



TWO/45/37

ORIGINAL: English

DATE: August 10, 2012

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
Geneva

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

Forty-Fifth Session

Jeju, Republic of Korea, August 6 to 10, 2012

REPORT

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

1. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) held its forty-fifth session in Jeju, Republic of Korea, from August 6 to 10, 2012. The list of participants is reproduced in Annex I to this report.

2. The TWO was welcomed by Mr. Won-Gil Bae, Director General, Korea Seed & Variety Service (KSVS) and Mr. Young-Kook Chang, Director, Plant Variety Division, KSVS. Copies of the speech made by Mr. Won-Gil Bae and the presentation made by Mr. Young-Kook Chang are provided in Annexes II and III to this report, respectively.

3. The session was opened by Mr. Nik Hulse (Australia), Chairman of the TWO, who welcomed the participants. He thanked the Republic of Korea for hosting the TWO session.

Adoption of the Agenda

4. The TWO adopted the agenda as reproduced in document TWO/45/1 Rev.2..

Short Reports on Developments in Plant Variety Protection

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

5. The TWO noted the information on developments in plant variety protection from members and observers provided in document TWO/45/36 Prov.. The TWO noted that reports submitted to the Office of the Union after July 17, 2012, would be included in the final version of document TWO/45/36.

(b) *Reports on developments within UPOV*

6. The TWO received a presentation from the Office of the Union on the latest developments within UPOV, a copy of which is provided in document TWO/45/33.

Molecular Techniques

7. The TWO noted the information provided in document TWO/45/2.

TGP Documents

8. The TWO considered the TGP documents below on the basis of document TWO/45/3, in conjunction with document TWO/45/32 Rev. "Comments by the Technical Working Party for Agricultural Crops, the Technical Working Party for Vegetables, the Technical Working Party on Automation and Computer Programs and the Technical Working Party for Fruit Crops on TGP Documents".

Revision of TGP Documents:

TGP/7: Development of Test Guidelines

(i) Summary of revisions agreed for document TGP/7

9. The TWO considered document TWO/45/11 and agreed that chapter 2.3 should read "The minimum quantity of plant material, to be supplied by the applicant should be: [...]"

10. The TWO noted that the information provided by the Office of the Union concerning the quantity of plant material required would be available to TG experts on the TG Drafters' webpage.

(ii) Guidance on the number of plants to be examined (for distinctness)

11. The TWO considered document TWO/45/12 and received a presentation by an expert from Germany on the "Guidance of the number of plants to be examined (for distinctness)".

12. The TWO agreed that the heading of paragraph 4, Annex II of document TWO/45/12 should read: "Considerations for the number of plants to be observed for distinctness in the case of QN (in some cases PQ) characteristics".

13. The TWO requested to take into consideration that the minimum number of plants should match the number necessary to assess the characteristic requiring the greatest number of plants.

(iii) Guidance for method of observation

14. The TWO considered document TWO/45/13 and agreed with the TWA, TWC, TWV and TWF with the proposed text for guidance on method of observation as follows:

"(b) Number

7. If a characteristic is observed by counting (for example 'Number of lobes', observed by counting), the assessment is a measurement (M). If a characteristic is observed by estimation (for example 'Number of lobes', observed by estimation), the assessment is a visual observation (V)."

(iv) Example Varieties

15. The TWO considered documents TWO/45/14 and TWO/45/14 Add. and received a presentation by an expert from France.

16. The TWO agreed that the use of illustrations should be further encouraged for QL and PQ characteristics and supported the three step approach developed by the TWF whereby the Leading Expert takes into consideration:

Step 1: to ascertain whether example varieties were necessary for a specific characteristic;

Step 2: if considered necessary, those example varieties that could be used as common or universal references should be identified;

Step 3: to establish whether a regional set of example varieties were necessary for the specific Test Guidelines.

17. The TWO noted the proposal of the TWF that consideration be given to allowing applicants to suggest their choice of example varieties in the Technical Questionnaire, in order to assist in the clarification of the expression of their varieties.

(v) *Providing Photographs with the Technical Questionnaire*

18. The TWO considered document TWO/45/15 and received a presentation by an expert from the European Union.

19. The TWO suggested a revision of the wording of the proposal for new ASW 16 in the Annex to document TWO/45/15 to read:

~~“A representative color photograph of the variety displaying its main distinguishing feature(s) must accompany the TQ, if required by the authority. The photograph will provide a visual illustration of the candidate variety which supplements the information provided by the TQ. A representative color photograph (image) of the variety displaying its main distinguishing feature(s), must accompany the Technical Questionnaire. [A photograph provided according to the specified requirements (see [authority reference to be added]) in an appropriate format will help the examination authority to prepare its examination of distinctness in a more efficient way, by giving a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire. The information provided by the photograph may be used in the selection of the most similar varieties of common knowledge to be grown alongside the candidate variety in the trial, as well as to group the variety optimally within the DUS trial.]”~~

20. The TWO agreed to propose to revise the bullet points as follows in the proposed revision of the TQ under 7.3.2 with a link to the Guidance document:

“The key points to consider when taking a photograph of the candidate variety would be:

- Indicate date and geographic location
- Correct labeling (breeders' reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)”

21. The TWO noted the information provided by the delegation of Japan concerning a manual developed for the East Asia Plant Variety Protection Forum, on how to take photographs for Plant Variety Protection applications and DUS testing. The manual would shortly be made available in pdf format on the Japanese Plant Variety Protection Office website.

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

TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section 2 - Data to be recorded

22. The TWO considered document TWO/46/16 and noted the modifications made in the document.

23. The TWO agreed with the conclusions of the TWA and TWF that the document should be submitted to the TC for approval at its session in 2013.

TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section – Minimizing the Variation due to Different Observers

24. The TWO noted document TWO/45/24.

TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS
New Section – Reduction of the Size of Trials

25. The TWO noted document TWO/45/21.

TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 3 - The Combined-Over-Years Criteria for Distinctness (COYD)

26. The TWO noted document TWO/45/23.

TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 3, Subsection 3.6 - Adapting COYD to Special Circumstances

27. The TWO noted document TWO/45/20.

TGP/8: PART II: TECHNIQUES USED IN DUS EXAMINATION
Section 4 - 2X1% Method - Minimum Number of Degrees of Freedom for the 2x1% Method

28. The TWO noted document TWO/45/22.

TGP/8: PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section 10 - Minimum number of Comparable Varieties for the Relative Variance Method

29. The TWO noted document TWO/45/26 which was presented by the expert from Australia.

TGP/8: PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section 13: Methods for Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions

30. The TWO considered documents TWO/45/30 and TWO/45/30 Add. and received a presentation from the Office containing a summary of different approaches for transforming means into notes for variety descriptions.

31. The TWO agreed with the recommendations of the TWF that consideration be given to the construction of a meaningful scale of expression in the case of a limited range of available example varieties.

TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section - Guidance of data analysis for blind randomized trials

32. The TWO considered document TWO/45/17.

33. The TWO proposed that examples of use of blind randomized trials for other crop types, such as ornamentals, be included in the further development of the guidance.

TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section - Guidance for Development of Variety Description

34. The TWO noted document TWO/45/18.

TGP/8: PART II: TECHNIQUES USED IN DUS EXAMINATION
New section: Statistical Methods for Visually Observed Characteristics

35. The TWO noted document TWO/45/29.

TGP/8: PART II: TECHNIQUES USED IN DUS EXAMINATION
New Section 11 - Examining DUS in Bulk Samples

36. The TWO noted document TWO/45/28.

37. The TWO supported the comments of the TWF that as long as practical examples could not be provided, no specific guidance for the assessment of uniformity was necessary.

38. The TWO referred to past discussions on Lavender where bulk sampling had previously been considered

TGP/14: Glossary of Terms Used in UPOV Documents

(i) Revisions of existing Sections of document TGP/14: Section 2: Botanical Terms, Subsection 2: Shapes and Structures

39. The TWO considered document TWO/45/27.

40. With regard to Section 2: paragraph 2.8 “Perspective from which to observe plant shapes”, the TWO agreed with the text as set out in Annex I of document TWO/45/27, paragraph 2.8, as follows: “Where appropriate, an explanation of the perspective from which to observe the shape should be included in the Test Guidelines.”

41. With regard to Section 2: “Definition for Botanical Terms”, the TWO proposed to maintain the original definition for “Peduncle” as set out in Annex II of document TWO/45/27 with the following amendment: “A stem supporting an inflorescence or supporting an infructescence ~~after fecundation.~~”

42. With regard to revision of “Components of shape: states of expression for ratios”, the TWO agreed with the recommendations of the TWF and TWV that it would be more appropriate to use the states “very low to very high” in place of “very high to very low” when considering ratio: length/width. If the characteristic ratio: length/width was presented as shape, then the states would be “very compressed to very elongated” in place of “very elongated to very compressed”, with the appropriate explanation

43. With regard to revision of “Components of shape: states of expression for ratios”, the TWO proposed to amend the spelling of the word “length” in paragraph 1.5 in Annex III to document TWO/45/27.

