UPOV

International Union for the Protection of New Varieties of Plants

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Technical Working Party for Ornamental Plants and Forest Trees **TWO/50/14**

Fiftieth Session
Victoria, British Columbia, Canada, September 11 to 15, 2017

Original: English
Date: September 15, 2017

REPORT

adopted by the Technical Working Party for Ornamental Plants and Forest Trees

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Opening of the session

1. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) held its fiftieth session in Victoria, British Columbia, Canada, from September 11 to 15, 2017. The list of participants is reproduced in Annex I to this report.

2. The session was opened by Mr. Kenji Numaguchi (Japan), Chairman of the TWO, who welcomed the participants and thanked Canada for hosting the TWO session.

3. The TWO was welcomed by Mr. Anthony Parker, Commissioner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA).

4. The TWO received a presentation by Mr. Parker on the Canadian ornamental sector and on the Plant Breeders' Rights Office. A copy of the presentation is provided in Annex II to this report.

Adoption of the agenda

5. The TWO adopted the agenda as reproduced in document TWO/50/1 Rev.

Short Reports on Developments in Plant Variety Protection

(a) Reports on developments in plant variety protection from members and observers

6. The TWO noted the information on developments in plant variety protection from members and observers provided in document TWO/50/3 Prov. The TWO noted that reports submitted to the Office of the Union after August 31, 2017, would be included in the final version of document TWO/50/3.

7. The TWO noted the report and presentation prepared by an expert from the Netherlands on “Increasing participation of new members of the Union in the work of the TC and TWPs”, reproduced in document TWP/1/19.

8. The TWO agreed to propose that the Technical Committee (TC) explore possibilities to improve communication as a means of increasing the participation of experts currently not attending TWP sessions, such as the establishment of video-links for the discussion of certain draft Test Guidelines. The TWO agreed to propose that another seminar on DUS examination be held in Geneva to raise awareness of the work of the TC and the TWPs for participants usually attending other meetings of UPOV bodies. The TWO also agreed to propose the allocation of an experienced UPOV member to act as a mentor to new UPOV members.

(b) Reports on developments within UPOV

9. The TWO received a presentation from the Office of the Union on latest developments within UPOV, a copy of which is provided in document TWO/50/2.

Organization of the UPOV sessions

10. The TWO considered document TWP/1/24.

11. The TWO noted that the Council had decided:

(a) to organize a single set of sessions of the bodies that meet in Geneva from 2018, in the period of October/November;

(b) that the Enlarged Editorial Committee (TC-EDC) would meet twice a year, once in the period March/April and once in conjunction with the TC sessions later in the year;

(c) that Test Guidelines that could not be prepared in time for adoption by the TC at its session could be adopted by correspondence on the basis of the recommendations by the TC-EDC;

(d) to adopt the following contingency measures for 2018:

(i) for Test Guidelines proposed for adoption in 2018, to use a procedure for adoption by correspondence as follows:

- Draft Test Guidelines would be prepared as agreed by the TWPs and circulated with the recommendations of the TC-EDC,
- In the absence of any objections the Test Guidelines would be adopted;
- In the case of objections, the objections would be referred to the relevant TWP for consideration at their 2018 session, and the Test Guidelines considered for adoption by the TC at its fifty-fourth session, in 2018,
- TC-EDC to meet on March 26 and 27, 2018, and in conjunction with the TC at its fifty-fourth session, in 2018, if necessary;

(ii) for TGP documents, to invite the TC-EDC to consolidate comments made by the TWPs at their sessions in 2017 and, in the absence of consensus between the TWPs, formulate proposals for further consideration by the TWPs at their sessions in 2018;

(iii) all other matters to be considered at the fifty-fourth session of the TC in 2018 in the normal way.

12. The TWO noted that the TC had agreed to propose that the meetings of the BMT be held on an annual basis.

13. The TWO noted that the TC had agreed to propose that consideration be given to organizing the sessions of the TWC and BMT back-to-back in the same location to facilitate exchange of information.

14. The TWO noted that the TC had agreed that the preparatory workshops in 2018 should be organized on the Monday/Tuesday of the TWPs sessions to encourage participation by all TWP participants.

15. The TWO noted that from 2017, for certain documents, the TWPs would be invited to consider the same document on a particular topic, using a common document code.

TGP documents

16. The TWO considered documents TWP/1/1 Rev. and TWO/50/11.

17. The TWO noted the revisions to documents TGP/7, TGP/8 and TGP/14 agreed by the TC, as set out in document TWP/1/1 Rev., paragraphs 6 to 14 and Annexes I and II.

18. The TWO noted the program for the development of TGP documents, as set out in document TWP/1/1 Rev., Annex III.

TGP/5: Section 1: Model Administrative Agreement for International Cooperation in the Testing of Varieties

Confidentiality of molecular information

19. The TWO considered document TWP/1/9.

20. The TWO considered the proposed guidance on confidentiality of molecular information for inclusion in document TGP/5, Section 1, as set out in document TWP/1/9, paragraph 4, and agreed with the proposal by the TWA and the TWV that Article 4(2) should read as follows:

> "(2) Except with the specific authorization of the Receiving Authority and the applicant, the Executing Authority shall refrain from passing on to a third person any material, including DNA, or molecular information of the varieties for which testing has been requested."

21. The TWO noted that applications for plant variety protection and related information could be subject to freedom of information measures under national legislation in some members.

TGP/7: Development of Test Guidelines

Duration of DUS tests

22. The TWO considered document TWP/1/11.

23. The TWO considered the proposed revision of document TGP/7 to clarify the duration of DUS testing, as set out in document TWP/1/11, paragraph 11.

24. The TWO agreed with the TWA and the TWV that the term "normally" was preferred and should be used throughout the guidance in ASW 2.

25. The TWO agreed with the TWA and the TWV that the current standard wording in Test Guidelines allowed the examination of a candidate variety to be terminated earlier in case the differences observed between varieties were so clear that more than one growing cycle was not necessary.

26. The TWO agreed that it should also be possible to terminate the examination of a candidate variety before the normal duration for reasons other than having achieved a conclusion on DUS examination, such as when there were problems with the plant material submitted.

27. The TWO agreed that the term "growing cycle" was not precise for explaining the duration of DUS examination as it referred primarily to the life cycle of a crop. The TWO agreed to consider the possibility of replacing the term "growing cycle" by "testing cycle" in ASW 2(a) and (b) to clarify that the duration of DUS examination was related to the period of testing of a variety, regardless of the number of life cycles the crop would have completed during DUS examination.

28. The TWO welcomed the offer by an expert from the European Union to propose definitions for growing cycle and testing cycle for ornamental plants to be presented at its next session.

Characteristics which only apply to certain varieties

29. The TWO considered document TWP/1/12.

30. The TWO noted that the scope of some Test Guidelines for ornamental plants covered an entire plant genus and some characteristics would only be applicable to particular groups of crops. The TWO agreed with the TWA and the TWV on the possibility to exclude varieties from observation on the basis of a preceding pseudo-qualitative or quantitative characteristic under particular circumstances, such as the impossibility to describe an organ that was not present in a variety or when variation existed only within a particular group of a crop.

31. The TWO agreed with the TWV that the approach of excluding varieties from observation on the basis of preceding PQ or QN characteristics should be used carefully and based on experience and discussions during the drafting of Test Guidelines, in order to be fully aware on the consequences.

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

The Combined-Over-Years Uniformity Criterion (COYU)

32. The TWO noted the report on developments concerning the improved method of calculation of the Combined-Over-Years Uniformity Criterion (COYU), as set out in document TWP/1/13. The TWO noted that the expert from the United Kingdom would report on the progress of development of probability levels for the improved method of calculation of COYU to the TWC, at its thirty-fifth session.

Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions

33. The TWO considered document TWP/1/15.

34. The TWO considered the updated version of the "Comparison of methods used for producing variety descriptions: Results of the practical exercise" provided by experts from France, as set out in document TWP/1/15, Annex II.

35. The TWO noted that the TC had agreed to invite the experts from France to check the highlighted values in the table in document TWP/1/15, Annex II "Comparison of methods used for producing variety descriptions: results of the practical exercise", paragraph 6, for possible data inconsistency. The TWO noted that the expert from France planned to provide further information to the TWC, at its thirty-fifth session.

36. The TWO noted that the TC had agreed to invite participants in the practical exercise to provide a short description of their methods to transform measurements into notes and provide examples when these methods might be used, such as for particular characteristics, types of propagation or different situations, on the basis of the short descriptions provided by France and the United Kingdom, as set out in document TWP/1/15, Annexes III to V.

TGP/10: Examining Uniformity

Assessing Uniformity by Off-Types on the Basis of More than One Growing Cycle or on the Basis of Sub-Samples

37. The TWO considered document TWP/1/17 Rev.

38. The TWO considered the draft guidance presented in Annexes I and II of document TWP/1/17 Rev. as amended by the TWPs, at their sessions in 2016, for inclusion in a future revision of document TGP/10.

39. The TWO considered information provided by members of the Union on the criteria for selecting the most suitable approach for the assessment of off-types on different types of crops.

TGP/14: Glossary of Terms Used in UPOV Documents

Illustrations for shape and ratio characteristics

40. The TWO considered document TWP/1/18.

41. The TWO agreed that guidance on providing illustrations for shape and ratio characteristics in document TGP/14 should be amended to clarify that the base of a structure was at the point of attachment.

42. The TWO noted the examples of illustrations for shape and ratio characteristics provided in document TGP/14 and agreed that no further examples were necessary to improve the guidance. The TWO noted that characteristics with very few states of expression could be displayed in a single row as in the first two examples in document TWP/1/18, provided that the basis for the different states of expression was clear to readers.

UPOV Color Groups

43. The TWO considered documents TWO/50/4, TWO/50/4 Add. and TWO/50/5.

44. The TWO agreed to propose the revision of the list of UPOV Color Groups in document TGP/14 "Glossary of Terms used in UPOV Documents" on the basis of the color groups set out in document TWO/50/4, paragraph 8, subject to confirmation of color groups 69 to 71 (light, medium and dark grey) by the expert from Germany.

45. The TWO noted that editorial changes would be required in document TGP/14 to reflect the introduction of the revised list of UPOV Color Groups.

46. The TWO agreed that document TGP/14 should be revised to include the following guidance on the factors to be considered for creating color groups for grouping of varieties and organizing the growing trial:

"Factors to be considered for creating color groups

"When using the color of a plant part for grouping of varieties, a very clear and large difference between the colors is required. However, the color groups are also used in the Technical Questionnaire for applicants who have no RHS Colour Chart. Therefore the groups need to be small enough so that applicants are able to give an adequate state of expression for the characteristic.

"The following factors have to be considered when creating color groups for grouping:

(a) range of variation of the color of the plant part within the species
(b) difference between colors for varieties to be considered clearly distinguishable
(c) possible influence of the environment on the color of the plant part.

"Depending on the species and the plant part observed the color groups for grouping can be different. Examples for color groups in grouping characteristics of different Test Guidelines are listed in the following table.

Test Guideline	**Campanula** (TG/305/1)	**Hosta** (TG/299/1)	**Cordyline** (TG/317/1)	**Osteospermum** (TG/175/5)
Characteristic	Corolla: main color of inner side	Leaf blade: color covering the largest surface area	Leaf: secondary color	Ray floret: main color of middle part
Color groups for grouping	white	white	white	white
	pink	light yellow	yellow	yellow
	purple red	medium yellow	green	orange
	purple	dark yellow	red	pink
	blue	light green	purple	red
		medium green	brown	purple
		dark green	blackish	violet
		blue green		

"It should be emphasized that not all groups are necessarily clearly distinct from each other when information is used that does not come from the same source (same location, same observer) and cannot always be used to exclude varieties from the trial. E.g. in Cordyline for the characteristic 'Leaf: secondary color' it might not be possible to clearly distinguish between 'brown' and 'blackish' when looking at photos on the internet or in a plant catalogue."

Case study on minimum distances between vegetatively reproduced ornamental and fruit varieties

47. The TWO considered document TWO/50/8 and received a presentation by an expert from the Netherlands.

48. The TWO noted the results of the case study provided in document TWO/50/8 and agreed that further discussions were necessary on the basis of living plants and real cases of possible lack of distinctness for improving mutual understanding.

49. The TWO noted that one of the outcomes of the case study was a request for clarification on whether characteristics used for uniformity and stability could differ from those used for distinctness.

50. The TWO agreed that breeders' organizations should ensure stronger involvement of breeders in discussions for drafting and revising Test Guidelines and noted that the results of the case study would be reported to the TC, at its fifty-fourth session.

51. The TWO agreed to invite presentations at its next session to explain the approach used by breeders of vegetatively reproduced ornamental varieties for defining the importance of a characteristic to be used in the examination of distinctness.

