrus clementina* hort. ex Tanaka (UPOV code: CITRU\_CLE) as a synonym of *Citrus aurantium* L. (UPOV code: CITRU\_AUM), as set out in document TWP/5/4, Annex II. The TWF also agreed to propose the partial revision of the Test Guidelines for *Citrus* to move relevant botanical names from the "principle botanical names" box to the "alternative botanical names" box.

The TWF considered document TWF/52/5 and received a presentation on "DUS Access to plant material for the purpose of management of variety collections and DUS examination - The CPVO policy" by an expert from the European Union. The presentation provided a basis for further discussion and the expert from the European Union, with the support of Brazil, Canada, France, Italy, Netherlands, New Zealand and Spain was invited to draft a proposal for model letters/contracts to be used for the submission of plant material to the PVP Authority and/or DUS Examination Offices. This draft would be presented at the fifty-third session, as a basis for possible future revisions of UPOV Guidance (e.g. TGP/5, Section 11 "Examples of Policies and Contracts for Material Submitted by the Breeder") to help other UPOV members to facilitate access to plant material for the purpose of management of variety collections and DUS examination.

The TWF considered document TWF/52/6 and received a presentation on "DUS examination of mutant varieties of apple" by an expert from the European Union. The TWF agreed that the work done by the expert from the European Union, to collect information among UPOV members on applications under analysis and existing varieties for certain apple mutation groups was important and should be continued. The TWF considered the potential confidentiality issue of disclosing the parentage of a protected variety when exchanging data among PVP Offices and/or making data publically available. The TWF agreed to invite the expert from Canada with the support of Australia, Brazil, European Union, France, Germany and Japan to

identify potential confidentiality limitations and to share its findings with the TWF via a presentation at its fifty-third session. The TWF also agreed to invite the above group of experts to consider how the information on applications under analysis and existing varieties for certain apple mutation groups should be made available.

The TWF received a presentation on the “Number of plants of reference variety”, by an expert from the European Union and agreed to invite the expert from the European Union, with the support of Brazil, to draft a proposal on possible changes in document TGP/9/2 paragraph 5.5.5, to be presented at its fifty-third session.

The TWF discussed nine draft Test Guidelines and agreed that the draft Test Guidelines for Apricot (revision), Actinidia (partial revision), Japanese Plum (partial revision), Peach (partial revision) and Prunus Rootstocks (partial revision) should be submitted to the TC for adoption.

The TWF noted that the discussion of the draft Test Guidelines for Guava had been withdrawn from the agenda due to unavailability of the Leading Expert, Ms. Ling Gao (China).

The TWF agreed to discuss the draft Test Guidelines for Apple (fruit varieties) (revision), Date Palm, Grapevine (revision), Guava (revision), Goji, Hazelnut (revision), Lemon (revision), Mandarin (revision), Mulberry, Raspberry (revision), Sour Cherry (revision), Strawberry (revision), Sweet Cherry (revision), Trifoliate Orange (revision), Oranges (partial revision), Pummelo and Grapefruit (partial revision) and Walnut (partial revision) at its fifty-third session.

The TWF noted that no invitations for the venue of its fifty-third session had been received. The TWF noted that a decision on the date and place of its next session would be taken by the Council, at its fifty-fifth session, to be held on October 29, 2021.

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

The TWF agreed that its fifty-third session should be held via electronic means, from July 11 to 15, 2022, if no alternative offer was received from a member of the Union.

The TWF agreed that documents for its fifty-third session should be submitted to the Office of the Union by March 25, 2022. 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.

The TWF proposed to discuss the following items at its fifty-third 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 (document to be prepared by the Office of the Union)
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)
  - (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)
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 presentations 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 and others presentations invited from members of the Union)
  11. DUS examination of mutant varieties of apple (document and presentation to be prepared by the European Union and Canada)
  12. Matters relevant in DUS examination for the fruit sector (presentations invited from the European Union and Brazil and other presentations invited from members and observers)
  13. Assessing characteristics on the basis of measurements of individual plants or parts of plants for small samples (presentations invited from France and other members of the Union)
  14. The assessment of color in fruit crops (presentations to be prepared by New Zealand)
  15. Guidance for drafters of Test Guidelines
  16. Matters to be resolved concerning Test Guidelines put forward for adoption by the Technical Committee (if appropriate)
  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 of the session (if time permits)
  22. Closing of the session

[Annex III follows]



## ANNEX III

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

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

The TWO held its fifty-third session, hosted by the Netherlands and organized by electronic means, from June 7 to 11, 2021, under the chairmanship of Ms. Ashley Balchin (Canada). The report of the session is provided in document TWO/53/10 "Report".