44. The TWO agreed on the usefulness of the guidance on use of composite characteristics for determining distinctness and uniformity contained in the Annex V to document TWO/43/27 and noted that length/width and ratios were frequently used in the field of ornamentals and fruit trees.

(ii) New Section for Color Characteristics

45. The TWO considered document TWO/45/25 and noted modifications made in the new draft on the basis of the comments by the TWPs in 2011 and made further comments as follows:

Part I: Introduction	to redraft the last paragraph as follows: “For describing colors of plants in test guidelines, it is <u>generally</u> the usual practice to <u>look at one or more</u> observe two of the three elements of color, <u>separately or in combination.</u> COLOR and INTENSITY. SATURATION is effectively incorporated into the observation of COLOR. ”
Part II: Color, 2.1 “Terms used for color”	to delete “light orange” and “medium orange” from states of intensity because this lead to confusion between hue and intensity and agreed to move the arrow down in the illustration.
2.2.3	to read: “Depending on the organ described, the intensity can be presented either <u>in relation to a single color or in combination with different colors</u> alone (example) or in combination with the color (example 2). ”

2.3.1	As explained in the introduction, color is complex and can be defined in terms of 3 main elements: hue, saturation and intensity. <u>To read: For describing colors of plants in Test Guidelines, it is generally the practice to look at one or more of the three elements of color, separately or in combination. Therefore, any characteristic which combines more than one of those elements is likely to constitute a pseudo-qualitative characteristic. However, in those cases in which only the intensity of a color varies, the type of expression would be quantitative. In those cases where there is a low precision and there is a clear discontinuity between the colors (e.g. white and red), the type of expression would be qualitative.</u>
2.3.1 (a)	to delete current example and to provide another example of a truly QL characteristic
2.3.1 (c)(iii)	to read: "Color range"
PART III	to update TG references and Worked Examples according to latest versions
3.1	to read: "The main color is the color with the largest surface area. In cases where the areas of the main and secondary color <u>are too similar to reliably decide which color has the largest area are approximately the same</u> , [the darkest color] / [the color...[location]...] is considered to be the main color."
3.5.1	to read: "Variegation: Well defined areas of different colors or intensities, with less or no chlorophyll, especially as very light green, yellow or white longitudinal stripes or irregular shaped areas or marginal zone combined with a green color on leaves. <u>Variegation consists of color, color distribution and pattern. Depending on the species concerned, it may not be necessary for all components to be described.</u> " and to add examples for variegation from 4.2.1.8
Part IV, 4.1 Schematic overview	to delete the variegation images
4.2.1.8	to delete

Variety denominations

46. The TWO noted the developments reported in document TWO/45/4.

Information and databases

(a) *UPOV information databases*

47. The TWO noted the information provided in document TWO/45/5.

48. With regard to Annex V "UPOV codes to be checked by authorities", the experts of the TWO were invited to provide comments to the Office of the Union by September 30, 2012.

(b) *Variety description databases*

49. The TWO noted the information contained in documents TWO/45/6 and TWO/45/6 Add. including the presentation provided by an expert from France in the Annex to document TWO/45/6 Add..

50. The TWO highlighted the importance of the study in the future harmonization of variety descriptions.

(c) *Exchangeable software*

51. The TWO noted the information provided in document TWO/45/7.

Webcasting of UPOV Sessions

52. The TWO considered document TWO/45/19, and noted that webcasting was, potentially, a useful tool for subgroup discussion.

Uniformity assessment

(a) *Method for calculation of COYU*

53. The TWO noted the information provided in document TWO/45/10.

(b) *Assessing uniformity by off-types on the basis of more than one sample or sub-samples (document to be prepared by the Office of the Union)*

54. The TWO considered document TWO/45/9 and noted the different approaches used in different UPOV members.

Experience with new Types and Species

55. The TWO noted that there was no notable experience with new types and species.

Proposals for partial revisions/corrections of Test Guidelines

African Lily

56. The TWO discussed documents TG/266/1 and TWO/45/31 on proposals for partial revision for African Lily, as presented by the Chairman on behalf of Mr. Adriaan de Villiers. (South Africa)

57. The TWO accepted the proposed new wording for Characteristic 17 "Peduncle: shape in cross section", but reversed the order in which the states of expression would be presented to read: medium elliptic (1); broad elliptic (2); circular (3).

58. The TWO noted that Ad. 17 should be updated accordingly.

59. The TWO agreed that the partial revision of the Test Guidelines for African Lily (document TG/266/1), including the amendments above, should be put forward for adoption by the Technical Committee.

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


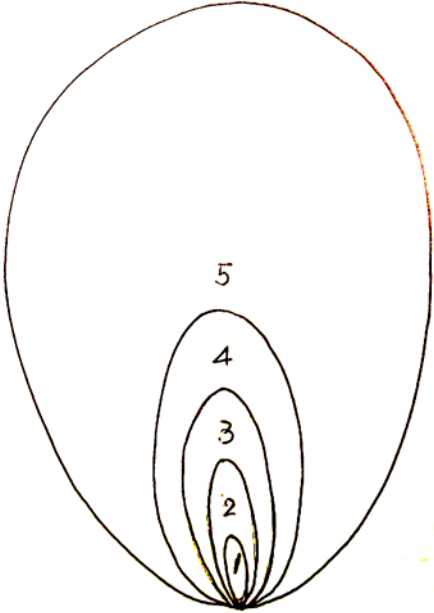
Tree Paeony


60. The TWO discussed document TWO/45/34 and agreed that the document be discussed in a subgroup.











61. The subgroup discussed document TWO/45/34 and considered the replies from the Leading Expert to the amendments requested by the Technical Committee, at its forty-eighth session in 2012, on the basis of document TG/PAEON(proj.6), and agreed as follows:

Box on cover page, Botanical names, Chapter 1	to indicate the following botanical names: " <i>Paeonia suffruticosa</i> , <i>Paeonia qiui</i> , <i>Paeonia jishanensis</i> , <i>Paeonia ostii</i> , <i>Paeonia rockii</i> , <i>Paeonia delavayi</i> , <i>Paeonia ludlowii</i> "
Cover page	to correct Spanish name to "Peonia" to correct French name to "Pivoine arbustive" to add space after comma in third line of botanical names
4.1.4	to read "Unless otherwise indicated, for the purposes of distinctness, all observations should be made on 5 plants or parts taken from each of 5 plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2."

5.3	<p>to have following Grouping characteristics:</p> <ul style="list-style-type: none"> (a) Plant: growth habit (characteristic 1) (b) Plant: height (characteristic 2) (c) Leaf: type (characteristic 12) (e) Lateral leaflets: depth of sinus (characteristic 20) (f) Flower: form (characteristic 23) (g) Flower: main color (characteristic 26) with the following groups: <ul style="list-style-type: none"> Gr.1: white Gr.2: green Gr.3: yellow Gr.4: orange Gr.5: pink Gr.6: red Gr.7: purple Gr.8: dark red purple (h) Petal: basal blotch (inner side) (characteristic 32) (i) Petal: size of blotch (characteristic 34) (j) Flowering: time of beginning of the first flowering (characteristic 50)
Char. 2	to be indicated as VG/MS
Char. 10	to be indicated as VG/MS
Char. 12	<p>to add state (3) "tripinnate" and Ad. 12 to be illustrated as below:</p> <div style="text-align: center;"> <p>1 2 3</p> <p>pinnate bipinnate tripinnate</p> </div> <p>and to delete MG and example varieties</p>
Char. 13	to be indicated as PQ
Char. 14	to be indicated as MS
Char. 15	to be indicated as MS
Char. 16	to be indicated as VG
Char. 23	to read: "Flower: form" and revise explanation to read: "The most complex form is the flower with the greatest number of petals and/or petaloids"
Char. 24	to be indicated as VG/MS
Chars. 25, 29, 30, 31, 46, 47, 48	to delete reference to "most complex form"
Char. 25, 29, 30, 31, 46, 47, 48	to add note (g)
Chars. 26, 27	to add color groups to chapter 5.3 and TQ 5 for characteristic 26, but not for characteristic 27 as many varieties do not have a secondary color