Report on court cases dealing with technical matters

52. The TWO noted document TWO/50/9 and received a presentation by an expert from the European Union.

Experience with the RHS Colour Chart and possible future addition of colors

53. The TWO considered document TWO/50/12 and received a presentation by an expert from the United Kingdom.

54. The TWO recalled the invitation by the Royal Horticultural Society (RHS) to suggest missing colors from the 6th Edition of the RHS Colour Charts based on practical experience. The TWO agreed that substantial gaps identified by experts from the members of the Union should be sent to the expert from the United Kingdom by August 31, 2018, along with the full name of the plant and part trying to color match and the nearest match on the RHS 6th Edition Colour Charts.

Characteristic expression between years or environments for ornamental varieties

55. The TWO considered document TWO/50/13 and received a presentation on "Using variety descriptions as an examination tool: Interpreting variety variation" by an expert from New Zealand, a copy of which would be provided as an addendum to document TWO/50/13.

56. The TWO agreed that additional information accompanying the variety description such as the example varieties used could be relevant to interpret test results and the environmental influence over certain characteristics.

57. The TWO noted document TGP/5 Section 6 "UPOV report on technical examination and UPOV variety description" required some information on the growing trial and agreed that Authorities exchanging DUS test reports should be able to obtain additional information upon request.

58. The TWO noted that, in Australia, information on varieties excluded from the growing trial was usually recorded.

Variety denominations

59. The TWO considered document TWP/1/6.

60. The TWO noted the developments concerning a possible revision of document UPOV/INF/12 "Explanatory Notes on Variety Denominations under the UPOV Convention", as set out in document TWP/1/6, paragraphs 5 to 12.

61. The TWO noted the developments concerning a UPOV similarity search tool for variety denomination purposes, as set out in document TWP/1/6, paragraphs 13 to 20.

62. The TWO noted the developments concerning the possible expansion of the content of the PLUTO Database, as set out in document TWP/1/6, paragraphs 21 to 26.

63. The TWO noted the developments concerning non-acceptable terms, as set out in document TWP/1/6, paragraphs 27 to 32.

64. The TWO noted the agenda of the fourth meeting of the Working Group on Variety Denominations (WG-DEN), as set out in document TWP/1/6, and noted that the meeting would be held in Geneva, on October 27, 2017.

65. The TWO noted that variety denominations were particularly relevant for ornamental varieties and noted that it was difficult to identify varieties on the market due to the use of commercial names other than the variety denomination. The TWO noted that in some cases the same variety could be commercialized with different trade names by different growers within a same territory.

66. The TWO agreed to encourage participants providing information to support the work of the WG-DEN and to complete the survey on re-use of variety denominations by the deadline of September 15, 2017.

Molecular Techniques

67. The TWO considered document TWP/1/7.

Developments in the TC, the TWPs and the BMT in 2016

68. The TWO noted the report on developments in the TC, the TWPs and the BMT, as set out in document TWP/1/7, paragraphs 5 to 24.

OECD/UPOV/ISTA/AOSA Joint Workshop on Molecular Techniques

69. The TWO noted that a Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Methods had been held in Paris on June 8, 2016, and that the recommendations of the Joint OECD/UPOV/ISTA/AOSA Workshop, as reproduced below, had been approved by the Annual Meeting of the OECD Seed Schemes, held in Paris on June 9 and 10, 2016:

> "(a) To develop a joint document explaining the principal features (e.g. DUS, variety identification, variety purity, etc.) of the systems of OECD, UPOV, AOSA and ISTA and, for mutual understanding, to repeat the joint workshop at relevant meetings of the OECD and ISTA;
>
> (b) To carry out a joint inventory by UPOV, OECD, AOSA and ISTA of the use of molecular marker techniques, by crop, with a view to developing a document containing that information. The OECD will contribute to the document by sharing the ongoing list of molecular techniques used by National Designated Authorities (NDAs) and continuously collected by the Secretariat;
>
> (c) To develop a list of terms and their definitions as used by OECD, UPOV, AOSA and ISTA and to make an attempt to harmonize these;
>
> (d) To consider organizing another similar workshop in three years' time; and
>
> (e) To consider replacing the term used in the OECD Seed Schemes for the status of DNA based techniques from "internationally validated" to another term such as "internationally harmonized."

Presentation of information on the situation in UPOV with regard to the use of molecular techniques

70. The TWO noted that the following question and answer (FAQ) concerning the information on the situation in UPOV with regard to the use of molecular techniques for a wider audience, including the public in general, had been adopted by the Council, at its fiftieth ordinary session held in Geneva on October 28, 2016:

> "Is it possible to obtain protection of a variety on the basis of its DNA-profile?
>
> "For a variety to be protected, it needs to be clearly distinguishable from all existing varieties on the basis of characteristics that are physically expressed, e.g. plant height, time of flowering, fruit color, disease resistance etc. The DNA-profile is not the basis for obtaining the protection of a variety, although this information may be used as supporting information.
>
> "A more detailed explanation is provided in the FAQ 'Does UPOV allow molecular techniques (DNA profiles) in the examination of Distinctness, Uniformity and Stability ('DUS')?
>
> "See also: 'Wh at are the requirements for protecting a new plant variety?' "

71. The TWO noted that the TC, at its session in 2017, had agreed that possible future collaboration between UPOV, the Organization for Economic Co-operation and Development (OECD) and the International Seed Testing Association (ISTA) might include the harmonization of terms and methodologies used for different crops and the possible development of standards, after agreement by those organizations.

72. The TWO noted that a first practical workshop "DNA Techniques and Variety Identification" had been held in Roelofarendsveen, Netherlands, from May 8 to 10, 2017, and that a second practical workshop was planned for September 20 to 22, 2017.

73. The TWO noted that the TC had agreed that UPOV and the OECD should consider making progress in collaboration on the matters above if ISTA was unable to participate in the near future.

74. The TWO noted that the TC had agreed to propose that the meetings of the BMT be held on an annual basis and that consideration be given to organizing the sessions of the TWC and BMT back-to-back in the same location to facilitate exchange of information.

Guidance for drafters of Test Guidelines

75. The TWO considered document TWP/1/8.

76. The TWO noted the items resolved in Version 1.0 of the web-based TG template, as set out in document TWP/1/8, paragraph 18.

77. The TWO noted that a general revision of the software code was underway to eliminate remaining reported malfunctioning issues and to stabilize the system.

78. The TWO noted the issues to be considered for inclusion in Version 2 of the web-based TG Template, as set out in document TWP/1/8, paragraph 21.

79. The TWO noted the issues on the web-based TG template agreed by the TC, at its fifty-third session, as set out in document TWP/1/8, paragraphs 25 to 27.

80. The TWO agreed that explanations covering all characteristics should be able to be displayed before Chapter 8.1 "Explanations covering several characteristics" without a note in the Table of Chars, as set out in document TWP/1/8, paragraphs 28 and 29.

81. The TWO noted that training on the use of the web-based TG template would be offered to the TWPs at their sessions in 2017, during the preparatory workshops of the sessions and during discussions on agenda item "guidance for drafters of Test Guidelines". The TWO agreed to propose that practical training on drafting Test Guidelines be offered during the Preparatory Workshops for the TWPs in 2018.

82. The TWO received a demonstration by the Office of the Union on the use of the web-based TG Template for Leading and Interested Experts.

83. The TWO noted that feedback and questions could be provided directly to the Office of the Union via the web-based TG template using "Feedback" button on the dashboard.

Procedure for partial revision of UPOV Test Guidelines

84. The TWO considered document TWP/1/20.

85. The TWO noted the procedures for notification of new characteristics or states of expression in document TGP/5, Section 10: "Notification of additional characteristics and states of expression".

86. The TWO noted that the TC had encouraged authorities to notify the use of new characteristics or states expression using the procedure established in document TGP/5, Section 10.

87. The TWO noted the concern expressed by the European Union that the notification of additional states of expression by different authorities for the same characteristic could lead to inconsistent variety descriptions in the case that an identical note was attributed to different states of expression.

Number of growing cycles in DUS examination

88. The TWO considered document TWP/1/21.

89. The TWO noted the presentations made to the TWPs at their sessions in 2016, simulating the impact of using different numbers of growing cycles on DUS decisions using actual data, as set out in the Annexes to document TWP/1/21.

90. The TWO noted that the TC had agreed that the number of growing cycles for DUS examination should be the minimum necessary for a robust DUS decision and the establishment of a reliable variety description.

91. The TWO noted that the TC had agreed that it was not appropriate to generalize that ornamental varieties should be examined in a single growing trial while other types of crops should be examined in two growing cycles. It noted further that the TC had agreed that the typical number of growing cycles should be established on a crop-by-crop basis.

Development of calculated thresholds for excluding varieties of common knowledge from the second growing cycle when COYD is used

92. The TWO considered document TWP/1/22.

93. The TWO noted that further developments on calculated thresholds for excluding varieties of common knowledge from the second growing cycle when COYD was used would be reported to the TWC at its thirty-fifth session, to be held in 2017.

Statistical methods for visually observed characteristics

94. The TWO considered document TWP/1/23.

95. The TWO noted that an expert from France would make a report to the TWC, at its thirty-fifth session, on the study to develop software to implement the method developed by experts from Denmark and Poland.

96. The TWO noted that the TC, at its fifty-third session, had agreed that the appropriate naming and drafting of guidance on the method developed by experts from Denmark and Poland should be considered once further experience had been acquired and software had been made available to facilitate its use in DUS examination.

97. The TWO noted that China had made a presentation at the thirty-fourth session of the TWC to describe the statistical methods used in the DUSTC software package for the analysis of distinctness and uniformity.

Image analysis

98. The TWO considered document TWP/1/10 and noted the invitation of China for experts to join its project for the improvement of software for image analysis and the plans of the TWC to discuss image analysis during its thirty-fifth session.

Management of variety collections

99. The TWO considered document TWP/1/14 and noted the developments reported to the TWC, at its thirty-fourth session in 2016, and the TC, at its fifty-third session in 2017, on management of variety collections.

Software for statistical analysis

100. The TWO considered document TWP/1/16 and noted the developments concerning software for statistical analysis in DUS examination, as set out in document TWP/1/16, paragraphs 3 to 7.

101. The TWO noted that the ring-test comparing three different software packages for COYD using the statistical packages developed in China (DUSTC), Germany (SAS) and the United Kingdom (DUST) had produced the same result.

Experiences with new types and species

102. The TWO received a presentation on "Difficulties in the application of TG/296/1 Eucalyptus" by an expert from the European Union, as reproduced in document TWO/50/10. The TWO noted the practical difficulties reported with the scope of the Test Guidelines and total duration of tests. The TWO noted that the European Union would develop regional test guidelines for the crop focusing on the assessment of juvenile characteristics.

The TWO suggested consideration of the following possibilities :

- to assess older plant material at a testing site in cooperation with the applicant;
- to use biochemical and molecular techniques to complement DUS information;
- to use examination offices outside of the European Union.

103. An expert from Australia reported on an application for a new hybrid variety of Lavender with large bracts along the full length of the spike. The TWO agreed that the experts from Australia, France and New Zealand should discuss the need for the establishment of new inflorescence characteristics and report to the TWO at its fifty-first session.

Matters to be resolved concerning Test Guidelines adopted by the Technical Committee

Test Guidelines requiring approval of the TWO by correspondence

104. On the basis of the recommendations by the Enlarged Editorial Committee (TC-EDC), at its meetings on January 11 and 12, 2017, and April 3 and 4, 2017, the TC adopted the Test Guidelines for Abelia, Aglaonema, Freesia and Petunia subject to approval by correspondence by the TWO of the following issues (see document TC/53/31 "Report", Annex II):

Abelia (*Abelia* R. Br.)

4.2	to be numbered 4.2.1 and add new paragraph as 4.2.2 (see document TGP/7/5): "These Test Guidelines have been developed for the examination of vegetatively propagated 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."
Char. 34	to add explanation (to add limits within the scale of notes) *Leading Expert: to add example variety "Bridal Bouquet" for state 3 "strong"*

(see documents TG/ABELI(PROJ.6) and TC/53/31)

Aglaonema (*Aglaonema* Schott.)