The session was attended by 96 participants from 25 members of the Union, one observer State and 2 observer organizations.

The TWO was welcomed by Mr. Marien Valstar, Senior Policy Officer, Seeds and Plant Propagation Material, Ministry of Agriculture, Nature and Food Quality, DG AGRO, the Netherlands.

The TWO was also welcomed by Mr. Bert Scholte, Head of Variety Testing Department, Naktuinbouw. Mr. Scholte recalled that a presentation on plant variety protection in the Netherlands had been made at the opening of the fifty-second session of the TWO, hosted by the Netherlands and organized by electronic means, in 2020. A copy of the presentation was provided in document TWO/52/11 "Report", Annex III.

The TWO agreed to amend document TGP/5 Section 6, chapters "UPOV Report on Technical Examination" and "UPOV Variety Description", as set out in document TWP/5/14. The TWO agreed that the term "testing facility" could better describe the situation when the authority utilizes breeders' premises or other areas, in addition to officially run testing stations. The TWO agreed that the term "location" would not change the current requirement of providing the locality where examination was conducted.

The TWO considered the proposal to revise document TGP/5, Section 6 "UPOV Report on Technical Examination and UPOV Variety Description" to include additional information in DUS test reports. The TWO agreed with the TWV that the proposed additional information was not useful for individual DUS test reports and presented practical difficulties for reporting authorities. The TWO considered whether alternative approaches to provide the desired information might be appropriate. The TWO agreed that authorities should communicate regarding varieties for inclusion in trials before commissioning examination or request further information for particular cases.

The TWO received a presentation on "Providing information on similar varieties in the UPOV model variety description" by an expert from the European Union. A copy of the presentation is provided in document TWO/53/6. The TWO agreed that the most distinguishing characteristics between the candidate and most similar variety(ies) should be provided in the DUS test report. The TWO agreed that no further clarification would need to be provided in UPOV guidance on this matter at this stage.

The TWO agreed with the proposal for amending the UPOV code system to provide information on variety types, groups and denomination class, as set out in document UPOV/INF/23/1 Draft 2. The TWO noted that none of the proposals to append information to UPOV codes in document TWP/5/4 related to ornamental plants and forest trees. The TWO agreed that the creation of variety types or groups for ornamental plants should be considered on a crop-by-crop basis and preferably on the basis of morphological characteristics rather than variety use.

The TWO discussed the use of example varieties for asterisked quantitative characteristics when illustrations are provided. The TWO noted that current guidance in document TGP/7 GN28 paragraph 1.3 (iii) and paragraph 1.4 reads as follows:

"If a characteristic is important for the international harmonization of variety descriptions (asterisked characteristics) and is influenced by the environment (most quantitative and pseudo-qualitative characteristics) or example varieties are necessary for illustration of the characteristic (see Section 3.1) it is necessary to provide example varieties."

The TWO recalled that the flow diagram established that example varieties were not required for quantitative characteristics which were observed in a controlled environment and where an illustration was provided. The TWO recalled that guidance in document TGP/7 GN28 paragraph 4.1 established the following:

"Although example varieties have the benefit of enabling examiners to see a characteristic in "real life", in many cases the illustration of a characteristic by photographs or drawings (to be provided in chapter 8 of the

Test Guidelines) may provide a clearer illustration of the characteristic. Furthermore, the difficulty in selecting suitable example varieties, which satisfy all the requirements in Section 4.2 below, means that photographs or drawings are an important alternative or addition to example varieties as a means of illustrating characteristics."