<p>Char. 28</p>	<p>to add additional state: edge (6) and in Ad. 28 to add new photo for new state (6) as below</p>  <p>with additional explanation:</p> <ul style="list-style-type: none">1: none2: as stripes on some petals3: as sectors on some flower sections (except the center)4: in flower center only5: on most whorls excluding outer whorls6: on margins of all petals
<p>Char. 33</p>	<p>to move to after Char.34 and to read: "Petal: width of blotch" with the states: very narrow (1); narrow (2); medium (3); broad (4); very broad (5) and the explanation to be amended to suit the new Char.</p>
<p>Char. 34</p>	<p>to be indicated as VG and to add (+) explanation as follows:</p> <p>"The size of the blotch is observed in relation to the length of the petal.</p> <p>very small (1): smaller than 1/8 of the length of petal small (2): larger than 1/8 to 1/4 of the length of petal medium (3): larger than 1/4 to 3/8 of the length of petal large (4): larger than 3/8 to 1/2 of the length of petal very large (5): larger than 1/2 of the length of petal"</p> 
<p>Char. 44</p>	<p>to add example varieties: Luo Yang Hong (1); Hua Xia Yi Pin Huang (2); Hua Xia Hong (3)</p>

<p>new Char. before Char. 50</p>	<p>to reinstate Char.54 from TG/PAEON(proj.4) which was deleted by error</p> <p>to read: "Flowering: number of flowering periods in one year" with states "only one" (1); "one or two (2); "two only" (3); "more than two"(4), with example varieties: Luo Yang Hong (1); Cang Zhi Hong (2); Ao Shuang (3); High Noon (4)</p>
<p>8.1 (a)</p>	<p>- to delete 8.1(a) and remove (a) from Char. 1 - to add to Ad. 1: "Observed after leaf fall in the winter" - to add (+) to Char. 2 and create the following Ad. 2: <u>"Ad. 2: Plant height</u> Observed when plants are in flower."</p>
<p>8.1 (b)</p>	<p>to reword to read "Observations on the mixed bud shape and color should be made on the first lateral bud from the apex on a current year branch after leaf fall in the autumn. A current year branch is a branch which is current or belongs to the present year."</p>
<p>8.1 (c)</p>	<p>- to delete 8.1 (c) and remove (c) from Char. 8 - to add (+) to Char. 8 and create following Ad. 8: <u>"Ad. 8: One year old branch: length</u> Observed after leaf fall on current year branches, excluding basal shoots." - to add (+) to Char. 9 and create following Ad. 9: <u>"Ad. 9: Two-year-old branch: number of flowering branches</u> Two year old branches are those developed and flower buds differentiated on last year's branches."</p>
<p>8.1 (d)</p>	<p>- to move to Ad. 7 and reword to read "Very young shoots are less than 10 cm in length. The color of very young shoots excludes that of flower buds." - to remove (d) from Char. 7</p>
<p>8.1 (e)</p>	<p>- to amend to read "Except for leaf color, all observations on the petiole, leaf and leaflet should be made on the third and fourth fully developed leaves from the base on current year's branch in flower." - to add (e) to Char. 13</p>
<p>8.1 (f)</p>	<p>- to delete 8.1 (f) - Char. 16: to delete (f) and add (+) - Char. 17: to change (f) to (e) - Char. 18: to change (f) to (e) - to create following Ad. 16: <u>"Ad16: Leaf: color of upper side</u> Observed at the beginning of flowering."</p>
<p>8.1 (g)</p>	<p>to read: "All observations on flower, petal, stamen and pistil should be made on the terminal flower on a primary flowering branch. Observations on the shape of flower bud should be made when the bud is well developed but before it is beginning to show the color. All observations on the petal should be made when the flower is fully open. Observations on the flower form should be made on the flowers with most complex form."</p>
<p>8.1 (h)</p>	<p>to read "Blotch: an irregularly shaped and sized spot at the base of the petal. All observations on the blotch should be made on the first and second inner petal whorl when the flower is fully open."</p>
<p>Ad. 4</p>	<p>to use new photos provided by expert below for Ad. 4 illustrations and to have notes (1); (3); (5)</p> <div style="text-align: center;">  <p style="display: flex; justify-content: space-around; margin-top: 5px;"> 1 3 5 </p> </div>

<p>Ad. 5</p>	<p>to change illustration for Ad. 5 as follows:</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="text-align: center;">3 narrow ovate</div> <div style="text-align: center;">5 medium ovate</div> <div style="text-align: center;">7 rounded</div> </div>
<p>Ad. 10, 14, 15</p>	<p>to delete small arrows</p>
<p>Ad. 19, 20</p>	<p>to remove the word “The” on the left hand side of the first image and the change state (4) to read: “transverse elliptic”</p>
<p>Ad. 21</p>	<p>to present illustration in the following format</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;">     </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="text-align: center;">narrow ovate</div> <div style="text-align: center;">broad ovate</div> <div style="text-align: center;">circular</div> <div style="text-align: center;">transverse elliptic</div> </div>
<p>Ad. 22</p>	<p>to be deleted</p>
<p>Ad. 23</p>	<p>to add explanation: “The most complex form is the flower with the greatest number of petals and/or petaloids.”</p>
<p>Ad. 27</p>	<p>to add explanation:</p> <p>“The secondary color is determined as the color with the second largest surface area present on the upper side of a flower. The secondary color excludes the blotch and basal color.”</p>
<p>Ad. 38</p>	<p>illustration to be presented in following format:</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;">    </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="text-align: center;">circular</div> <div style="text-align: center;">oblate</div> <div style="text-align: center;">obovate</div> </div>
<p>Ad. 42</p>	<p>to add explanation as follows:</p> <p>“The openness of the disc is assessed by the visibility of the carpels.</p> <p>Closed: the carpels are enclosed completely by disc and not visible. Partly open: the carpels are partly enclosed by disc and partially visible. Fully open: the carpels are enclosed by disc only at base and fully exposed.”</p>

Ad. 44	to delete
Ad. 47	to delete the right-hand image for state (2)
Ad. 50	to delete (d) from Char. 50 and to add explanation in Ad. 50 "The beginning of flowering is determined when 10% of all flower buds have opened."
TQ 1.3	to add "(Please indicate)"
TQ 5	to add following Chars. to TQ (a) Plant: growth habit (characteristic 1) (b) Plant: height (characteristic 2) (c) Leaf: type (characteristic 12) (e) Lateral leaflets: depth of sinus (characteristic 20) (f) Flower: form (characteristic 23) (g) Flower: main color (characteristic 26) with the following groups: Gr.1: white Gr.2 green Gr.3: yellow Gr.4: orange Gr.5: pink Gr.6: red Gr.7: purple Gr.8: dark red purple (h) Petal: basal blotch (inner side) (characteristic 32) (i) Petal: size of blotch (characteristic 34) (j) Flowering: time of beginning of the first flowering (characteristic 50)

Camellia

62. The TWO discussed document TWO/45/35 and agreed with the replies from the leading expert to the amendments requested by the Technical Committee, at its forty-sixth session in 2010, on the basis of document TG/CAMEL(proj.4). The only exception was for Characteristic 8 "Leaf: arrangement" where the TWO agreed to keep the original wording of states of expression "alternate" (1); "perpendicular" (2), "spiral" (3) and to further develop the explanation to read: "To be observed from above: alternate arrangement means leaves positioned at 180° on stem, perpendicular arrangement means leaves positioned at 90° on stem and spiral arrangement means leaves positioned at less than 90° on stem."

63. The TWO noted that the provision of an explanation enabled the original wording for the states of expression as in TG/CAMEL(proj.4) to be maintained.

64. The TWO noted that the Leading Expert agreed to insert the following wording to Ad. 44 "In cases where the area of the main and secondary colors are nearly equal, the darker color should be considered to be the main color."

65. The TWO agreed with the further changes proposed by the leading expert regarding example varieties as presented in Annex II to document TWO/45/35, subject to the following spelling corrections:

"Feng Bao Jin Cha" and "Fen Bao Jin" to read "Fen Bao Jing Cha"
"Cai Ye Hong Lv Zhen" to read "Cai Ye Hong Lu Zhen"
"We Hua Lian Rui Cha" to read "Wei Hua Lian Rui Cha"
"Hen Tiao Gao" and "Hen Tiaon Gao" to read "Hen Tian Gao"

Discussion on Draft Test Guidelines

Aglaonema

66. The subgroup discussed document TG/AGLAO(proj.2), presented by Mr. Kenji Numaguchi (Japan), and agreed the following:

3.3.2	to delete "Observation of color by eye"
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Table of Chars. General	to check wording of “RHS Colour Chart (indicate reference number)” throughout
Char. 2	to provide example varieties
Char. 7	to verify wording of “terminal projection” and appropriate states
Char. 9	to use color group instead of RHS Colour Chart
Char. 15	to read: “obtuse” for state (3)
Char. 19	to move state (4) between (1) and (2); state (5) to move between (3) and (4)
Char. 20	to check whether to move before Char. 18
Chars. 25, 29	to add (+)
Char. 33	to add (+) and to consider same approach of colors for upper side (color 1; color 2; color 3) with “none” for state (1)
Chars. 34, 35	to delete (+) or provide explanation
Char. 36	to read: “Leaf blade: glossiness of upper side”
Char. 37	to add (+) and provide explanation
Chars. 39, 40, 41	to add (+) and provide illustration
8.1.1 (a)	to consider rewording of stage of assessment
8.1.1 (b)	to add space between “the top”
8.1.2	to read: “..non-anthocyanin” and to consider redrafting explanation for clarity
Ad. 2	to update photographs to illustrate example varieties
Ad.3, Ad. 6	to update illustration with correct indication of length of petiole
Ad. 10, Ad. 11	to add illustration of leaves with lobes (length)
Ad. 15	state (3) to read: “obtuse”
Ad. 17 to 32	to read: “ <u>Example One – Pride of Sumatra (variety with two leaf color)</u> ”; “ <u>Example Two – Saisamorn (variety with two leaf color)</u> ”; “ <u>Example Three – Valentine (variety with two leaf colors)</u> ”
Ad.19, 23, 27, 31	to move patterns as mentioned in Char. 19
TQ 1.2	to delete and renumber accordingly

Campanula

67. The subgroup discussed document TG/CAMPA(proj.2), presented by Miss Elizabeth Scott (United Kingdom), and agreed the following:

2.3	to delete “young”
3.3.2	to delete “observation of color by eye”
Table of Chars.	to check recommendations for conducting the examination throughout (GN 25)
new Char.	to reconsider the addition of “Calyx: pubescence”, based on information to be provided. Also, “Corolla: pubescence of outer surface” and “Style: pubescence”
Char. 1	to check if PQ
Char. 13	to be deleted
Char. 14, 15	to be redrafted
Char. 23	to consider “stellate” instead of “straped shaped”
Char. 34, 38	to check the terms for states 4 and 5
Char. 45	to check states of expression
Char. 46	to check states of expression
Char. 49	to add (+) and explanation of “conspicuousness”
Char. 50	to add state “greenish”
8.1 (b)	to specify observations “on upper side”
Ad. 22	to remove surplus stem in illustration for state 3
Ad. 27	to invert position of illustration for consistency with others
Ad. 39, 40	to update cross-references throughout the text
Ad. 47	to add “to be observed at the widest point of the lobe with the inner part of the lobe facing upwards”
TQ 5.8	to read “main color of inner side”

China Aster

68. The subgroup discussed document TG/CALSP(proj.1), presented by Mr. Kenichi Atsuta (Japan), and agreed the following:

Cover page	Botanical name to read " <i>Callistephus chinensis</i> (L.) Nees" to check English common name "Annual Aster"
3.3.2	to delete "Observation of color by eye"
4.2.2	to be replaced by appropriate standard wording
Table of characteristics	general remark: to add example varieties or illustrations to QN characteristics with (*)
Char. 1	to add (+) and explanation on assessment and to consider adding to TQ
Char. 5	to read "Plant: distribution of primary lateral shoots" states to read "mainly on lower part (1), throughout (2), mainly on upper part (3)"
Char. 15	to check if QL
Char. 18	to add (+) and explanation to check states of expression
Char. 19, 20, 21	to read "outermost row"
Char. 21	to add (d)
Char. 23	to check if the characteristic is necessary to read "PQ" to add state of expression (1) "same color"
Char. 23 to 37	General remark: to check order of characteristics of inner and outer rows
Char. 34	to read "PQ"
Char. 37	to read "PQ" to add (+) and illustration
Char. 41	to add (+) and explanation
New char.	to check possible new characteristic: "Involucre: size in relation to flower head diameter"

Cosmos

69. The subgroup discussed document TG/COSMOS(proj.4), presented by Mr. Takayuki Mikuni (Japan), and agreed the following:

3.3.2	to read "...Chapter 8.1."
Table of characteristics	general remark: to check order of characteristics
Char. 1	to be placed after Char. 2
Char. 3	to add (+) and the illustration sent to interested experts
Char. 6	to be placed after Char. 9
Char. 10	to read " <u>Only for divided leaves</u> : Leaf: width of terminal lobe"
Char. 12, 18, 19	to add example varieties
Char. 12	to add example varieties for state (2) "Sunrise" and state (4) "Double Click" states of expression to read "very few (1), few (2), medium (3), many (4), very many (5)" to add (+) and explanation on assessment (to exclude paracorolla) to read "VG/MS"
Char. 14	to read "Flower head: collar segments" and state (9) to read "present (collarette type)"
Char. 21	to check whether to merge Char. 21 and 22
Char. 22	to check explanation "(straight florets excluded)"
Char. 23	to check state (5) if "whole floret" or "entire axis"
Char. 26	to add (+) and provide illustration

8.1	to place (c) at section 8.2 and to add (+) for color characteristics
Ad. 15, 16, 17	to improve illustration

Dianella

70. The subgroup discussed document TG/DIANE(proj.3), presented by Mr. Nik Hulse (Australia), and agreed the following:

Cover page	to add common names in French, German and Spanish
3.3.2	to delete "Observation of color by eye"
Char. 2	to add (+)
Char. 5	to read QN
Char. 10	to be deleted
Char. 12	to be moved after all adaxial characteristics
Char. 16	to improve Ad. 16 to check order of states of expression
Char. 17	to read "profile in cross section" to read "medium convex"
Chars. 19, 22	to add (+)
Char. 20	to read "color on margin"
Char. 21	to add (+)
Char. 23	to read "Basal sheath: hue of anthocyanin coloration" to add (+)
Char. 24	to add (+) to read "Basal sheath: intensity of anthocyanin coloration"
8.1 (b)	first sentence to read "All observations on the leaf should be made on fully expanded leaves on either side of young leaves."
Ad. 13	to delete "Observations should be made on plants not subject to chilling."
Ad. 17	to insert "to be observed on the middle third of fully expanded leaf"
TQ 5	to add Char. 24

Dianthus (Revision)

71. The subgroup discussed document TG/25/9(proj.5), presented Miss Katie W. Pont on behalf of Mr. Henk de Greef (Netherlands), and agreed the following:

General	The subgroup agreed that the new drafts will include specific reference to pot, garden and indoor types, especially in relation to plant, stem and flower characteristics with appropriate example varieties.
3.3.3	to delete "Observation of color by eye"
4.3.2	to delete "either by growing a further generation, or"
5.3	to be checked and reviewed
6.	to provide information on "types" of Dianthus covered by the TG (to check with other TGs)
Table of Chars.	characteristics and example varieties to be checked and to indicate the "type" of Dianthus concerned
Char. 2	to check whether QL
Char. 3	to add (+) and to move to Ad.3 "between epicalyx and lowest node with laterals with flower buds or flowers"
Char. 4	to check if "secondary flowers"
Char. 5	to be indicated as QN
Char. 6	to read "moderately domed, strongly domed"
Chars. 7, 8, 9, 10	to delete "(excluding laterals)"
Char. 9	to add (+) and illustration and to be indicated as PQ
Char. 11	to provide in the form of a grid
Chars.12, 13,	to be indicated as VG/MS

21, 45, 46, 55	
Char. 14	to read "Leaf: curvature of longitudinal axis"
Char. 15	to delete "(upper side)" and read "flat or very weakly concave" for state 1
Char. 17	to read: Leaf: glaucosity and to adjust the notes for 1,2,3
Char. 19	to read states:ovate (1), oblong (2), elliptic (3), circular (4), obovate (5) to provide in grid
Char. 21	to move after Char.34
Char. 23	to improve drawing in Ad.23
Char. 24	to add state "absent or very short" (1); to read : short (2), medium (3), long (4); and to improve drawing in Ad.24
Char. 25	to provide new drawing
New after Char.27	"Calyx: width" with states: narrow (3), medium(5), wide (7)
Char. 26	to add state "absent or very short" (1); to read : short (2), medium (3), long (4); to improve drawing in Ad.26
Char. 29	to move "(tip excluded)" to Ad.29
Char. 30	to read "Calyx: distribution of anthocyanin coloration"
Char. 31	to read "Calyx: intensity of anthocyanin coloration" and to indicate as QN
Char. 32	to read "Calyx: shape of apex of lobe"; to add example varieties and to change states to read: "acute"(1) and "acuminate" (2)
Char. 37	to read "Corolla: profile of upper part in lateral view"; delete VG under PQ
Char. 38	to read "Corolla: profile of lower part in lateral view"
Char 39	to read "PQ"
Chars. 40,41,42	to read "QN"
Chars. 43, 44	to delete " <u>Variety with incisions present only:</u> "
Chars. 47,48,49,50	to be reviewed
Char. 48	to check consistency with Char. 47
Char. 49	to add (*)
Char. 49, 50	to add state "none" for presence of secondary and tertiary colors
Chars. 51, 52	to add (+)
Char. 51	to be presented in a grid format and to change the state "cylindrical" to "oblong"
Char. 54	to read PQ
Char.57	to read: "white" for state 1
8.	Explanation on Table of Characterstics to be updated
TQ	to be updated