4.2	to be numbered 4.2.1 and add new paragraph as 4.2.2 (see document TGP/7/5): "These Test Guidelines have been developed for the examination of vegetatively propagated 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." *to be approved by TWO by correspondence*

(see documents TG/AGLAO(PROJ.9) and TC/53/31)

Freesia (*Freesia* Eckl. *ex* Klatt)

4.2	to be numbered 4.2.1 and add new paragraph as 4.2.2 (see document TGP/7/5): "These Test Guidelines have been developed for the examination of vegetatively propagated 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." *to be approved by TWO by correspondence*

(see documents TG/27/7(PROJ.5) and TC/53/31)

Petunia (*Petunia* Juss.; x*Petchoa* J. M. H. Shaw)

4.2	to be numbered 4.2.1 and add new paragraph as 4.2.2 (see document TGP/7/5): "These Test Guidelines have been developed for the examination of vegetatively propagated and self-pollinated seed propagated 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." *to be approved by TWO by correspondence*

(see documents TG/212/2(PROJ.5) and TC/53/31)

105. The TWO noted that no objections had been received by the deadline for comments and that the Test Guidelines for Abelia, Aglaonema, Freesia and Petunia had, therefore, been adopted by the TC, with the amendments indicated above.

Discussion on draft Test Guidelines

*Alstroemeria (*Alstroemeria *L.) (Revision)*

106. The subgroup discussed document TG/29/8(proj.2), presented by Mr. Henk de Greef (Netherlands) on behalf of Ms. Katie de Pont (Netherlands), and agreed the following:

1.	to read "These Test Guidelines apply to all vegetatively propagated varieties of Alstroemeria L."
Char. 3	to delete (+)
Char. 4	state 4 to read "throughout"
Char. 5	to add (+) and illustration
Char. 7	to be indicated only as VG
Char. 8	– to check whether to move "(silvery colored stripe excluded)" to Ad. 8 – to add asterisk (grouping characteristic) – to read "… colors on outer side …" and improve explanation/illustrations
Char. 9	– to check whether to replace "silvery" – to read "…. stripes"
Char. 13	to check whether "purple pink" in new color group (see TWO/50/4)
Char. 17	to read "Flower: height"
Char. 18	to replace "moderately" by "medium" in states 1 and 4
Char. 23	to read: "Outer tepal: main color of top zone of inner side (green area excluded)"
Char. 25	to read: "Outer tepal: main color of basal zone of inner side (green area excluded)"
Char. 27	to check whether to add explanation of marginal zone
Char. 28	– to read "Inner lateral tepal:…" – to replace "moderately" by "medium" in states 2 and 4
Char. 30	to add (+) and explanation on "(tip excluded)" [Ad. 30]
Char. 41	– to be indicated as QN – to read "Filament: spots" – to use a 5-notes scale (to add to have medium as middle point)

Char. 42	to check whether better illustrations to be provided
8.1(a)	to read “Unless otherwise indicated, all observations should be made on the first fully developed stem when 50% of the flowers are open.” (to use standard wording)
8.1(b)	to read "… should be made on leaves from the middle third…”
8.1(c)	to remove red underline from text in illustrations
8.1(d)	to read “…, the darker color …”
Ad.2	to read "…should be assessed at…”
Ad.3	to be deleted (illustration of color)
Ad.7	– to read: “Leaf blade: attitude” – to improve picture of state 5
Ad.10	to precise indication of end point or ray (beginning of corolla?)
Ad.17	to change color of arrows to increase contrast (red on pink)
Ad.21	states 3 and 7 to read small and large
9.	to read “Grunert, Ch., …” and to specify number of pages for
TQ 4.2	– to add in vitro propagation – to add seed propagated
TQ 5.1	to include even notes and states of expression
TQ 1.1	*to check whether possible to add a second box to read “Alstroemeria L. and its hybrids”*

*Berberis (*Berberis *L.)*

107. The subgroup discussed document TG/68/4(proj.1), presented by Mr. Kévin Daubigney (France), and agreed the following:

Char. 1	to read “Plant: growth habit” with states “upright”; “semi-upright”; “rounded”; “spreading”
Char. 2	to read “Plant: branch attitude” with states “erect”; “semi erect”; “horizontal”; “spreading”
Char. 3	to add states 1 and 9 and example varieties
Char. 5	to be deleted
Char. 6, 7, 13, 15, 24, 28, 33, 35, 36	to be indicated as PQ
Char. 6, 7, 8, 9, 13, 28, 32, 33	to be observed as VG
Char. 6, 7	to invert order of states “yellow” and “green” (green first)
Char. 7	to add state 3 “orange” with example variety and renumber
Char. 8	– to read “Stem: type of spine” – to delete state 1 “absent”
Char. 9	– to read “Stem: spine length” – to have sates 1 to 5
Char. 10	– to read: “Plant: type” and move as char. 1 – to be indicated as QN – to add (+) and explanation on time of observation – to be added to grouping characteristics – to correct spelling in state 1 to read "deciduous”
Char. 11	to read “Leaf: length”
Char. 13	state 2 to read “circular”
Char. 16	– to check whether RHS Colour chart is applicable on green leaved varieties – to be added to grouping characteristics
Char. 17	to invert order of states “yellow” and “green” (green first)
Char. 18	state 1 “none” to be deleted

Char. 19, 21	to invert order of states “yellow” and “green” (green first)
Char. 20, 22	to be deleted
Char. 24	– to add (+) and illustrations – state 1 to read “absent or slightly curved”, state 2 “moderately curved”, state 3 “revolute”
Char. 25	– to be indicated as QN – to correct spelling “undulation”
Char. 26	– to be indicated as MG – to read “Stem: leaves per node” – to be moved before characteristic 10
Char. 27	state 1 to read “solitary”
Char. 31	to replace indication of seasons (e.g. by number of flower bearing periods per growing cycle or other) and to check whether flowers appear on different woods
Char. 33	to have states ovate, oblong and circular
Char. 34	to be indicated as QN with states 1 “absent or weak”, 2 “medium” and 3 “strong”
Char. 35	to read “Fruit: color of skin”
Char. 36	– to add (+) and illustrations – to read “Fruit: shape of apex”
8.1	to check whether to add (+) and illustrations
Ad.15	to improve illustrations (e.g. use photographs from Ad. 14)
Ad.16	explanation on main color to be consolidated with 8.1(e)
Ad.30	to check whether to provide better illustration
Ad.35	to read “… after removing wax …”

Calendula (Calendula *L.*)

108. The subgroup discussed document TG/CALEN(proj.2), presented by Mr. Koji Nakanishi (Japan), and agreed the following:

Cover page	to include common name in Spanish “Calendula; Mercadela”
4.2.2	to read: “…for cross-pollinated seed-propagated varieties…”
4.2.3	to be deleted
4.2.4	to add: “These Test Guidelines have been developed for the examination of cross-pollinated seed propagated and vegetatively propagated 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.”
Char. 2	to check whether to add missing example varieties
Char. 3	to add missing example varieties
Char. 4	to be indicated as MS/VG
Char. 11	– to read “Branch: number of flower heads” – to add illustration
Char. 15	to check whether to add missing example varieties
Char. 16	– to check whether to add missing example varieties – to add “Only varieties with Flower head: type: semi-double and double:…”
Char. 18, 19	to check whether to add missing example varieties
Char. 20	to add (+) and illustrations of states “low” and “high”
New Char. 21	to read “Ray floret: cross-section” with explanation to be observed at mid-point and states of expression “moderately concave; weakly concave; flat; weakly convex; moderately convex”
Char. 33	to check whether state “brown” should be placed after “dark purple”
8.1(a)	to read "Observations should be made…” (delete “Unless otherwise indicated all”)
8.1(b)	to delete “typical”
8.1(c)	to delete “the typical”

Ad.1	to delete photographs and keep illustrations only
Ad.8	to check whether to have state “oblong” as note (2) and state “oblanceolate” as note (3)
Ad.11	to read "…assessed including…” (no comma) “…open flowers and faded…” (no comma) and “Observations…” (spelling)
9.	to check whether to add literature
TQ 1.	to add another box to indicate species name
5.2, 5.4	to add even notes and states of expression
6.	to replace “Flower head: type” with “Plant: height” (short / medium)

**Coleus (Plectranthus scutellarioides (L.) R. Br.)*

109. The subgroup discussed document TG/SOLEN_SCU(proj.3), presented by Mr. Koji Nakanishi (Japan), and agreed the following:

4.2.2	to read "These Test Guidelines have been developed for the examination of cross-pollinated seed propagated varieties and vegetatively propagated varieties. For varieties with …”
5.3(a), (b)	to invert the order of presenting color groups 2 and 3 to have following sequence: white>green>yellow green… to be included in TQ 5
Char. 2	to add example variety “Highway mosaic” (note 3)
Char. 3	to add example variety “Splash Yellow” (note 5)
Char. 5	to delete (*)
Char. 6	– to replace example variety “COL-06-076C” by "Carefree White" – to add example variety for note (5) “Wizard Scarlet”
Char. 7	to add example variety “Glecom Orange Marmalade” (note 7)
Char. 10	to be deleted (illustration in Ad. to be re-used in Char. 12)
Char. 12	– to delete “absent” from state (1) to read “very shallow” – to display state (9) ‘very deep” and use illustration from Char. 10
Char. 37	– to delete (*) – to add example variety “Wizard Scarlet” (note 1); “Zigzag” note (2); “UF0843” note (3)
8.1(c)	to be replaced by 8.1 (e)
8.1(e)	state (1) to read “single colored or none”
Ad.5	in diagram to read “Leaf blade: width” (in diagram word “width” missing)
Ad.10	to use illustration for state (9) of Char. “Depth of incisions of margin”
TQ. 4.2.1	to add (b) Cross-pollination
4.2.2	to be displayed as 4.2.1 (reverse order of presentation)
4.2.4	to be renumbered 4.2.3
5.	to include characteristics 1, 2 and 12 as grouping characteristics in section 5.3
5.2	to add even states (full scale)
5.3	to add even states and full scale
6.	to replace “deep” with “medium”

Coreopsis (Coreopsis L.)

110. The subgroup discussed document TG/COREO(proj.1), presented by Ms. Hilary Papworth (United Kingdom), and agreed the following:

Cover page	to add “Coreopsis” as English common name and reflect in TQ.1.2
5.3	to add char. 16 “leaflet…”

ToC	General: to add example varieties
Char. 1	to check whether semi-spreading is a useful state of expression
Char. 5	– states of expression to read “simple; simple and divided; divided” (delete “predominant”) – to add explanation in Ad. 5 that some varieties have both types of leaves and the assessment of the characteristic should be made on the predominant type of leaf and that state “simple and divided” has no predominant type or similar amount of both types of leaves.
Char. 20	– state 1 to read “below and at same level” – to check whether state 4 to be renamed “far above”
New char. 29	to describe distribution of main color and re-number subsequence accordingly
Char. 29	– to delete “the” in states 2 to 13 and 15 – to delete “in” in states 4 to 13
Char 31, 34	to replace “striped” with “flushed”
Char 38	to be deleted
Char 41	to reduce scale to 5 states of expression (1 to 5)
Char 42	to check whether needed (covered by 41?)
Char 43	state 5 to read “blackish purple”
8.1(a)	to be moved to general paragraph under 8.1
8.1(d)	to read “…on the inner surface”
Ad.8	to insert “For varieties with simple and divided leaves, the simple ones should be assessed.”
Ad.17	to insert “only observed on divided leaves”
Ad.20	to improve illustrations of states 2 and 3
Ad.34	to correct cross-reference (Ad. 31)
Ad.40	to improve illustrations

Gazania (Gazania Gaertn.)