The TWO agreed that most quantitative and pseudo-qualitative characteristics in ornamental Test Guidelines could be illustrated by drawings or photographs and only a few required example varieties, such as height, length, width and diameter. The TWO agreed to propose amending document TGP/7 GN 28, paragraph 1.3 (iii) to read as follows:

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 3.1) it is necessary to provide example varieties."

The TWO considered the proposal for partial revision of the Test Guidelines for Rose, as set out in document TWP/5/13, paragraph 17 and Annex X. The TWO noted that the proposal added 21 to the current six characteristics in the Technical Questionnaire of the Test Guidelines. The TWO agreed not to consider the addition of asterisks where the proposed TQ characteristics did not currently have an asterisk in the table of characteristics. The TWO agreed that this matter should be considered at the next full revision of the Test Guidelines for Rose. The TWO agreed there was a need for further discussing the proposal for partial revision of the Test Guidelines for Rose. The TWO agreed to invite the experts that had submitted proposals (GB, JP, NZ, QZ), and other interested experts (CA, DE, NL) to organize a meeting by December 2021 to define the characteristics to be proposed for inclusion in the Technical Questionnaire. The TWO agreed to invite the expert from the European Union to coordinate discussions and report conclusions from discussions at the fifty-fourth session of the TWO, including any elements of document TGP/7 that might need revising.

The TWO discussed 12 draft Test Guidelines and agreed that the draft Test Guidelines for Berberis (revision), Echinacea (revision), Eustoma (revision), Zinnia (revision) should be submitted to the TC for adoption.

The TWO agreed to discuss the draft Test Guidelines for Amaryllis (revision), Anthurium (revision), Lavender (revision), Ling/Scots Heather (revision), Magnolia, *Oxypetalum coeruleum* (D. Don) Decne, Poinsettia (revision), Statice (revision) and Weigela (revision) at its fifty-fourth session.

At the invitation of Germany, the TWO agreed to hold its fifty-fourth session in Hanover, Germany, from June 13 to 17, 2022.

The TWO agreed that documents for its fifty-fourth session should be submitted to the Office of the Union by April 29, 2022. 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.

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)
6. Increasing participation in the work of the TC and the TWPs (document to be prepared by the Office of the Union)

7. Cooperation in examination (document to be prepared by the Office of the Union)
8. Disease resistance in ornamental crops (document to be prepared by the Netherlands)
9. Possible developments to enable UPOV Codes to provide information on variety groups (document to be prepared by the European Union)
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)
13. Report on court cases dealing with technical matters (document invited)
14. Experiences with new types and species (oral reports invited)
15. Test Guidelines
  - (i) Guidance for drafters of Test Guidelines
  - (ii) Revision of Test Guidelines (documents to be prepared by the Office of the Union)
  - (iii) Partial revision of the Test Guidelines for Rose (Technical Questionnaire characteristics) (document to be prepared by the European Union)
  - (iv) Matters to be resolved concerning Test Guidelines adopted by the Technical Committee
  - (v) Discussion on draft Test Guidelines (Subgroups)
  - (vi) Recommendations on draft Test Guidelines
16. Date and place of the next session
17. Future program
18. Adoption of the Report on the session (if time permits)
19. Closing of the session

[Annex IV follows]

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

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

The TWV held its fifty-fifth session, hosted by Turkey and organized by electronic means, from May 3 to 7, 2021, under the chairmanship of Ms. Marian van Leeuwen (Netherlands). The report of the session is provided in document TWV/55/16 "Report".

The session was attended by 100 participants from 28 members of the Union and three observer organizations.

The TWV was welcomed in a video message by Ms. Ayse Aysin Isikgece, Deputy Minister, Minister of Agriculture and Forestry.

The TWV received a video presentation on plant variety protection in Turkey.

The TWV considered the proposal to add additional information in DUS test reports (revision of document TGP/5, Section 6). The TWV agreed that the proposed additional information was not useful for individual DUS test reports and presented practical difficulties for reporting authorities. The TWV agreed that the proposed additional information should be provided through other means.