Eucalyptus (part of genus only)

72. The subgroup discussed document TG/EUCAL(proj.8), presented by Mr. Fabricio Santana Santos, on behalf of Mrs. De Moraes Aviani (Brazil) and Mr. Luo Jianzhong (China), and agreed the following:

3.1.1	to read "The minimum duration of tests should normally be four growing cycles."
3.1.2	to read "The growing cycle is considered to last one year."
4.1.4	to read "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants"
5.3	to read "(d) Flower: type; (e) <u>Only varieties with flower type: umbel</u> : Flower: number of buds"
Char. 1	to improve the illustration to show one leaf only for each state of expression
Char. 3 to 5	to provide example varieties
Char.5	to read QN
Char.8	to delete states 5 and 7 to delete "excluding tip" states (4) obcordate and (8) emarginate to be moved to char 9 and to become states 8 and 7 respectively
Char.9	to delete "differentiate"

Char.13	to read QN
Chars. 14 and 15	to add example varieties
Chars. 16 and 32	to read as char 5 “(3) slightly elongated, (5) moderately elongated, (7) very elongated”
Char.19	to delete states 5 and 7 states (4) “obcordate” and (8) “emarginate” to be moved to Char 20 and to become states (8) and (7) respectively
Char. 20	to read PQ to amend as for 8 and 9
Char. 22	to check if QL
Char. 25	to read “Trunk: color of rhytidome” to add state “brown” (3)
Char. 26	to read “Trunk: color excluding rhytidome” to delete (+)
Char. 28 to 40	to repeat wording as for the same previous leaf characteristics
Char. 29	to read QN
Char. 32 to 56	to delete all (*)
Char. 42	to read “Flower: type”
Char. 43	to read “ <u>Only varieties with flower type: umbel</u> : Flower: number of buds”
Char. 44	to read “ <u>Only varieties with flower type: umbel</u> : Peduncle: length”
Char. 45	to add state “rounded to flattened” (2) to read PQ
Char. 52	to read “ Fruit: disc position” to read QN
Char. 53	states to read “deeply sunken; rim level; raised above rim”
Char. 54	to check if two states of expression only
Char. 56	to read MG
All Ad.	to sort in order
Ad. 1	to read “Ad. 1, 28: Leaf: petiole”
Ad. 5	to invert figures (3) and (7) to match states of expression accordingly
Ad. 13, 29	to read “Leaf: attitude”
Ad. 15	to be deleted
Ad. 42	to read according to Char 42
Ad. 46	to differentiate drawings 1 and 3
Ad. 47	to invert the position of illustrations
Ad. 51	to read “The texture of the fruit should be observed on current season’s fruit”
Ad. 54	to check wording for states of expression (rough / fibrous) to read “Ad. 56”

Gladiolus (Revision)

73. The subgroup discussed document TG/108/4(proj.6), presented Mr. Henk de Greef (Netherlands), and agreed the following:

Table of Chars.	to indicate all QN Chars. as VG/MG to remove note (a) throughout to read: “RHS Colour Chart” – check capitals
Char. 6	to read: “Spike: length”

Char. 13	to read: "Flower: shape in front view"
Char. 15	to delete "of broadest part"
Char. 16	to read VG
Char. 17	to add notes (3), (4) – missing to add example varieties
Char. 19	to check if MS is appropriate
Char. 20	to delete MS and to read "interrupted band" and "continuous band"
Char. 21	to read: "Perianth throat: number of spots on outer side"; to have states "none (1), few (2), medium (3), many (4)"
Char. 25	to add example varieties
Char. 26	to be indicated as QL
Char. 29	to replace "cream" for "yellowish white"
Char. 30	to check if QL, if not, to add state "none (1)" to Char. 31
Char. 31	to add explanation
Char. 32	to read: Inner tepal: size of macule in relation to size of inner tepal
Char. 37	to read: Inner tepal: different color of marginal zone
Char. 41	to add (+) and provide illustration
Char. 42	to consider states to read "recurved, straight, moderately inflexed, strongly inflexed"
Char. 44	to check if QL
Char. 45	to read "very different color (3)"
Char. 50	to add (+)
Char. 51	to add (+) and move "in cross section"; to new Ad. 51 explanation
Char. 52	to precise "beginning of flowering" and to provide explanation
8.2	to update wording in accordance with changes to Chars.
Ad. 1	to provide diagram
Ad. 2	to add explanation "The height of the foliage to be observed excluding bracts."
Ad. 10	to be clarified
Ad. 15	to add (+) and provide explanation on the time of beginning of flowering
Ad. 23	to be presented in grid to show the variation in position of broadest part

Hebe

74. The subgroup discussed document TG/HEBE(proj.3), presented by Mr. Chris Barnaby (New Zealand), and agreed the following:

3.3.2	to delete "Observation of color by eye"
5.3	to add "of inner side" after "main color" and "secondary color" for (c) and (d)
Char. 4	to have states: absent or very weak (1), weak (2), medium (3), strong (4), very strong (5)
Char. 16	to reverse order to delete (+)
Char. 18	to read "part" instead of "point"; to read "towards base; in middle; towards apex"
Char. 24	to add state "none"(1) to move before Char 23; to delete example variety "Carnea Variegata" and add a new example for state 7 (now state 8)
Char. 27	to add state "none"(1) and renumber states accordingly to move before Char 26
Chars. 28, 29	to delete "on inner side"
Char.31	to delete state 4 "obovate"
Char 37	to be indicated as VG
Ad. 1	to be improved
Ad. 16 and 17	to place illustrations in same line, to improve grid
Ad.23	to delete last two sentences in explanation and provide photo for new state 6
Ad.24,Ad.27	to add state none (1) and to add photo for new state 1
Ad.26	to delete "of inner side"
Ad. 31	to improve illustration for state 2; to delete state "obovate"

TQ	to check format for RHS Colour Chart and color group characteristics
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Hosta

75. The subgroup discussed document TG/HOSTA(proj.6), presented by Mr. Henk de Greef (Netherlands), and agreed the following:

3.3.2	to delete "Observation of color by eye"
5.3	Ad. Chars. for "Main color" and "Secondary color" to grouping chars.
Char. 2	to read: "Plant: height of foliage"
Char. 5	to add (+) and provide an illustration and delete example varieties
Char. 7	to read: "Petiole: pattern of anthocyanin coloration"
Char. 10	to read: state (1) "in middle"
Char. 11	state (9) to read: "transverse elliptic"
Char. 13	to read: Leaf blade: shape of apex
Char. 15	to read: "Leaf blade: area of color 1" and to add (+) and to provide explanation "...as a proportion of the total leaf area"
Chars. 15, 16, 19, 20, 27, 28, 31, 32,	to consider deleting all example varieties and, if they are deleted, to make Worked Examples of how to assess colors (see Heuchera Test Guidelines)
Char. 16	to add (+) and provide illustration and to read state (1) "throughout" and to consider state (2) to read: "basal zone"
Char. 17	to read: Leaf blade: pattern of color 1 and to consider state (1) to read: "throughout" and state (2) to read: "blotched" (see Chars. 15, 16 above)
Chars. 17, 21, 25, 29, 33	to update names of states accordingly
Char. 19	to add (+) and to provide explanation "...as a proportion of the total leaf area"
Char. 34	to read: Leaf blade: profile in cross section
Char. 37	to read: "Leaf blade: blistering"
Chars. 40, 45, 46, 68	to be indicated as VG/MG/MS
Char. 44	to read: Inflorescence: presence of bracts and to add note (e)
Char. 45	to add note (e)
Char. 49	to replace note (c) with (e)
Char. 51	to be indicated as PQ
Chars. 52, 53, 55, 57, 61, 65	to be indicated as VG
Char. 58	to reverse order of states (8) and (9)
Ad. 62	to be presented in grid format and consider order of states (7) and (8)
8.2	to update accordingly
TQ	add Chars. for "Main color" and "Secondary color" and update TQ according to changes in Table of Chars.