111. The subgroup discussed document TG/GAZAN(proj.2), presented by Ms. Hilary Papworth (United Kingdom) on behalf of Mr. Adriaan de Villiers (South Africa), and agreed the following:

General	to remove all references to seed-propagated varieties
2.3	to delete “Seed-propagated varieties: sufficient seed to produce 40 plants”
4.2.2	to read “These Test Guidelines have been developed for the examination of vegetatively propagated 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
5.3(e)	to be deleted
5.3(f)	to be deleted
5.3(g)	to check whether to be added to TQ 5 (a new functionality in the TG template will be deployed soon to address this situation)
Char. 4	to have states “few” to “many”
Char. 7	to delete (+) (there is no Ad.7)
Char. 21, 23, 25, 27, 37	to correct formatting to read “RHS Colour Chart (indicate reference number)” on same cell
Char. 23, 25, 27	to read “Ray floret: color two” to delete “(if present)”
Char. 24, 26, 28	to add state 1 “none”
Char. 29	– to explain “at mid-point” in Ad. 29 – to read “Ray floret: profile in cross section”
Char. 29, 30, 31	to move before char 21

Char. 32	– to add (c) and (d) – to be combined with Char. 33 and to have states “none”, “white”, “yellow” – to be indicated as PQ
Char. 34	to read “Only varieties with disc type: Daisy: Disc: color”
Char. 36	to add (c)
8.1(a)	to delete “typical” (2x)
Ad.1	to add additional explanation to the different states of expression
Ad. 4	to add illustrations of example varieties
Ad.16	to complete scale and to replace photographs with illustrations
Ad. 29	– to add instruction “to be observed at mid-point” – to read “Ray floret: profile in cross section”
Ad.31	to add illustration for note 1 “acuminate”
8.3	to be moved to 8.1
5.2	to add even states
7.3	to be moved to section 5 when the template allows

**Grevillea* (Grevillea *R. Br. Corr. R. Br.*)

112. The subgroup discussed document TG/GREVI(proj.6), presented by Mr. Nik Hulse (Australia) and agreed the following:

4.1.4	to read “… to be made on 9 plants…”
5.3	to delete the color groups listed (they are the same as in Char. 49 and in TQ 5)
Char. 4, 5	to use the following order of colors: green>yellow green>orange>purple…
Char. 6, 7, 11	to be deleted
Char. 8	to have states “erect; semi erect; horizontal” (to deleted other states) and use notes 1 to 3
Char. 12	to read “Leaf: depth of sinus of primary division” (to delete rest of header)
	– to read "Only varieties with Leaf: type of division of blade: entire:…” – to be moved after Char. 10
Char. 14	to delete even states and renumber erect, semi erect and horizontal notes 1 to 3
Char. 14 to 19	to delete “Only varieties with divided leaves:”
Char. 28	– to delete state (2) and move example variety to state (1) erect – to merge states (3) and (4) to read (2) semi erect – to merge states (5) and (6) to become (3) horizontal – to merge states from (7) to (9) to become (4) drooping
Char. 39 to 61	to add (f)
8.1	to provide original illustrations to the Office (improved image quality in final document to TC)
8.1(d)	at the broadest part.
Ad.9	to adjust font size
Ad.45	to delete “perianth” from illustration on “perianth limb”
Ad.48	to correct cross-reference to Ad. 47
TQ 6.	to replace “spreading” with “semi-upright”

**Guzmania (*Guzmania *Ruiz et Pav.) (Revision)*

113. The subgroup discussed document TG/182/4(proj.3), presented by Mr. Henk de Greef (Netherlands), and agreed the following:

4.1.4	– to read "… to be examined" – to reduce number of plants to be observed for distinctness from 20 to 19 and from 40 to 38
4.2.3	to read "… 2 off-types are allowed."
5.3	to add color groups (white, yellow, orange, red, purple red, purple)
Char. 2	states 3 and 7 to read "narrow" and "broad"
Char. 9, 12	state "grey green" to read "medium blue green"
Char. 9 to 11	to check whether to read "... of inner side"
Char. 10	– to delete "(d)" – to display state (9) "very strong" without example variety
Char. 11	– to delete "(d)" – to delete (+) and explanation
Char. 13	to display state (9) without example varieties
Char. 23, 25	to capitalize first letter on Characteristic header
Char. 24	to add example variety "Rana" for state "long"
Char. 26	to add (e)
Char. 30, 31, 32, 40, 41, 42	to be observed as "VG"
Char. 34	to adjust formatting of header (remove extra space after "Floral")
8.1(a)	to read "…be made when the flowers in the middle third of the flowering part are open."
8.1(c)	to read "Observations on the bract..." "…largest bract in the middle…"
Ad.24	to replace "flowering bract" with "floral bract"
Ad.36	to read "… when more than…"
Ad.37	to read "See Ad. 36"
9.	to add the total number of pages to reference "Rauh, W."
4.2.1	– to read "(b) Hybrid" – to delete "(i) Population" – to read "(c) Other (please provide details)
5.1	to add all states of expression
5.2, 5.4, 5.5	as in section 5.3 (d) for grouping characteristics

**Hardy Geranium (*Geranium *L.)*

114. The subgroup discussed document TG/GERAN(proj.3), presented by Ms. Hilary Papworth (United Kingdom) on behalf of Ms. Elizabeth Scott (United Kingdom), and agreed the following:

Cover page	to add "Hardy Geranium" to common name
4.2.1	to add "These Test Guidelines have been developed for the examination of vegetatively propagated 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."
5.3(c)	to add color group "whitish"
5.3(f)	Gr. 4 to read "dark pink"
Char. 1	to have states "upright; semi-upright; spreading; horizontal"
Char. 10, 13	– to be moved before Char. 9 and 12, respectively – to state "none" to be deleted from "distribution" characteristics and included in Chars. 9 and 12 (secondary and tertiary colors)

Char. 26	– to have state “green” as note (1) and “yellow green” as note (2) – to revise order of colors (e.g. to have purple states of expression before brown
Char. 28	to capitalize “Inflorescence”
Char. 29	state 4 to read “downwards” (to delete “slightly”)
Char. 32	to read “…flower type: double…” (add semi-colon after “type”)
Char. 33	to add new explanation in 8.1 applicable to Chars 33 to 48 to read “In double flowered varieties to be observed on the outer whorl of petals”
8.1(a)	to become a standalone paragraph under 8
8.1(b)	to delete “Observations are not made on the basal leaves of the plant.”
8.1(c)	to read “…, the darker color …”
8.1(f)	to read “…the inner surface…, the darker color…”
Ad. 1	– to delete illustration for state (3) and reorder – to provide original illustrations to the UPOV Office – to correct “upright” without capital letter
Ad.5	to read “Observe the leaf…”
Ad.6	to read “Observe at …”
Ad.29	state (4) to read “downwards” (to delete “slightly”)
Ad.30	to read “…has petaloids in addition to…”
Ad.34	to remove underlining from states of expression 4 and 5
Ad.43	to correct cross-reference (to be renumbered Ad. 40
Ad.45	to read “See Ad. 42”
Ad.47, Ad.48	to read: “Only observe this characteristic when characteristic 46 is observed to be weak or higher, and only to apply to the conspicuous part of the vein.”
TQ 1.1	– to be renamed “Genus” – to add additional box for indication of “Species”
TQ 1.2	to replace “Crane’s Bill” by “Hardy Geranium”
TQ 4.2.1	to add boxes for “Seed-propagated” varieties
TQ 5.1	to display example varieties in Char. 1
TQ 5.2	to include even states of expression and respective notes
TQ 5.6	state 4 to read “downwards” (to delete “slightly”)

Hydrangea (Hydrangea L.)

115. The subgroup discussed document TG/133/5(proj.2), presented by Mr. Bernard Le Pautremat and Mr. Kévin Daubigney (France) on behalf of Ms. Françoise Jourdan (France), and agreed the following:

2.2	to read “The material is to be supplied in the form of plants capable of expressing all characteristics in the first growing cycle.”
3.1.1	to read “… normally be one…”
3.1.2	to be deleted
3.1.3	to be deleted
4.1.6	to be deleted
4.2.1	to add: “These Test Guidelines have been developed for the examination of vegetatively propagated 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.”
5.3(c), (e)	to check whether to be removed (color groups – already appear in T.o.C.)
Char. 2	– to add example varieties for all species – to provide explanation on the different groups of example varieties – to underline first part of characteristic header
Char. 5	to add state of expression “green and black” (5) and add example variety “Napo”

Char. 6	– to check whether to split into two characteristics (1) QL absent/present and (2) QN number of lenticels – state 4 to read “many”
Char. 7	example variety for state 2 to read “Bergfink”
Char. 8	to delete (*)
Char. 9, 10	to be indicated as MS/VG
Char. 14	example variety for state 2 to read “Hamburg”
Char. 15	to add note (c)
Char. 16	to add note (d)
Char. 17	– to have state of expression “yellow” as note (5) (after green) – to add note (d) – to add new state of expression “purple” – to delete state “not visible”
Char. 18	– to add state “absent” – to add states “purple”; “green” – to deleted state “white and yellow” – to delete “only” in states “white only” and “yellow only” – to add note (d)
Char. 19	– to check whether to add (*) (grouping characteristic) – to read “Leaf blade: area of secondary color” with states “absent or very small” to “very large”
Char. 24	example variety for state 4 to read “H2002”
Char. 25 to 44	to add explanation on when to be observed and which inflorescence to be observed (primary inflorescence, main stem?)
Char. 26	to read “Inflorescence: width”
Char. 27	to be indicated as QN
Char. 28	to underline introductory part of the characteristic header
Char. 29	– to delete restriction (the characteristic should be observed for all varieties) – to add photographs to illustrate flattened type inflorescence density
Char. 30	to be indicated as MG/MS
Char. 31	to delete (+) and explanation
Char. 31, 32, 33, 34, 35	to read “Sterile flower:” (singular)
Char. 34	to replace example varieties
Char. 37	state (1) to read “absent or weak”
Char. 40	to be deleted (information provided in subsequent characteristic)
Char. 41	to be indicated with (*) and to be included as grouping characteristic
Char. 42	– state “absent” to read “none” – to delete (+) and illustration – to delete state “blue”
Char. 43	to be deleted
New char. 43	to read “Sterile flower: distribution of secondary color or inner side of sepal” with states “distal part” “marginal zone” “central zone” “at base” and “ throughout”
New char. 44	to read: “Sterile flower: pattern of secondary color of inner side” with states “solid; flush; and irregular”
Char. 45	to be deleted
Char. 46	to check characteristic (improve explanation on characteristic expression)
Char. 47	– to check characteristic header according to the different “types” to be created – to read “… red color at aging” (replace “senescence”)
8.1(d)	– 1st paragraph to be deleted – 2nd to read “… the darker color…”
Ad.4	to improve indication of fasciation in the photograph

Ad. 19	to check whether to be deleted (not appropriate to use photographs to illustrate intensity of colors)
Ad. 23	to check spelling “petiole”
Ad. 28	to replace photographs by illustrations
Ad. 30	to read “The observations should…”
Ad. 31	to be deleted
Ad. 33	state (3) to read “emarginated” (as in Char. 33)
Ad. 35	to improve illustration for state (2)
Ad. 42	to be deleted (not suitable to illustrate colors)
TQ. 1.2	to add name box for species
5.6	to be deleted
5.8	to be deleted
5.13	to be deleted

*Kangaroo Paw (*Anigozanthos *Labill.) (Revision)*

116. The subgroup discussed document TG/175/4(proj.1), presented by Mr. Nik Hulse (Australia), and agreed the following:

Cover page	– to add in box “and Macropidia (Hook) Druce” – to add under alternative names “*Macropidia fuliginosa* – Black Kangaroo Paw”
2.3	to read “10 plants”
5.3	to add char. 10, 18, 23 as grouping characteristics
ToC	to check currency of example varieties
Char. 1, 3, 4, 12, 15, 16	to add MG to method of observation
Char. 5	– to check whether to improve wording for state 3 – to check whether to add illustrations
Char. 6	to check whether to add illustrations
Char. 7	– state “grey green” should be ordered after “purplish green” – to add (+) and explanation
Char. 8	to reduce to 3 states (1, 2, 3)
Char. 9	states to read “absent or weak, medium, strong”
Char. 10	to be combined with Char. 11 and have states “absent (1), primary (2), secondary (3), tertiary (4)”
Char. 12	to add (+) and explanation
Char. 14	to complete header with standard text “(indicate reference number)”
Char. 15, 16	to add (+) and illustration
Char. 18	– to order states of expression pink>red (swap current order) – to add state “black”
Char. 19	to read “Perianth tube: hair: number of colors”
Char. 20	– to read “Perianth tube: hairs: color of upper third” – to complete header with standard text “(indicate reference number)”
Char. 21	– to read “Perianth tube: hairs: color of middle third” – to replace with color groups
Char. 22	– to add notes 3, 2, 1 and reverse the order of states of expression – to check whether 3 states are sufficient
Char. 24	to be indicated as QL
Char. 25	to complete header with standard text “(indicate reference number)”

8.	to add "8. Explanations on the Table of Characteristics *8.1 Explanations covering several characteristics* All observations should be made at the time of full flowering." and re-number Explanations covering individual characteristics to 8.2
Ad.11	to check whether to improve illustrations
Ad. 24	to improve illustrations
9.	– to add reference for Macropidia – to update reference to Australian Cultivar … – to read "Marchant et al., …"
TQ 4.	to be completed
TQ 5.	– to add Char. 10, 18 and 23 as grouping characteristics in section 5.3 – to include full states of expression
TQ 6.	to be completed
TQ 7.3	to add photographs

*Lagerstroemia (*Lagerstroemia *L.) (Revision)*

117. The subgroup discussed document TG/95/4(proj.1), presented by Mr. Bernard Le Pautremat and Mr. Kévin Daubigney (France) on behalf of Ms. Françoise Jourdan (France), and agreed the following:

3.4, 4.2.2	to adjust number of plants to 6 and use standard wording
4.1.4	to use standard wording from TG template ("…one off—type is allowed…")
5.3(c)	to add color group
Char.1	– to read "Time of bud burst – to move before Char. 34 – to add states of expression: 1 to 9 or 1 to 5
Char.2	– state 2 to read "semi-upright" – to have notes 1 to 3
Char.3	to be moved as Char. 1
Char.7	to have states low to high
Char.9	to be indicated as QN
Char.10, Char.11	to be combined to read "Leaf blade: anthocyanin coloration" with states "absent", "along margin" "central" and "throughout"
New char. 14	to describe variegation (with JP)
Char.14	to have states 1 to 5
Char.15	to read "Plant: number of thyrses" or "Plant: number of flowers per thyrse"
Char.17	to have scale from short to long with notes (revert current order)
New char.	New characteristic 20 to read "Flower bud: extent of anthocyanin coloration" with 3 states low, medium, high, and renumber subsequent characteristic
Char.20	– to correct spelling "anthocyanin" – to check whether 9 states is appropriate
Char.21	to reduce scale to 1, 2, 3
Char.22, 23, 24	to read "… inner side …"
Char.26	to use scale weak, medium, strong
Char.29	state 3 to read "large"
Char.30	to check whether other states of expression between ellipsoid and globular
Char.32, 33	to check whether to be indicated as QN and have states "absent or very shallow", "shallow", "deep"
Char.35	to be deleted
8.1	to specify time of assessment of characteristics

Ad.2	to have states 3 upright, 5 semi-upright, 7 spreading
TQ 5.1	to reflect change in ToC
TQ 5.2, 5.7	to add all states of expression

*Oncidium (*Oncidium *Sw.*; xOncidesa *Hort.*; xIonocidium *Hort.*; xZelenkocidium *J.M.H.Shaw) (Partial Revision)* (document TG/283/1, TWO/50/6)

118. The subgroup discussed document TWO/50/6, presented by Mr. Kenji Numaguchi (Japan) and agreed that no further changes were necessary to the document.