The TWV recalled discussions at its fifty-fourth session on the naming of the intermediate state of expression in disease resistance characteristics. The invitation for the experts from France and the Netherlands to present their current practice on using quantitative disease resistance characteristics (with intermediate state of expression) at its fifty-sixth session was also recalled.

The TWV agreed to propose that non-asterisked disease resistance characteristics should be presented in Section 5 of Technical Questionnaires with the addition of a state of expression "not tested".

The TWV received a presentation on "Harmorescoll - Towards a European, harmonized collection of reference material for DUS resistance tests" by an expert from France. Members outside the European Union expressed their interest in accessing material from Harmorescoll.

The TWV agreed that access to reference materials and availability of control varieties was key when performing DUS tests of disease resistance characteristics. It further agreed that, when revising or drafting Test Guidelines, the availability of inoculum, example varieties and control varieties for disease resistance characteristics should be checked and updated.

The TWV formed a discussion group to allow participants to exchange information on their work on biochemical and molecular techniques and explore areas for cooperation. Tomato, lettuce and pepper were discussed during the discussion group.

The TWV received a presentation on "Confidentiality & Ownership of Molecular Information" by an expert 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 (CIOPORA), CropLife International, Euroseeds, the International Seed Federation (ISF) and the Seed Association of the Americas (SAA). In the presentation, a proposal was presented for document TGP/5, Section 3: "UPOV Model Application Form", to include a request for confidentiality of molecular information of candidate varieties as follows: *"I/We request that molecular information pertaining to the variety remains confidential and exchange to another UPOV member or examination office is subject to approval by the applicant."*

The TWV agreed to request information on whether the proposal could prevent the authority receiving an application from obtaining molecular information from the candidate variety for DUS purposes and whether the proposal was only aimed at preventing the receiving authority from passing on molecular information of the variety to other authorities without approval by the applicant.

The TWV agreed with the proposal for amending the UPOV code system to provide information on variety types, groups and denomination class. The TWV agreed to append information on denomination classes to UPOV codes for *Beta vulgaris* subsp. *vulgaris* to establish the following groups:

- (i) Fodder beet group: Class 2.1 ("21FB"),
- (ii) Sugar beet group: Class 2.1 ("21SB"),
- (iii) Beetroot group: Class 2.2 ("22BR"),
- (iv) Leaf beet group: Class 2.2 ("22LB").

The TWV agreed to append information to the UPOV code for *Brassica oleracea* L. var. *capitata* L. (BRASS\_OLE\_GC) to create variety groups or types for White and Red Cabbage, as follows:

- White Cabbage: 1W (e.g. BRASS\_OLE\_GC\_1W)
- Red Cabbage: 2R (e.g. BRASS\_OLE\_GC\_2R)

The TWV considered the proposal from the Netherlands to replace mentions to the botanical nomenclature of *Brassica oleracea* by the respective group type. The TWV agreed to invite the Netherlands to make a presentation at its fifty-sixth session to consider the proposal further.

The TWV agreed with the proposal to delete the UPOV Codes ZEAAA\_MAY\_SAC, ZEAAA\_MAY\_EVE and ZEAAA\_MAY\_MIC, that would be covered by the UPOV code ZEAAA\_MAY\_MAY. It further agreed to append information on variety types or groups to the UPOV code ZEAAA\_MAY\_MAY to establish the following variety types or groups:

- (a) Corn; Maize: "1MA" (e.g. ZEAAA\_MAY\_MAY\_1MA);
- (b) Sweet Corn: "2SW" (e.g. ZEAAA\_MAY\_MAY\_2SW);
- (c) Popcorn: "3PO" (e.g. ZEAAA\_MAY\_MAY\_3PO).

The TWV agreed that the UPOV code for Durango teosinte should not be changed and should remain as ZEAAA\_MAY\_MEX.

The TWV considered the proposal from the Netherlands to append information to the UPOV code for *Cichorium intybus* to create the following variety groups: "leaf chicory group"; "industrial/large-rooted chicory group"; and "witloof chicory group". Approximately 1200 varieties with UPOV code Cicho\_INT in the PLUTO database cannot not be allocated with certainty to either one of the variety groups (see document TWV/54/9 "Report", paragraph 66). The TWV agreed to invite the Netherlands to make a presentation on the proposal to create variety groups for *Cichorium intybus* for consideration at its fifty-sixth session.