Lilac

76. The subgroup discussed document TG/LILAC(proj.3), presented by Mrs. Cui Hongxia (China), and agreed the following:

Cover page	<ul style="list-style-type: none"> to remove bold for UPOV Code to read: "prepared by experts from China"
4.2.2	to refer to "9 plants"
5.3	to delete (a) and (e) and renumber accordingly
Char. 1	to be indicated as QN and to have notes (1) and (2)
Char. 2	to read: " <u>Only varieties with plant: number of main stems: more than two:</u> Plant: growth habit"
Char. 4	to read: " <u>Only varieties with plant: number of main stems: more than two:</u> Plant: density of branches"

Char. 6	to read: "Stem: color" and to revise explanation
Char. 7	to have notes (1) and (2)
new Char. to be added before Char. 8	to read: "Simple leaf: lobing" and to indicate as QL with states absent (1); present (9)
Char. 8	to read: "Simple leaf: depth of sinus" and to indicate as QN to have states: shallow (1); medium (3); deep (5)
Char. 9	to read: "Simple leaf: number of lobes" and to indicate as PQ and VG to have 3 states: two (1); three (2) more than three (3)
Char. 10	to read: "Only varieties with leaf type simple and lobing absent: Leaf: shape"
Char. 11	to read: "Only varieties with leaf type simple and lobing absent: Leaf: shape of base"
Chars. 12, 15, 16	to delete and renumber all Chars. accordingly
Char. 17	to delete (b) and to add (+) and provide explanation on when the flower bud should be observed
Char. 18	to be indicated as PQ and to have states: upright (1); semi-upright (2); drooping (3)
Char. 19	to add (+) and provide illustration indicating how to measure
Char. 20	to be indicated as PQ and to have notes (1), (2), (3)
Char. 23	to have notes (1), (2), (3)
Char. 24	to delete
Char. 25	to have notes (1), (2)
Char. 26	to read: "Only varieties with floret type: double: Floret: number of corolla lobes"
Char. 27	to read: "Only varieties with floret type: double: Floret: distance between whorls"
Char. 28	to have states: semi-erect (1); horizontal (2); recurved (3)
Char. 30	to consider rewording or combining Chars. 30 and 31 and to check in TGP/14 term "cuspidate"
Char. 32	to read: "Corolla lobe: undulation" and to have notes (1), (2), (3)
Char. 33	to read: "Corolla lobe: incurving of margin" with states: absent or very weak (1); weak (2); medium (3); strong (4)
Char. 36	to delete
Char. 38	to have notes (1), (2)
Char. 39	to add (+) and provide explanation
Char. 40	to delete
8.1	to delete (b) and update numbering accordingly and relevant notes in Table of Chars.
8.1	to update all Chars. in accordance with changes to Table of Chars.
Ad. 6	to read: "Observation is conducted on one-year old shoots."
Ad. 16	to be deleted
Ad. 22	to read: "medium: non-obvious gap between florets"
Ad. 29	to change notes to 1, 2, 3
Ad. 33	states to be updated in accordance with changes to states in Char. 33
9.	to replace "US" with "USA"
TQ1	to delete "Syringa L." from inside Botanical name box
TQ 1.3	to delete (same as botanical name)
TQ 5	to add Char. 10 and update according to changes to Table of Chars.

Lobelia

77. The subgroup discussed document TG/LOBEL(proj.2), presented by Mrs. Ashley Balchin (Canada), and agreed the following:

Cover page, Name box and botanical names	to be checked
1.	to check for hybrids with other species, possibly delete "and other Lobelia species."
Char. 5	to delete example variety Hot Arctic White for state 5
Char. 18	to read: "RHS Colour Chart..."
Char. 25	to add (+) and explanation
Char.25	to add new Char. Lower lip: secondary color of upper side (excluding white zone) ,RHS

	Colour Chart (indicate reference number), to be indicated as PQ,VG (d), (+) and to add explanation
Char. 26	to read states “absent or very small (1), small (3),medium (5),large (7),very large (9)”; to add example varieties “Loboudtis” for state 3, “Tech Hevio” for state 5 and “Tech Heplib” for state 7
Char.29	example varieties to be provided
Char. 32	to read “RHS Colour Chart (indicate reference number)” – as in format for Char. 18
8.1 (c)	to read “All leaf characteristics should be observed on fully developed leaves on the lower third of the shoot just before flowering”
Ad.1	to update illustration
Ad. 22, 23, 24	to move after Ad. 20
Ad. 28	to add notes:1 and 2
TQ 1.1	to have separate boxes for each botanical name
5.3 (25)	to add Char.25 with RHS Colour Chart (indicate reference number)

Lomandra

78. The subgroup discussed document TG/LOMAN(proj.3), presented by Mr. Nik Hulse (Australia), and agreed the following:

5.3	to add Char 13 and 14 as grouping characteristics to delete Char. 12 as grouping characteristic
Char. 2	to add (+)
Char. 7	to read “Leaf: profile in cross section” states to read “flat to slightly concave, moderately concave”
Char. 9	to delete “(toothed varieties only)”
Char. 12	to delete Char. 12
Char. 13	to read “Leaf: main color of adaxial side” to add (+)
Char. 14	to read “Leaf: secondary color of adaxial side” to add (+)
Char. 16	to delete (*) notes to read “1, 2, 3”
Chars. 23, 25	to replace “greyed orange” by “orange brown”
TQ 5	to add Char. 18

Mandevilla

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

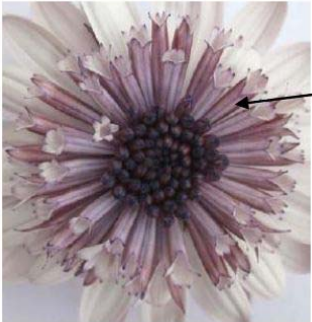





Cover page: name box	to add UPOV Code: MANDE_AMA; MANDE_SAN to read “Mandevilla sanderi (Hemsl.) Woodson; Mandevilla xamabilis (Backh. & Backh. f.) Dress”
Cover page: botanical name box	to add “ <i>Dipladenia xamoena</i> T. Moore” as another synonym to <i>Mandevilla sanderi</i> (Hemsl.) Woodson and <i>Dipladenia sanderi</i> Hemsl. to separate with a line <i>M. sanderi</i> from <i>M. x amabilis</i> to check botanical names
Cover page Common names	to add common names in English,German,French,Spanish
1	to delete “, <i>Dipladenia sanderi</i> Hemsl. and <i>Dipladenia x amabilis</i> Backh. & Backh. f.”
2.3	to delete young
4.1.4	to replace “10 plants”by “9 plants”
5.3	to add Char.2 and new Char.18
Chars.2,3,14	to delete MG
Char. 3, 21,	to add example varieties


40	
Char.7	to provide explanation
Char.8	MG to be replaced by MS
Char. 25, 32, 50	to add (+) and provide explanation
Char. 9	to read "Petiole: color" and amend "light green; medium green; dark green", to add example varieties
Chars.12,13	MG to be replaced by VG
Char.15	to read: "towards base (1), "towards apex" (3)
Char.16,17	to be indicated as PQ
Char.17	to check state 2 with drawing in Ad.17
Char. 18	to read "Leaf blade: main color with states: whitish yellow (1), yellow green (2), light green(3), medium green (4), dark green (5); to be indicated as (+), PQ, VG, (*)
Char. 19	to read "Leaf blade: secondary color with states: whitish yellow (1), yellow green (2),light green(3), medium green (4), dark green (5); to be indicated as (+), PQ, VG
Char.25	"Leaf blade: shape in profile longitudinal section"; to add (+) and provide explanation
Char.27, 33, 36,37,39,41	to be indicated by VG/MS
Char. 31	to add (*)
Char.32	to add (+) and explanation
Char. 42, 43, 44, 45	to underline "basal", "distal", "outer" and "inner" for clarity
Char.46	to read: Corolla lobe: symmetry
Char. 52	to add (+) and provide illustration
Char.50	to have states "absent or very weak"(1), "weak"(2), "strong"(3); to add (+) and explanation
Char.52	to add (+) and explanation
Ad.3	to improve indication
Ad. 40	to be improved illustration for state 1
Ad.47	to add photo for state 2
TQ 5	to update

Osteospermum (Revision)

80. The subgroup discussed document TG/176/4(proj.2), presented by Mrs. Andrea Menne (Germany), and agreed the following:

Cover page;name box	to add common name "Osteospermum xDimorphotheca"; to delete "and" and replace by semi colon
3.3.2	to delete "Observation of color by eye"
Char.1	to be indicated as PQ
New after Char. 15	to add a new Char. "Only varieties with disc: type: anemone: Plant: predominant type of disc floret" with states: funnel shaped (1), petaloid and funnel shaped (2), petaloid (3); to be indicated as (+), PQ, VG

Char. 16	<p>to read: "Funnel shaped disc floret: main color of outer side of corolla tube" and to illustration to be amended to remove reference to Char 17. (due to deletion of Char 17)</p>  <p style="text-align: right;">Corolla tube, outer side (as view on the flower head)</p>
Char.17	to be deleted
New Char. before Char.18	to add a new Char. "Petaloid disc floret: main color of upper side" RHS Colour Chart (indicate reference number); to be indicated as PQ and VG, (+)
Char.21	"(excluding incisions)" to move to explanation in Ad.21
8.1(d)	to improve arrow indications
Ad.12	<p>to add photo for anemone (petaloid disc floret) for state 2 and to read anemone (funnel shaped disc floret) for current photo for state 2</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>1 daisy</p> </div> <div style="text-align: center;">  <p>2 anemone (funnel shaped disc floret)</p> </div> <div style="text-align: center;">  <p>2 anemone (petaloid disc floret)</p> </div> </div>
Ad. for new Char. after 15	<p>to add photos for "funnel shaped"(1) and "petaloid" (3); to read for state 2 "Disc floret type funnel shaped" and "petaloid" means that flower heads with funnel shaped disc florets and petaloid disc florets in approximately the same amount are present on all plants of the variety"</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>funnel shaped</p> </div> <div style="text-align: center;">  <p>petaloid</p> </div> </div>