*Phalaenopsis (*Phalaenopsis *Bl.) (Partial Revision)* (document TG/213/2)

119. The subgroup discussed document TWO/50/7, presented by Mr. Henk de Greef (Netherlands) and agreed the following:

new 1 “Lip: shape”	to read “Lip: fusion of lobes to apical lip” with states either - free (1); slightly (2); moderately (3); strongly (4); completely fused (5) or - free; up to a quarter of length; up to half the length; up to three quarters of length; full length
Ad. new 1	to add indication of apical/lateral lobes in variety with fused lobes (arrows
new 2 “Lip: shape of pseudopeloria”	to read: “Lip: type of fused lobes” (to check whether “extension/prolongation”)
Char. 70	to add new state 7 “obovate” (F: obovale, G: verkehrt eiförmig, S: oboval) with example variety “Nobby’s Amy” and renumber subsequent states to 8 and 9
Char. 76	to delete repeated example variety “SOGO F-1016” (in both states of expression where it appears)

*Ranunculus (*Ranunculus *L.)*

120. The subgroup discussed document TG/RANUN(proj.1), presented by Mr. Tetsuya Takahashi (Japan), and agreed the following:

4.2.2	to confirm uniformity standards according to the types of propagation considered (seed-propagated varieties?)
4.2.3	to add: “These Test Guidelines have been developed for the examination of vegetatively propagated varieties and seed-propagated self-pollinated 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.”
5.3	to add Char. 16 “Flower: type” as grouping characteristic
ToC	to check whether to suggest as method of observation those currently being used by the Leading Expert and Interested Experts
Char. 15	state 1 to read “very thin”
Char. 16	– to add (+) and explanation – to check whether to add state of expression “semi-double”
Char. 18	to use scale from short to tall
Char. 19	to restrict observations to semi-double and double flowers
Char. 20	to read “center” (US spelling)
Char. 23	– to check whether to add (+) and illustrations for states low and high – to add example varieties

Ad. 1	to read: "… top of the tallest flower."
TQ 1	– to add box for "species name" – to delete 1.2.1 and 1.2.2
TQ 4.2.2(a)	to read "corms"
TQ 5	– to add Char. 25 (used as grouping characteristic in section 5.3) – to add 5.4, 5.5 and 5.8 as grouping characteristics in section 5.3) – to add even notes and states of expression in 5.1 and 5.6
5.8(26)	state "other" to be ordered last in list after state "basal quarter"
6.	to provide example characteristic and states of expression
7.	to add standard text in case a photograph of the variety is required

Information and databases

Variety description databases

121. The TWO considered document TWP/1/2.

122. The TWO noted the information on presentations on databases made at the BMT, TWC and TWV at their sessions in 2016, and that the expert from Germany had offered to report on the potato database currently under development within European Union to the TWV, at its session in 2017.

123. The TWO noted that the TC had agreed that UPOV might be able to facilitate cooperation in the establishment of common databases containing molecular information by the provision of training and sharing of Information. It further noted that the TC had agreed on the value of inviting the contribution of breeders and academic institutions to UPOV's work on the constitution and maintenance of databases.

124. The TWO noted that the TC had agreed to request the Office of the Union to collect data on existing databases with morphological and/or molecular data. The TWO noted that information collected could be included in the GENIE database, subject to the availability of resources for the modification of the GENIE database.

Electronic application systems

125. The TWO considered document TWP/1/3 and noted the developments concerning the development of an electronic application form.

126. The TWO received a presentation on the "UPOV PBR Application Tool - Electronic Application Form (EAF) - Report to Technical Working Parties" by the Office of the Union.

127. The TWO noted that Version 1 of the EAF had been available online since January 2017 (see http://www.upov.int/upoveaf), and that Version 1.1 had been released in July 2017, offering the possibility for users to submit PBR application data to more authorities. The TWO noted that Version 2.0 would cover more authorities and more crops.

128. The TWO agreed on the need to communicate more about the UPOV PBR application tool and to invite the authorities in charge of DUS examination to publicize the EAF, using the available communication materials and tools (e.g. leaflet in different languages, posters, providing a link to the EAF on their websites).

129. The TWO noted that the EAF could be used by different Authorities as their own electronic application form and agreed that utilizing the EAF in that way could save the cost of developing similar electronic forms for domestic use. The TWO noted the potential advantage of establishing a "subscription rate" for UPOV members that wished to use the EAF as their own electronic application form in exchange for supporting the cost of the EAF service for breeders.

UPOV information databases

130. The TWO considered document TWP/1/4.

GENIE database

131. The TWO noted that a specification document explaining the data structure and functions of the GENIE database was being developed by the Office of the Union in order that IT-related maintenance could be provided in the future.

UPOV code system

132. The TWO noted that:

(a) 173 new UPOV codes had been created in 2016 and that a total of 8,149 UPOV codes were included in the GENIE database.

(b) the Office of the Union had received a request from the European Commission to create new UPOV codes for 191 forest-tree species in international trade under the OECD certification schemes.

(c) the TC, at its fifty-third session, had agreed that it would not be appropriate to revise the Guide to the UPOV Code System in relation to the principal botanical name for inter-generic and inter-specific hybrids, as set out in document TWP/1/4, paragraph 18.

(d) the TC had noted that, in order to avoid any misinterpretation, the CPVO would make it clear that the information provided to the Office of the Union would be in alphabetical order.

133. The TWO noted the invitation to check the amendments to UPOV codes, the new UPOV codes or new information added for existing UPOV codes, and the UPOV codes used in the PLUTO database for the first time, which were provided in Annex II of document TWP/1/4. The TWO noted that comments were to be submitted to the Office of the Union by October 31, 2017.

PLUTO database

134. The TWO noted the summary of contributions to the PLUTO database from 2013 to 2016 and the current situation of members of the Union on data contribution, as presented in document TWP/1/4, Annex I.

135. The TWO noted that the WG-DEN, at its third meeting, held in Geneva on April 7, 2017, had agreed that agenda item 5 “Expansion of the content of the PLUTO database” would be considered at a later meeting on the basis of the document presented at its second meeting.

Exchange and use of software and equipment

136. The TWO considered document TWP/1/5.

137. The TWO noted that the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, had adopted document UPOV/INF/16/6 “Exchangeable Software”, with the deletion of the SIVAVE software.

138. The TWO noted that the TC, at its fifty-third session, had agreed that the proposed revision of document UPOV/INF/16/6 in conjunction with the comments of the TC, as set out in Annex I of document TWP/1/5, be reported to the CAJ at its seventy-fourth session, on October 23 and 24, 2017 and, if agreed by the CAJ, that a draft document UPOV/INF/16/7 “Exchangeable Software” be presented for adoption by the Council at its fifty-first ordinary session, on October 26, 2017, on that basis.

139. The TWO noted that the TC had agreed that the information presented in document UPOV/INF/16 should be made available in a searchable form on the UPOV website, and had noted that the Office of the Union would investigate a tool for that purpose.

Recommendations on draft Test Guidelines

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

140. The TWO agreed that the following draft Test Guidelines should be submitted to the TC for adoption at its fifty-fourth session, to be held in Geneva on October 29 and 30, 2018, on the basis of the following documents and the amendments in this report:

Subject	Relevant document(s)
*Coleus (*Plectranthus scutellarioides* (L.) R. Br.)	TG/SOLEN_SCU (proj.3)
*Grevillea (*Grevillea* R. Br. corr. R. Br.)	TG/GREVI(proj.6)
*Guzmania (*Guzmania* Ruiz et Pav.) (Revision)	TG/182/4(proj.3)
*Hardy Geranium (*Geranium* L.)	TG/GERAN(proj.3)
*Oncidium (*Oncidium* Sw.; x*Oncidesa* Hort.; x*Ionocidium* Hort.; x*Zelenkocidium* J.M.H.Shaw.) (Partial Revision)	TG/283/1, TWO/50/6

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

141. The TWO agreed to discuss the following draft Test Guidelines at its fifty-first session:

Subject	Relevant document(s)
*Alstroemeria (*Alstroemeria* L.) (Revision)	TG/29/8(proj.2)
Berberis (*Berberis* L.) (Revision)	TG/68/4(proj.1)
*Calendula (*Calendula* L.)	TG/CALEN(proj.2)
*Coreopsis (*Coreopsis* L.)	TG/COREO(proj.1)
Eustoma (*Eustoma grandiflorum* (Raf.) Shinners) (Revision)	TG/197/1
*Gazania (*Gazania* Gaertn.)	TG/GAZAN(proj.2)
*Hydrangea (*Hydrangea* L.) (Revision)	TG/133/5(proj.2)
*Kangaroo Paw (*Anigozanthos* Labill.) (Revision)	TG/175/4(proj.1)
Lagerstroemia (*Lagerstroemia* L.) (Revision)	TG/95/4(proj.1)
Narcissus (*Narcissus* L.) (revision)	TG/87/2
*Phalaenopsis (*Phalaenopsis* Bl.) (Partial Revision)	TG/213/2, TWO/50/7
Portulaca (*Portulaca oleracea* L.) (Revision)	TG/242/1
Ranunculus (*Ranunculus* L.)	TG/RANUN(proj.1)
*Zinnia (*Zinnia* L.)	TG/ZINNIA(proj.7)

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

(c) Possible Test Guidelines to be discussed in 2020

143. The TWO agreed that it should consider the development of Test Guidelines for the following at a future session:

Amaryllis (*Hippeastrum* Herb.) (Revision)
China-rose (*Hibiscus rosa-sinensis* L.)
Eucalyptus (*Eucalyptus* L'Hér.) (partial revision)
Lavender (*Lavandula* L.) (Partial revision)
Paphiopedilum (*Paphiopedilum* Pfitzer)
Poinsettia (*Euphorbia pulcherrima* Willd. ex Klotzsch) (revision)

Date and place of the next session

144. At the invitation of New Zealand, the TWO agreed to hold its fifty-first session in Christchurch, from February 18 to 22, 2019, with the preparatory workshop on the afternoon of February 17, 2019. The date in February is subject to confirmation. The alternative date would be February 25 to March 1, 2019, with the preparatory workshop on the afternoon of February 24, 2019.

Chairperson

145. The TWO thanked Mr. Kenji Numaguchi for his chairmanship and noted that he was awarded a UPOV bronze medal in recognition of his chairmanship of the TWO from 2015 to 2017.