The TWV welcomed the work done in relation to the constitution of variety description databases for managing reference collections and invited participating authorities to share knowledge and information in order to build harmonized and reliable variety description databases. It further welcomed the proposal made by an expert from the Netherlands to make a presentation, at the fifty-sixth session of the TWV, on the collection of variety descriptions that would be publicly available for further use.

The TWV noted the increased participation in the TWPs in 2020 and agreed that it would be relevant to continue investigating possibilities to further increase the number of participating members in the technical work of UPOV, such as increasing the number of opportunities for interaction and exchange of information.

The TWV considered the possible measures for physical and virtual participation at TWP meetings. The proposals to encourage participation in TWPs and TC were all supported and remarks were made, especially on the proposal to organize Test Guidelines subgroup discussions by electronic means prior to the TWPs instead of during the TWPs. Other remarks concerned deadlines, the combination in time and/or location of physical and virtual participation, effectiveness, and the value of live sessions.

The TWV considered the proposals for partial revisions of the TQs of the Test Guidelines for Maize, Carrot, Spinach, Cucumber, Melon, Squash, Watermelon and Tomato Rootstocks. It agreed not to consider the addition of asterisks where the proposed new TQ characteristics do not currently have an asterisk in the table of characteristics and to consider that matter further at the next full revision of the Test Guidelines concerned.

The TWV agreed a proposal from CPVO to add new characteristics to the Technical Questionnaire of the crops concerned should be considered at its fifty-sixth session. The TWV agreed to invite the expert from the European Union to report further developments on the "Project for harmonization of TQs to harmonize Technical Questionnaires in the European Union" at its fifty-sixth session. It also agreed the need for further discussions on the other proposals received for partial revisions at its fifty-sixth session.

The TWV agreed to invite the experts that had submitted proposals (CZ, GB, IL, JP, MD, QZ, UA), and other interested experts (including representatives from the breeders) to organize a meeting by December 2021 to propose characteristics to be included in the Technical Questionnaires. Conclusions from discussions would be reported to the TWV at its fifty-sixth session, including any elements of document TGP/7 that might need to be revised.

The TWV discussed 13 draft Test Guidelines and agreed that the draft Test Guidelines for Turnip (revision), Lettuce (partial revision), Tomato Rootstocks (partial revision), Garden Rocket (partial revision) and Wild Rocket (partial revision) should be submitted to the TC for adoption.

The TWV agreed to discuss the draft Test Guidelines for Chinese Cabbage (revision), Eggplant (revision), Kale (revision), Tomato (revision), Garden Rocket (partial revision), Garlic (partial revision), Kohlrabi (partial revision), Leaf Chicory (partial revision), Melon (partial revision), Pea (partial revision), Spinach (partial revision), Squash (partial revision) and Wild Rocket (partial revision) at its fifty-sixth session.

At the invitation of Turkey, the TWV agreed to hold its fifty-sixth session in Antalya, Turkey, from April 18 to 22, 2022.

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 at least 8 weeks prior to the session.

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 (oral 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 from members of the Union)
5. Development of guidance and information materials
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. 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 from France and the Netherlands)
  - (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)
9. Experiences with new types and species (oral reports invited)
10. Revision of Test guidelines (document to be prepared by the Office of the Union, and documents invited)
11. Replacing botanical nomenclature of *Brassica oleracea* by variety groups (document to be prepared by the Netherlands)
12. New issues arising for DUS examination (presentations invited from members of the Union)
13. Use of disease resistance characteristics (presentations invited from France, the Netherlands and ISF and other members of the Union and observers)
14. Matters to be resolved concerning Test Guidelines put forward for adoption by the Technical Committee (if appropriate)
15. Discussions on draft Test Guidelines (Subgroups)
16. Recommendations on draft Test Guidelines

17. Guidance for drafters of Test Guidelines
18. Date and place of the next session
19. Future program
20. Report on the session (if time permits)
21. Closing of the session

[End of Annex IV and of document]