Ad. for new Char. before Char.18	<p>to read: "The observation should be done when two-thirds of the discs florets are open" to add a photo with indication of "petaloid disc floret, upper side."</p>  <p style="text-align: right;">petaloid disc floret, upper side</p>
Ad.31	to provide better photo for state 13
TQ 5.10	to delete "grey" and to read yellow with green stripe" for state 13

Phalaenopsis (Revision)

81. The subgroup discussed document TG/213/2(proj.5), presented by Mr. Henk de Greef (Netherlands), and agreed the following:

2.2	to delete "after flower treatment" and to consider reading "budded" instead of "non-budded"
4.1.4	to read: "8 plants"
4.3.2	to delete "by growing a further generation, or"
Table of Chars. General	to indicate VG/MS for all QN Chars.
Char. 2	to amend states 1, 3 and 5 to read "only one, only two, only three"
Char. 8	to read "symmetric" (spelling)
Char. 13	to add space between "upper" and "side"
Char. 19	to consider having states: absent or weak (1); medium (3); strong (5) and to indicate as QN
Char. 20	to read: "Flower: shape in lateral view"
Char. 30	to check wording of Char. and states (to reflect three dimensional shape)
Char. 31	to check if QL (could be like Char. 32)
Chars. 40, 48, 66	state (3) to read: "low" and state (7) to read: "high"
Char. 52	to add state (1) "very compressed" and state (9) "very elongated"
Char. 55	state (2) to read: "straight"
Char. 56	to check if QL
Char. 76	to add state (1) : "much smaller" and state (9) : "much larger"
Chars. 84, 92	state (2) to read: "low" and state (4) to read: "high"
Char. 86	to delete (+)
Char. 87	to add (+) and add Ad. 87 heading to illustration (Ad. 34, 43, 59, 78)
Char. 94	to add (+)
Char. 97	to read: "Column: color"
Ad. 1	to read: "Plant length should be observed from soil..."
Ad. 18	to improve explanation of where to take the measure and to read: "The thickness of the peduncle must be observed in the ..."
Ad. 29, 30, 54, 55	to check possibility to improve the explanation of arrow as observation point
Ad. 60	to use photos from TG/213/2(proj.4) for states (5) and (7)
Ad. 73	to read: "Lip: bump and ridge on apical lobe"

9	references to be completed according to standard “[Surname 1], [Initials 1]., [Surname 2], [Initials 2] etc. ., [Year]: [Title]. [Publication]. [Town], [City / Region], [Country*], [pp. n1 to n2 or x pp.]” and to provide additional literature
TQ 1.2	to read “Botanical name” (spelling)
TQ 5	characteristic 11 to be added and wording of Chars. updating accordingly

Zinnia

82. The subgroup discussed document TG/ZINNIA(proj.2), presented by Mr. Jose Mejia Muñoz (Mexico), and agreed the following:

Cover page	alternative names box to read <i>Zinnia</i> L.,
3.3.1	to delete “In particular, unless otherwise indicated, all observations should be made at the time of full flowering of main head.”
3.4.1	to delete “In the case of seed-propagated varieties”
4.1.4	to read “10 plants for hybrids and 40 plants for open pollinated”
4.2.2	to add standard wording and population standard of 1%
5.3	to check wording for (d)
Table of Chars.	to check example varieties throughout
Char. 1	to be placed after Char. 2 to add (*) to add (+) and provide explanation to read “VG/MS/MG” to check spelling for example variety “Pepermint”
Char. 3	to add explanation
Char. 6	to be deleted
New Char	to check insertion of new characteristics “Leaf: position of broadest part; Leaf: ratio length/width; Leaf: shape of apex; Leaf: shape of base”
Char. 9	to improve photographs to add photograph for state (2) to add explanation on assessment of the characteristic
Char. 10	to read “Leaf: undulation” to add (+) and illustration state (1) to read “absent or weak”
Char. 12	to read “Leaf: anthocyanin coloration at base”
Char. 14	to check the characteristic (see approach used for Dahlia)
Char. 15	to be checked according to Char. 14
Char. 16	to check if the characteristic is needed to read “VG/MS”
Char. 17	to read “VG/MS”
New char.	to insert characteristic “Flower head: height”
Char. 18	to add photographs to invert states of expression (elliptic to become state “4”)
New char.	to insert characteristics “Ray floret: length; Ray floret: width; Ray floret: ratio length/width”
Char. 19	to reorder states of expression to have a scale from convex to strongly concave
Char. 20	to read “Ray floret: shape of apex” state (1) to read “truncate” state (3) to read “mucronate”

	to add state (4) "emarginate"
Char. 21	to be deleted
Char. 23	to read "Ray floret: main color of inner side" to add (+) and explanation to read "The main color is the color with the largest total surface area, the secondary color (if present) is the color with the second largest total surface area. In case of when none of the colors is clearly predominant then the darkest color will be the main color."
Char 25	to check suitable translation for "manchas" (spot, blotch, speckle, flush) state (3) to read "stripes" to add photographs
Char. 27	to be indicated as PQ to read "VG"
Char. 28	to add (+) and explanation on when to be observed
8.1	to read "Single flower head has only one row of ray florets. Semi double flower head has more than one row of ray florets and a visible flower head disc. Double flower head, has no flower head disc."
TQ 1	Botanical name box to read "Zinnia L." to insert box "1.3 Species (to be indicated)"
TQ 4.2	to select most suitable option for vegetative propagation and hybrids (to indicate type of hybrid)
TQ 5	to provide characteristic

Information and databases (continued)

(d) *Electronic application systems*

83. The TWO noted the information provided in document TWO/45/8.

Recommendations on draft Test Guidelines

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

84. The TWO agreed that the following draft Test Guidelines should be sent to the TC for adoption at its forty-ninth session, to be held in Geneva in March 2013, on the basis of the following documents and the comments in this report:

Subject	Basic Document (2012)
Dianella (<i>Dianella</i> Lam. ex Juss.)	TG/DIANE(proj.3)
Eucalyptus (part of genus only)	TG/EUCAL(proj.8)
Gladiolus (Revision)	TG/108/4(proj.6)
<i>Hebe</i> Comm. ex Juss.	TG/HEBE(proj.3)
Lobelia	TG/LOBEL(proj.2)
<i>Lomandra</i> Labill.	TG/LOMAN(proj.3)
Osteospermum	TG/176/4(proj.2)
Phalaenopsis	TG/213/2(proj.5)
Tree Peony	TG/PAEON(proj.6), TWO/45/34

(b) *Test Guidelines to be discussed at the forty-sixth session*

85. The TWO agreed to discuss the following draft Test Guidelines at its forty-sixth session:

Abelia
<i>Aglaonema</i> Schott.
<i>Aloe</i>
<i>Campanula</i> L.
China Aster (<i>Callistephus chinensis</i> (L.) Nees)
Cordyline
*Cosmos (<i>Cosmos</i> Cav.)
*Dianthus (Revision) (TG/25/9)
Grevillea
*Hosta
*Lilac (<i>Syringa</i> L.)
*Mandevilla
Regal Pelargonium (Revision) (TG/109/3)
Salvia
<i>Zinnia</i> L.

86. The leading experts, interested experts and timetables for the development of the Test Guidelines are set out in Annex V.

Guidance for drafters of Test Guidelines

87. The TWO noted the revision of the “Practical Guidance for Drafters (Leading Experts) of UPOV Test Guidelines”, Section “Test Guidelines for Discussion at the Technical Working Party”, presented on the basis of document TC/48/3, as available on the TG Drafters webpage . The revision concerned the information that “a ‘clean’ version of the draft should be provided: the draft should not contain any comments within the document. If necessary, any comments should be included in an annex or in a separate document”.

88. The TWO noted that, if a Leading Expert of a draft Test Guidelines could not attend a TWP session, the Test Guidelines could be withdrawn from the Agenda of the concerned TWP session. If the Leading Expert and the interested experts so wished, an informal subgroup discussion via WebEx after the TWP, could be organized with the support of the Office of the Union.

89. The TWO received a presentation by the expert from Australia on the project of a web based TG Template the aim of which was to introduce the project to drafters of Test Guidelines and to seek their feedback and input.

90. The TWO noted the features of the proposed TG Template and discussed possibilities on the use of such a template and related databases also for the development of national guidelines. The TWO supported the initiative and agreed to the continuation of work on the TG Template.