Future program

146. 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 (oral report by the Office of the Union)
4. Molecular techniques (document to be prepared by the Office of the Union)
5. TGP documents (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 (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)
   - (d) Electronic application systems (document to be prepared by the Office of the Union and documents invited)
8. Minimum distances between vegetatively reproduced ornamental and fruit varieties (documents invited)
9. Number of growing cycles in DUS examination (document to be prepared by the Office of the Union and documents invited)
10. Report on court cases dealing with technical matters (document invited)
11. Experiences with defining trees, shrubs and vines (document to be prepared by the European Union and documents invited)

12. Experience with the RHS Colour Chart and possible future addition of colors (document to be prepared by the United Kingdom)
13. Inconsistencies between TQ information and plant material submitted for trial (document to be prepared by the European Union and documents invited)
14. Experiences with taxonomic databases (document to be prepared by Australia, the United Kingdom and documents invited)
15. Experiences with characteristics assessed on the basis of bulk samples (document to be prepared by the United Kingdom and documents invited)
16. Defining “growing cycle” for ornamental species (document to be prepared by the European Union and documents invited)
17. Experiences with new types and species (oral reports invited)
18. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee
19. Proposals for partial revision/correction of Test Guidelines
20. Discussion on draft Test Guidelines (Subgroups)
21. Recommendations on draft Test Guidelines
22. Guidance for drafters of Test Guidelines
23. Date and place of the next session
24. Future program
25. Adoption of the Report on the session (if time permits)
26. Closing of the session

Visit

147. On Wednesday, September 13, 2017, the TWO visited the Butchart Gardens, in Brentwood Bay, British Columbia, Canada. The TWO visited the greenhouses producing ornamental plants for the Gardens with a range of varieties from different crop types and for different climatic zones, including varieties of Berberis, Coleus, Gazania, Hydrangea, Hardy Geranium, Kangaroo Paw and Lagerstroemia. The TWO visited different floral display gardens and a collection of garden rose varieties.

148. The TWO adopted this report at the close of its session.

[Annexes follow]

ANNEX I

LIST OF PARTICIPANTS

I. MEMBERS

AUSTRALIA

Nik HULSE (Mr.), Chief of Plant Breeders' Rights, Plant Breeder's Rights Office, IP Australia, 47 Bowes Street, Woden ACT 2606
(tel.: +61 2 6283 7982 e-mail: nik.hulse@ipaustralia.gov.au)

BRAZIL

Luiz Claudio AUGUSTO DE OLIVEIRA (Mr.), Federal Agriculture Inspector, National Plant Variety Protection Service (SNPC), Ministry of Agriculture, Livestock and Food Supply, Ministry of Agriculture, Livestock and Food Supply, Esplanada dos Ministérios, Bloco D, Anexo A, Sala 248, Brasilia D.F. 70043-900
(tel.: +55 61 981460200 fax: +55 61 3224 2842 e-mail: luiz.oliveira@agricultura.gov.br)

CANADA

Anthony PARKER (Mr.), Commissioner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA), Room 59-1E-335 - 59 Camelot Drive, Ottawa Ontario K1A 0Y9
(tel.: +1 613 773 7188 fax: +1 613 773 7115 e-mail: anthony.parker@inspection.gc.ca)

Michel CORMIER (Mr.), Chief Examiner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA), Room 59-2E-122, 59 Camelot Drive, Ottawa Ontario K1A 0Y9
(tel.: +1 613 773 7135 fax: +1 613 773 7115 e-mail: michel.cormier@inspection.gc.ca)

Lisa LEDUC (Ms.), Examiner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA), Room 59-2E-121, 59 Camelot Drive, Ottawa Ontario K1A 0Y9
(tel.: +1 613 773 7532 fax: +1 613 773 7115 e-mail: lisa.leduc@inspection.gc.ca)

Jennifer ROACH (Ms.), Examiner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA), Room 59-1E-332 - 59 Camelot Drive, Ottawa Ontario K1A 0Y9
(tel.: +1-613-773-7196 fax: +1 613 773 7115 e-mail: Jennifer.Roach@inspection.gc.ca)

EUROPEAN UNION

Jens WEGNER (Mr.), Technical Expert for Ornamental Plants, Community Plant Variety Office (CPVO), 3 boulevard Maréchal Foch, CS 10121, 49101 Angers, France
(tel.: +33 2 4125 6453 e-mail: wegner@cpvo.europa.eu)

Laetitia DENECHEAU (Ms.), Technical Expert for Ornamental Plants, Community Plant Variety Office (CPVO), 3 boulevard Maréchal Foch, CS 10121, 49101 Angers, France
(tel.: +33 2 4125 6432 e-mail: denecheau@cpvo.europa.eu)

FRANCE

Bernard LE PAUTREMAT (Mr.), Technicien, Groupe d'étude et de contrôle des variétés et des semences (GEVES), Domaine de la Boisselière, 49250 Les Bois d'Anjou
(tel. : +33 2 4157 2322 fax : +33 2 4157 4619 e-mail: bernard.lepautremat@geves.fr)

Kévin DAUBIGNEY (Mr.), Technicien d'expérimentation végétale, GEVES - Brion, Domaine de Boisselière, 49250 Les Bois d'Anjou
(tel.: +33 241 57 2322 fax: +33 241 57 4619 e-mail: kevin.daubigney@geves.fr)

GERMANY

Andrea MENNE (Ms.), Head, Section DUS Testing Ornamentals, Bundessortenamt, Osterfelddamm 80, 30627 Hannover
(tel.: +49 511 9566 5723 fax: +49 511 9566 5719
e-mail: andrea.menne@bundessortenamt.de)

HUNGARY

Szilvia MÁRKNÉ DEÁK (Ms.), DUS Expert, Directorate of Plant Production and Horticulture, National Food Chain Safety Office, Keleti Károly utca 24., 1024 Budapest
(tel.: +36 70 436 0657 e-mail: DeakSz@nebih.gov.hu)

JAPAN

Kenji NUMAGUCHI (Mr.), Chief Examiner, Plant Variety Protection Office, New Business and Intellectual Property Division, Food Industry Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF), 1-2-1 Kasumigaseki, Chiyoda-ku, 100-8950 Tokyo
(tel.: +81 3 6738 6465 fax: +81 3 3502 6572 e-mail: kenji_numaguchi760@maff.go.jp)

Tetsuya TAKAHASHI (Mr.), Examiner, Plant Variety Protection Office, New Business and Intellectual Property Division, Food Industry Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF), 1-2-1 Kasumigaseki, Chiyoda-ku, 100-8950 Tokyo
(tel.: +81 3 6738 6464 fax: +81 3 3502 6572 e-mail: tetsuya_takahashi010@maff.go.jp)

Koji NAKANISHI (Mr.), Senior Staff, DUS Test Division, Nishi-Nihon station, Center for Seeds and Seedlings NARO (NCSS), 91 Heisei-cho, Kasaoka, Okayama prefecture 714-0054
(tel.: +81 865 69 6644 fax: +81 865 66 0264 e-mail: konaka@affrc.go.jp)

MEXICO

María Teresa B. COLINAS LEÓN (Ms.), Profesor, Departamento de Fitotecnia, Universidad Autónoma Chapingo (UACh), Matamoros 4, San Luis Huexotla, 56250 Texcoco
(tel.: +52 (595) 928 4217 fax: +52 595 95 216 42 e-mail: lozcol@gmail.com)

José Merced MEJIA MUÑOZ (Mr.), Profesor, Departamento de Fitotecnia, Universidad Autónoma Chapingo, Km. 38.5 Carretera México-Texcoco, CP 56230 Chapingo
(tel.: +52 595 95 21500 ext. 6267 fax: +52 595 95 216 42
e-mail: jmerced58@hotmail.com)

Amando ESPINOSA-FLORES (Mr.), Profesor, Departamento de Fitotecnia, Universidad Autónoma Chapingo, CP 56230 Chapingo Estado de Mexico
(tel.: +52 595 952 1500 ext. 6118 e-mail: floresamando@yahoo.com.mx)

Claudio FLORES ESPINOSA (Mr.), Profesor, Departamento de Fitotecnia, Universidad Autónoma Chapingo, 4ta cda de Palma no 5 San Luis Huexotla, Texcoco Estado de México
(tel.: +52 595 92 84999 e-mail: florespinosamx@msn.com)

NETHERLANDS

Bert SCHOLTE (Mr.), Head Department Variety Testing, Naktuinbouw NL, Sotaweg 22, 2371 GD Roelofarendsveen
(tel.: +31 71 332 6167 fax: +31 71 332 6363 e-mail: b.scholte@naktuinbouw.nl)

Henk J. DE GREEF (Mr.), DUS Ornamental Specialist, Team DUS Ornamental and Fruit Crops, Naktuinbouw, Sotaweg 22, 2370 GD Roelofarendsveen
(tel.: +31 646 713131 fax: +31 71 332 6363 e-mail: h.d.greef@naktuinbouw.nl)

NEW ZEALAND

Christopher J. BARNABY (Mr.), Assistant Commissioner / Principal Examiner for Plant Variety Rights, Plant Variety Rights Office, Intellectual Property Office of New Zealand, Ministry of Business, Innovation and Employment, Private Bag 4714, Christchurch 8140
(tel.: +64 3 9626206 e-mail: Chris.Barnaby@pvr.govt.nz)

REPUBLIC OF KOREA

Jin-Seok AN (Mr.), DUS Expert, Korea Seed & Variety Service (KSVS), 119, Hyeoksin 8ro, Gimcheon-si, Gyeongsangbuk-do, 39660
(tel.: +82 54 912 0201 fax: +82 54 912 0210 e-mail: jsa0712@korea.kr)

TURKEY

Ece GÖKOK (Ms.), Agricultural Engineer, Ministry of Food, Agriculture and Livestock, General Directorate of Plant Production, Eskisehir Yolu 9.km, Lodumlu Çankaya, Ankara
(tel.: +90 312 258 8437 e-mail: ece.gokok@tarim.gov.tr)

UNITED KINGDOM

Hilary PAPWORTH (Ms.), Senior Technical Manager, Ornamental Crops Characterisation, National Institute of Agricultural Botany (NIAB), Hungtingdon Road, Cambridge CB3 OLE
(tel.: +44 1223 342295 fax: +44 1223 277602 e-mail: hilary.papworth@niab.com)

II. OBSERVERS

THAILAND

Thidakoon SAENUDOM (Ms.), Director of the Plant Variety Protection Research Group, Plant Variety Protection Office, Department of Agriculture, Phochakorn Building, 50 Phahonyothin Road, Chatuchark, Ladyoa, 10900 Bangkok
(tel.: +66 2 940 7214 / +66 2 561 4665 fax: +66 2 940 7214
e-mail: thidakuns@hotmail.com)

Auttaporn SITWIPUSIRI (Mr.), Agricultural Research Officer, Plant Variety Protection Research Group, Department of Agriculture, Phochakorn Building, 50 Phahonyothin Rd., Chartujark, 10900 Bangkok
(tel.: +66 2 940 7214 fax: +66 2 940 7214 e-mail: dragonbotany@gmail.com)

III. ORGANIZATIONS

INTERNATIONAL COMMUNITY OF BREEDERS OF ASEXUALLY REPRODUCED ORNAMENTALS AND FRUIT VARIETIES (CIOPORA)

Edgar KRIEGER (Mr.), Secretary General, International Community of Breeders of Asexually Reproduced Ornamental and Fruit Plants (CIOPORA), Deichstr. 29 - 1st floor, 20459 Hamburg , Germany
(tel.: +49 40 555 63702 fax: +49 40 555 63703 e-mail: edgar.krieger@ciopora.org)

Silvia SARTORELLI (Ms.), Head Technical Expert (HTE) for ornamental crops, Rua Dálias 723, conjunto 6, Holambra , Brazil
(tel.: +55 19 3802 3163 fax: +55 19 3902 4161 e-mail: silvia@cultivarprotection.com.br)

Nellie HOEK (Ms.), Manager, IP Department, Royalty Administration International, Naaldwijkseweg 350, P.O. Box 156, 2690 AD 's-Gravenzande, Netherlands
(tel.: +31 174 420 171 fax: +31 174 420 923 e-mail: nellie@royalty-adm-int.nl)

IV. OFFICERS

Kenji NUMAGUCHI (Mr.), Chair

V. OFFICE OF UPOV

Leontino TAVEIRA (Mr.), Technical/Regional Officer (Latin America, Caribbean), International Union for the Protection of New Varieties of Plants (UPOV), Geneva 1211, Switzerland
(tel.: +41 22 338 9565 fax: +41 22 733 0336 e-mail: leontino.taveira@upov.int)

Ariane BESSE (Ms.), Administrative Assistant, International Union for the Protection of New Varieties of Plants (UPOV), Chemin des Colombettes 34, 1211 Geneva 20, Switzerland
(tel.: +41 22 338 9812 fax: +41 22 733 0336 e-mail: ariane.besse@upov.int)

Chao DENG (Mr.), Intern, International Union for the Protection of New Varieties of Plants (UPOV), Chemin des Colombettes 34, 1211 Geneva 20, Switzerland
(tel.: +41 22 338 9980 fax: +41 22 733 0336 e-mail: chao.deng@upov.int)

[Annex II follows]

Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Overview - Canada's Ornamental Sector and PBR Office

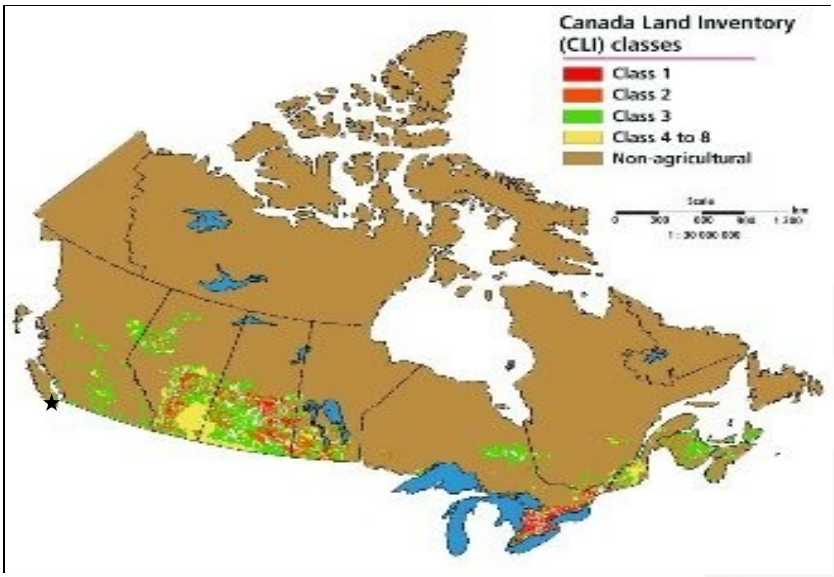
UPOV 50th TWO – 2017/09/11

Victoria, Canada

Canada

Welcome to Victoria!

Canadian Agriculture



Canadian Agriculture

Agriculture & Agri-food System (AAFS)

- Generates $108.8 billion annually, 6.6% GDP (2014)
- 1 in 8 jobs linked to the sector
- Canada is the 5th largest exporter of agri-products globally

Horticulture

- $5 billion in direct farm receipts (2015)

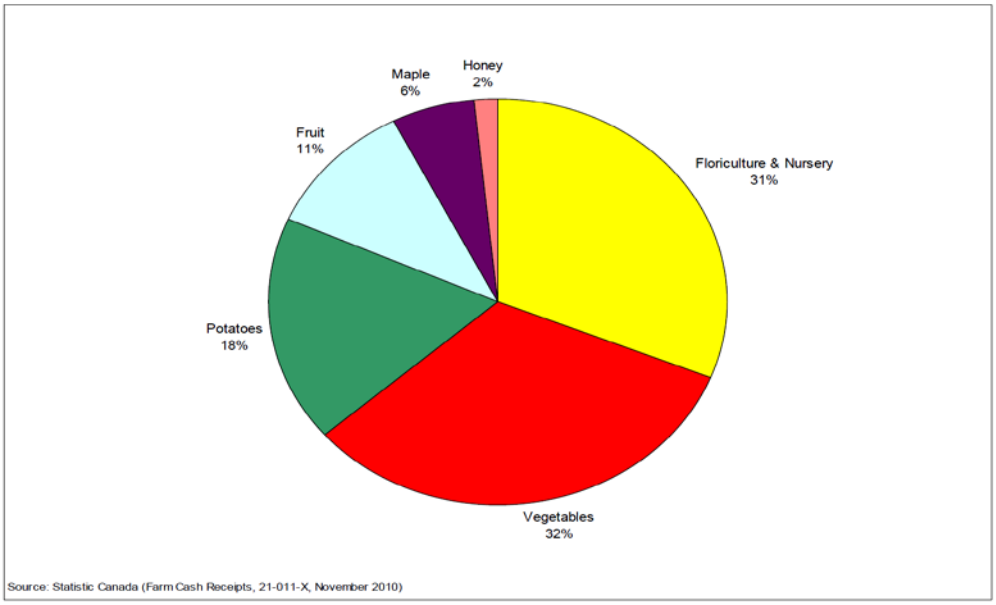
Ornamental/nursery

- $14.5 billion in economic output (2009)
- Employees 110,750 full time equivalent jobs

Seed Industry

- $5.6 billion in economic output (2014)
- $120 million private sector annual investment plant breeding (2017)

Canadian Horticulture/Products by Sector (2009)



Value of Canadian Horticulture/Products by Sector (2009)

Sector	2005	2006	2007	2008	2009
			Value ($ Million)[1]		
Floriculture & Nursery[2]	1,791	1,785	1,804	1,717	1,921
Vegetables[3]	1,683	1,801	1,732	1,827	2,012
Potatoes	787	896	866	971	1,128
Fruit [4]	597	724	726	747	669
Maple	190	185	166	209	352
Honey	104	104	96	98	109
Total	**5,152**	**5,495**	**5,389**	**5,570**	**6,190**

Notes:

1. Excludes program payments.
2. Includes floriculture, nursery, sod and Christmas trees.
3. Includes greenhouse vegetables and other vegetables.
4. Includes tree fruits and small fruits.

Source: *Statistic Canada (Farm Cash Receipts, 21-011-X, November 2010)*

Top Exports of Canadian Floriculture and Nursery Products (2010)

Rank	Country	Value ($ Million)	% of Total Exports
1	United States	297.7	98.5
2	Netherlands	1.6	0.5
3	Panama	1.2	0.4
4	Venezuela	0.4	0.1
5	Netherlands Antilles	0.3	0.1
6	Bermuda	0.2	0.1
7	Aruba	0.2	0.1
8	Germany	0.1	0.0
9	Bahamas	0.1	0.0
10	China	0.1	0.0

Source: *Statistics Canada (CATSNet, April 28, 2011)*

Canadian PBR System

- The PBR Office
  - The *PBR Act* is administered by the Commissioner and Examiners of the PBR Office, contained within the Canadian Food Inspection Agency (CFIA)
  - PBR Office is located at 59 Camelot Dr., Ottawa, Ontario

Canadian PBR System

- The PBR Office
  - Anthony Parker - Commissioner
  - Michel Cormier - Senior Examiner
  - Elizabeth Prentice-Hudson – Senior Examiner
  - Ashley Balchin (Maternity leave) – Examiner
  - Renée Cloutier - Examiner
  - Jennifer Roach - Examiner
  - Lisa LeDuc - Examiner
  - Marc de Wit - Examiner

Canadian PBR System

- Canadian PBR Framework

Application Phase	Examination Phase	Grant of Rights Phase
• Complete and submit application form with required attachments (origin and breeding history; statement of DUS along with authorization of agent form and / or assignment form, as needed • Submit seed sample for seed reproduced varieties only	• 1 or 2 growing seasons of trials depending on variety (horticulture vs agricultural) • complete Test Guideline (one copy per growing season and combined over 2, if applicable) using data from plants examined by PBR Office OR • Purchase DUS test report from other UPOV member country, if possible • Draft description and publication in the Plant Variety Journal (PVJ)	• After 6 month (PVJ publication) and confirmation of rights information – Rights Granted • Annual renewal of rights

Canadian PBR System

- Canadian PBR Framework

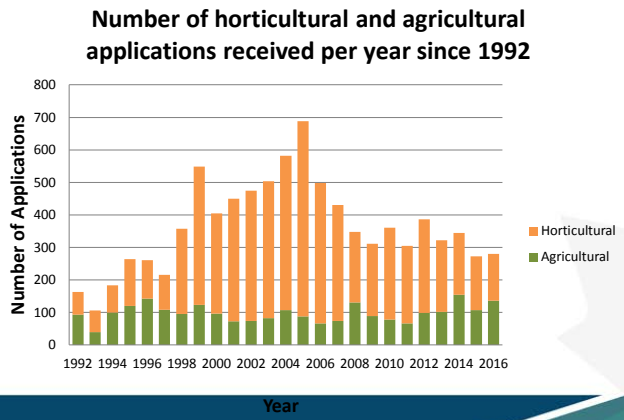
Application Phase

- Collect filing fee $250
- Determine suitability of the Denomination (variety name)
- Validate Origin and Breeding History
- Review information on prior sales and/or prior applications in other countries
- Verify appropriateness of Reference Varieties (suggest changes)
- Share Test Guidelines and answer any questions

Canadian PBR System

- Canadian PBR Framework

Application Phase



Canadian PBR System

- Top 10 applications/crop group

Top 10 Agricultural Applications Filed	
Variety	**Applications filed**
Potato	684
Canola	587
Soybean	287
Wheat	275
Pea	163
Barley	155
Oat	84
Flax	47
Corn	31
Bean	29

Top 10 Ornamental Applications Filed	
Variety	**Applications filed**
Rose	591
Pelargonium	580
Chrysanthemum	541
Impatiens	541
Calibrachoa	342
Petunia	331
Verbena	266
Poinsettia	257
Osteospermum	165
Dahlia	109

Top 10 Fruit and Vegetable Applications Filed	
Variety	**Applications filed**
Strawberry	139
Apple	135
Raspberry	43
Cherry	40
Blueberry	36
Grapevine	26
Pear	23
Blue Honeysuckle	19
Lettuce	18
Black Currant	17

Agriculture

Horticulture

Canadian PBR System

- Canadian PBR Framework

Examination Phase

- Examiner from PBR Office visits <u>all</u> trials to confirm they are conducted properly (in accordance with UPOV test guidelines) and that the new variety is distinct & uniform
- Examiner takes observations, measurements and notes on the distinguishing characteristics and assess the appropriateness of the reference varieties




Canadian PBR System

- Canadian PBR Framework

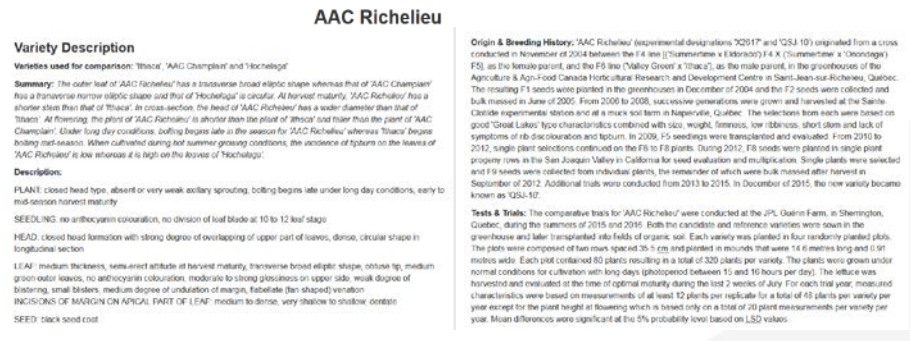
Examination Phase

- Breeder/trial coordinator submits completed variety description and comparative photos to PBR Office
- Submitted information is compared to Examination Report by the PBR Office
- Description is drafted based on the submitted information and is validated by the breeder/trial coordinator
- Description published in *Plant Variety Journal* for a period of 6 months, as mandated by legislation, for peer review and possible objections

Canadian PBR System

- Canadian PBR Framework

Examination Phase



AAC Richelieu

Variety Description

Varieties used for comparison: 'Ithaca', 'AAG Champlain' and 'Hochelaga'

Summary: *The outer leaf of 'AAC Richelieu' has a transverse broad elliptic shape whereas that of 'AAC Champlain' has a transverse narrow elliptic shape and that of 'Hochelaga' is circular. At harvest maturity, 'AAC Richelieu' has a shorter stem than that of 'Ithaca'. In cross-section, the head of 'AAC Richelieu' has a wider diameter than that of 'Ithaca'. At flowering, the plant of 'AAC Richelieu' is shorter than the plant of 'Ithaca' and taller than the plant of 'AAC Champlain'. Under long day conditions, bolting begins late in the season for 'AAC Richelieu' whereas 'Ithaca' begins bolting mid-season. When cultivated during hot summer growing conditions, the incidence of tipburn on the leaves of 'AAC Richelieu' is low whereas it is high on the leaves of 'Hochelaga'.*

Description:

PLANT: closed head type, absent or very weak axillary sprouting, bolting begins late under long day conditions, early to mid-season harvest maturity

SEEDLING: no anthocyanin colouration, no division of leaf blade at 10 to 12 leaf stage

HEAD: closed head formation with strong degree of overlapping of upper part of leaves, dense, circular shape in longitudinal section

LEAF: medium thickness, semi-erect attitude at harvest maturity, transverse broad elliptic shape, obtuse tip, medium green outer leaves, no anthocyanin colouration, moderate to strong glossiness on upper side, weak degree of blistering, small blisters, medium degree of undulation of margin, flabellate (fan shaped) venation
INCISIONS OF MARGIN ON APICAL PART OF LEAF: medium to dense, very shallow to shallow, dentate

SEED: black seed coat

Origin & Breeding History: 'AAC Richelieu' (experimental designations 'Q2017' and 'QSJ-10') originated from a cross conducted in November of 2004 between the F4 line [('Summertime x Eldorado') F4 X ('Summertime' x 'Onondaga') F5], as the female parent, and the F6 line ('Valley Green' x 'Ithaca'), as the male parent, in the greenhouses of the Agriculture & Agri-Food Canada Horticultural Research and Development Centre in Saint-Jean-sur-Richelieu, Québec. The resulting F1 seeds were planted in the greenhouses in December of 2004 and the F2 seeds were collected and bulk massed in June of 2005. From 2006 to 2008, successive generations were grown and harvested at the Sainte-Clotilde experimental station and at a muck soil farm in Napierville, Québec. The selections from each were based on good "Great Lakes" type characteristics combined with size, weight, firmness, low ribbiness, short stem and lack of symptoms of rib discolouration and tipburn. In 2009, F5 seedings were transplanted and evaluated. From 2010 to 2012, single plant selections continued on the F6 to F8 plants. During 2012, F8 seeds were planted in single plant progeny rows in the San Joaquin Valley in California for seed evaluation and multiplication. Single plants were selected and F9 seeds were collected from individual plants, the remainder of which were bulk massed after harvest in September of 2012. Additional trials were conducted from 2013 to 2015. In December of 2015, the new variety became known as 'QSJ-10'.

Tests & Trials: The comparative trials for 'AAC Richelieu' were conducted at the JPL Guérin Farm, in Sherrington, Québec, during the summers of 2015 and 2016. Both the candidate and reference varieties were sown in the greenhouse and later transplanted into fields of organic soil. Each variety was planted in four randomly planted plots. The plots were composed of two rows spaced 35.5 cm and planted in mounds that were 14.6 metres long and 0.91 metres wide. Each plot contained 80 plants resulting in a total of 320 plants per variety. The plants were grown under normal conditions for cultivation with long days (photoperiod between 15 and 16 hours per day). The lettuce was harvested and evaluated at the time of optimal maturity during the last 2 weeks of July. For each trial year, measured characteristics were based on measurements of at least 12 plants per replicate for a total of 48 plants per variety per year except for the plant height at flowering which is based only on a total of 20 plant measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Canadian PBR System

- Canadian PBR Framework

Examination Phase

AAC Richelieu

Comparison tables for 'AAC Richelieu' with reference varieties 'Ithaca', 'AAC Champlain' and 'Hochelaga'

Head diameter in cross-section (cm)

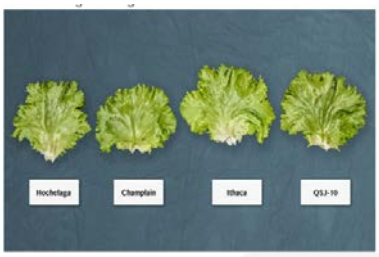
	'AAC Richelieu'	'Ithaca'	'AAC Champlain'	'Hochelaga'
mean (2015) (LSD=1.0)	16.6	15.0	16.9	19.6
std. deviation (2015)	1.1	1.3	1.2	1.3
mean (2016) (LSD=0.9)	17.2	16.0	17.0	17.8
std. deviation (2016)	1.2	1.3	1.6	1.4

Length of stem (from base of first external leaf forming head to apical bud) (mm)

	'AAC Richelieu'	'Ithaca'	'AAC Champlain'	'Hochelaga'
mean (2015) (LSD=3.1)	56.3	62.0	54.0	55.0
std. deviation (2015)	4.4	5.8	4.5	5.3
mean (2016) (LSD=4.1)	64.0	72.0	70.0	74.0
std. deviation (2015)	7.4	7.9	7.1	9.2

Plant height at flowering (cm)

	'AAC Richelieu'	'Ithaca'	'AAC Champlain'	'Hochelaga'
mean (2015) (LSD=3.5)	104.2	112.8	84.0	106.1
std. deviation (2015)	8.1	5.2	5.8	5.2
mean (2016) (LSD=3.4)	100.2	121.8	87.2	100.0
std. deviation (2016)	9.3	5.3	5.2	7.2

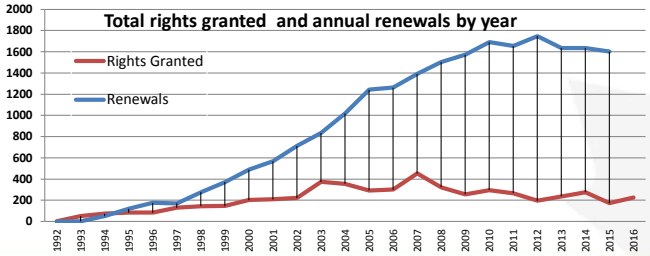


Canadian PBR System

- Canadian PBR Framework

Grant of Rights Phase

- After the 6 month peer review period, rights are granted if no objections
- Rights are maintained by paying an annual maintenance fee of $300 (up to 20yrs, and 25yrs for tree and grapevine).



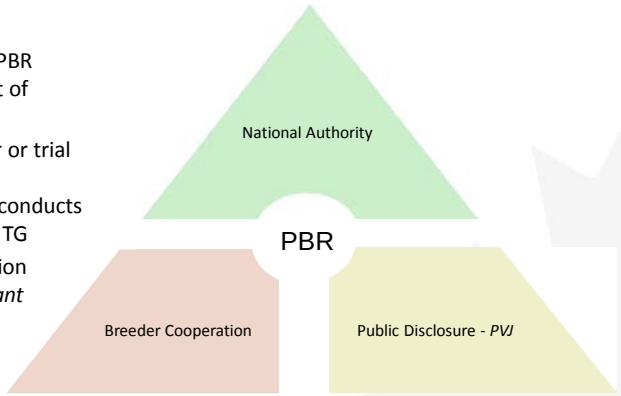
Canadian PBR System

- Canadian PBR system summary

National Authority - PBR Office conducts site examination and PBR Commissioner decides on Grant of Rights

Breeder Cooperation – breeder or trial coordinator provides detailed information on the variety and conducts DUS Testing in accordance with TG

Public Disclosure – all information about a variety is available – *Plant Varieties Journal (PVJ)* for public scrutiny and input

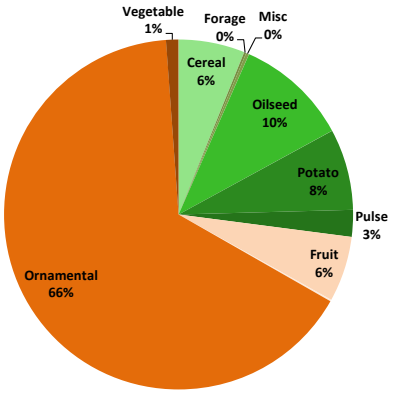


Trends since UPOV'91

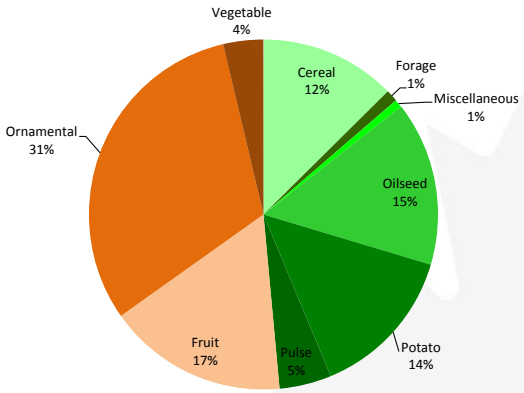
- The number of agricultural varieties seeking PBR protection appears to be increasing:
  - UPOV'78/*PBR Act* average = 93/year
  - UPOV'91/*PBR Act* average = 123/year (32% increase)
- The overall number of potato applications is increasing:
  - UPOV'78/*PBR Act* average = 26/year
  - UPOV'91/*PBR Act* average = 40/year (54% increase)
- Ornamental applications have been decreasing, but vegetable has been increasing
- Fruit crop diversity appears to be increasing.

Recent Trends

All applications since 1992



Applications for 2016



Thank You!
Questions?

[Annex III follows]

ANNEX III

LIST OF LEADING EXPERTS

DRAFT TEST GUIDELINES TO BE SUBMITTED TO THE TECHNICAL COMMITTEE IN 2018

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

by October 27, 2017

Species	Basic Document(s)	Leading expert(s)
*Coleus (*Plectranthus scutellarioides* (L.) R. Br.)	TG/SOLEN_SCU (proj.3)	Mr. Takayuki Mikuni (JP)
*Grevillea (*Grevillea* R. Br. corr. R. Br.)	TG/GREVI(proj.6)	Mr. Nik Hulse (AU)
*Guzmania (*Guzmania* Ruiz et Pav.) (Revision)	TG/182/4(proj.3)	Mr. Henk de Greef (NL)
*Hardy Geranium (*Geranium* L.)	TG/GERAN(proj.3)	Ms. Elizabeth Scott (GB)
*Oncidium (*Oncidium* Sw.; x*Oncidesa* Hort.; x*Ionocidium* Hort.; x*Zelenkocidium* J.M.H.Shaw.) (Partial Revision)	TG/283/1, TWO/50/6	Mr. Kenji Numaguchi (JP)

DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWO/51
(* indicates possible final draft Test Guidelines)

(Guideline date for Subgroup draft to be submitted by Leading Expert: November 9, 2018
Guideline date for comments to Leading Expert by Subgroup: December 7, 2018)

New draft to be submitted to the Office of the Union

before January 4, 2019

Species	Basic Document(s)	Leading expert(s)	Interested experts (States/Organizations) [1]
*Alstroemeria (*Alstroemeria* L.) (Revision)	TG/29/8(proj.2)	Mr. Henk de Greef (NL)	AU, CA, KR, JP, MX, NZ, QZ, ZA, Office
Berberis (*Berberis* L.) (Revision)	TG/68/4(proj.1)	Mr. Kévin Daubigney (FR)	CA, PL, QZ, Office
*Calendula (*Calendula* L.)	TG/CALEN(proj.2)	Mr. Koji Nakanishi (JP)	DE, GB, KR, MX, QZ, ZA, Office
*Coreopsis (*Coreopsis* L.)	TG/COREO(proj.1)	Mr. Peter Baker (GB)	AU, CA, DE, FR, JP, KR, MX, NZ, QZ, Office
Eustoma (*Eustoma grandiflorum* (Raf.) Shinners) (Revision)	TG/197/1	Mr. Kenji Numaguchi (JP)	DE, KR, QZ, Office
*Gazania (*Gazania* Gaertn.)	TG/GAZAN(proj.2)	Mr. Adriaan de Villiers (ZA)	AU, DE, GB, JP, KR, MX, NZ, QZ, CIOPORA, Office
*Hydrangea (*Hydrangea* L.) (Revision)	TG/133/5(proj.2)	Mr. Kévin Daubigney (FR)	AU, CA, DE, JP, KR, MX, NZ, QZ, ZA, CIOPORA, Office
*Kangaroo Paw (*Anigozanthos* Labill.) (Revision)	TG/175/4(proj.1)	Mr. Nik Hulse (AU)	DE, GB, JP, KR, NZ, QZ, Office
Lagerstroemia (*Lagerstroemia* L.) (Revision)	TG/95/4(proj.1)	Mr. Kévin Daubigney (FR)	AU, JP, KR, QZ, Office
Narcissus (*Narcissus* L.) (Revision)	TG/87/2	Ms. Hilary Papworth (GB)	JP, KR, MX, NL, PL, QZ, Office
*Phalaenopsis (*Phalaenopsis* Bl.) (Partial Revision)	TG/213/2, TWO/50/7	Mr. Henk de Greef (NL)	AU, JP, KR, QZ, Office
Portulaca (*Portulaca oleracea* L.) (Revision)	TG/242/1	Ms. Andrea Menne (DE)	JP, MX, NL, QZ, Office
Ranunculus (*Ranunculus* L.)	TG/RANUN(proj.1)	Mr. Tetsuya Takahashi (JP)	DK, KR, QZ, CIOPORA, Office
*Zinnia (*Zinnia* L.)	TG/ZINNIA(proj.7)	Mr. Jose Mejía Muñoz (MX)	CN, FR, GB, IL, JP, KR, NL, QZ, Office

[1] for name of experts, see List of Participants.

DRAFT TEST GUIDELINES TO POSSIBLY BE DISCUSSED IN 2020

Species	Basic Document(s)
Amaryllis (*Hippeastrum* Herb.) (Revision)	TG/181/3
China-rose (*Hibiscus rosa-sinensis* L.)	New
Eucalyptus (*Eucalyptus* L'Hér.) (Partial Revision)	TG/296/1
Lavender (*Lavandula* L.) (Partial Revision)	TG/194/1
Paphiopedilum (*Paphiopedilum* Pfitzer)	New
Poinsettia (*Euphorbia pulcherrima* Willd. ex Klotzsch) (Revision)	TG/24/6

[End of Annex III and of Report]