91. The Chairman reminded drafters that the deadlines for drafts of Test Guidelines were indicated in Annex V to this document and on the Drafters’ webpage. He informed the TWO that the deadlines needed to be respected and encouraged subgroup members to confirm receipt of any e-mail correspondence.

Date and Place of the Next Session

92. At the invitation of Australia, the TWO agreed to hold its forty-sixth session in Melbourne, Australia, from April 22 to 26, with the preparatory workshop on April 21, 2013.

*Indicates possible final draft Test Guidelines.

Matters for future consideration

93. With regard to the proposal from China for draft Test Guidelines for *Lonicera*, the TWO noted that China would further develop their national guideline, including species to be covered, before further consideration.

94. The expert from the European Union raised the issue of the apparent contradiction in the use of the term “growing cycles”, noting that in the case of Eucalyptus, it was difficult to identify a “growing cycle”. He suggested that this should be reflected in TGP/7 in the form of a General Note (GN) or Additional Standard Wording (ASW). In addition, he noted that further information on how the method of vegetative propagation (e.g. *in vitro*, hardwood or softwood cuttings) and the origin of the propagating material, taken from within the plant, might affect future plant development and characteristic expression and how this should be provided for in Test Guidelines.

95. The TWO noted that these items should be put forward for future consideration in the future revision of TGP/7.

96. The TWO noted that the European Union would prepare a document for discussion at the TWO session in 2013.

97. In addition, the TWO requested further clarification on the number of plants required for description for possible inclusion in the future revision of TGP/7.

Future Program

98. The TWO proposed to discuss the following items at its next session:

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers
 - (b) Reports on developments within UPOV
4. Molecular Techniques
5. TGP documents
6. Variety denominations
7. Information and databases
 - (a) UPOV information databases
 - (b) Variety description databases
 - (c) Exchangeable software
 - (d) Electronic application systems
8. Uniformity assessment
9. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee (if appropriate)
10. Discussion on draft Test Guidelines (Subgroups)
11. Recommendations on draft Test Guidelines
12. Guidance for drafters of Test Guidelines
13. Date and place of the next session
14. Future program
15. Report on the session (if time permits)
16. Closing of the session

Visit

99. In the afternoon of August 8, 2012, the TWO visited the facilities of the Kim Jeong Moon Aloe Co.Ltd., Seogwipo-si, a botanical garden and research facility for Aloe, where they were given a presentation by Mr. Syewoong Kim, a copy of which is provided in Annex IV to this document.

Printing of report

100. The Chairperson proposed that in an effort to reduce the carbon footprint of the TWO meeting, Annexes I, II, III and IV of the report would no longer be distributed during the session. Those annexes would be made available on the TWO webpage together with the adopted report.

101. *The TWO adopted this report at the close of the session.*

[Annexes follow]

ANNEX I

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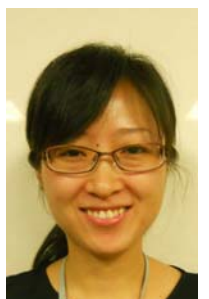
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III. ORGANIZATIONS

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INTERNATIONAL SEED FEDERATION (ISF)



Atsushi KOSEKI, Sakata Seed Corporation, 2-7-1 Nakamachidai, Tsuzuki-ku Yokohama, 224-0041 YOKOHOMA
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IV. OFFICER

CHAIRPERSON



Nik HULSE, Chairperson

V. OFFICE OF UPOV



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(tel. +41-22-338 7441, fax +41-22-733 03 36 e-mail: julia.borys@upov.int)



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[Annex II follows]

TWO/45/37

ANNEX II

**Welcome Address
Bae, Won-Gil
Director-General
Korea Seed & Variety Service**

Good morning!

Respected Mr. Nik Hulse, chairman of Technical Working Party for Ornamental Plants and Forest Trees(TWO),
Mrs. Julia Boris, Senior Technical Counsellor of UPOV,
Distinguished participants, and ladies and gentlemen

Welcome to the UPOV 45th TWO meeting!

Let me first extend my sincere gratitude to the chairman and the UPOV secretariat for giving us this opportunity to host the UPOV TWO meeting in Jeju, Republic of Korea.

In 2002, we hosted the UPOV/ASIA regional technical meeting in Seoul and discussed how to enhance cooperation in the field of plant variety protection among Asian countries.

Since 2004, We have hosted six UPOV meetings of TWV, TWO, BMT, TWF, TWC and TWA. Therefore, it will be the second time for the Republic of Korea to host the TWO meeting.

The Republic of Korea is also expected to be the host of the 26th UPOV TWC meeting in Seoul on June 2013. Thus, the Republic of Korea has been a very active member country of the organization.

Mr. Chairman,
Honorable delegates from member countries,
and distinguished participants,

The Republic of Korea started to implement this PVP system in 1997 after legislation of Seed Industry Act in 1995. And we joined UPOV as the 50th member country in 2002. Until now, Plant Breeder's Rights have been granted to 4,045 varieties.

As of June 30th 2012, 6,037 varieties in total have been applied for plant variety protection, of which 3,266 varieties, or 54%, are ornamental species.

The major species among them are Rose, Chrysanthemum, Gerbera, Phalaenopsis, Moon cactus and Lily.

The PVP rights for most of these varieties are held by foreign breeders.

The increase in overseas applications and thus expensive royalties create a huge burden for Korean farmers.

But on the other hand, it is stimulating domestic breeding for ornamental plants.

Today there are growing number of breeders in the Republic of Korea who are interested in the plant variety protection scheme.

Therefore, I hope this TWO meeting will make a considerable contribution for Korean breeders. As a member of UPOV, the government of the Republic of Korea will continue to play a leading role in fulfilling its obligations as a member state and in actively protecting intellectual property rights of new varieties.

The Republic of Korea, in an effort to strengthen cross-border relations with global organizations such as UPOV and introduce the Plant Variety Protection system in developing countries including Asia, has invited experts of about 20 countries every year to share experiences and discuss each country's system.

In this way, we will continue our cooperative ties with other countries.

The cooperation among UPOV members is important in harmonizing DUS test for plant variety protection.

I hope that your active participation and in-depth discussions in this meeting will provide member countries with an excellent opportunity to advance plant variety protection under the UPOV system. Jeju island is considered by Koreans to be a gift from God, and Halla Mountain holds many ancient wonders to be shared with the world.

This unique area was internationally recognized on June 27th, 2007 when 'Jeju Volcanic Island and Lava Tubes' were designated the Republic of Korea's first UNESCO World Natural Heritage Site. Moreover Jeju Island was officially confirmed as one of the 7 wonders of Nature by UNESCO on Dec. 26, 2011.

Everyone in here is very lucky and happy to have an opportunity to visit this UNESCO-registered world natural heritage.

During our meeting in Jeju, I hope all of you have pleasant stay enjoying cultural experience and beautiful natural scenery of Jeju Island.

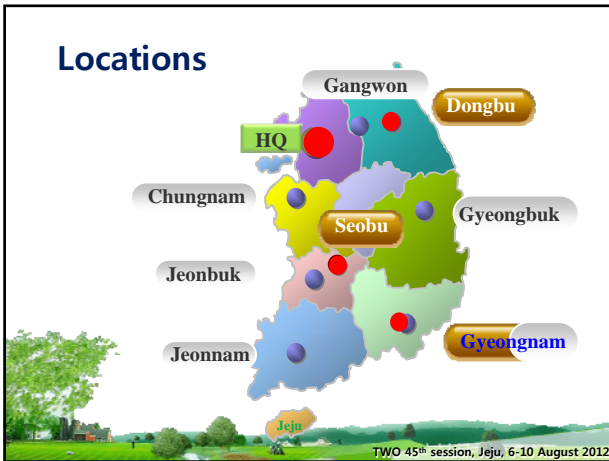
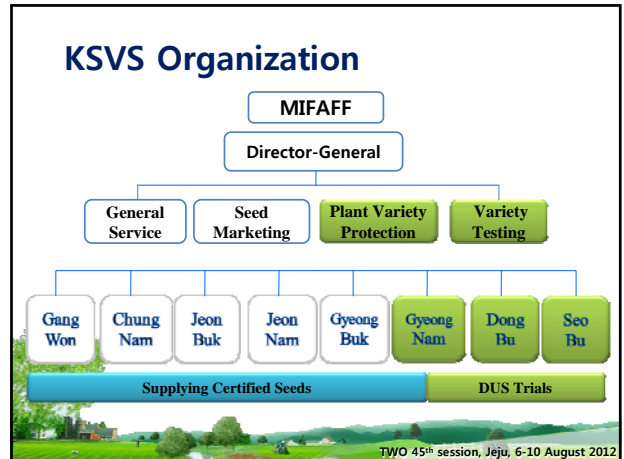
Once again, I would like to thank Mr. Nik Hulse, Chairman of TWO and Mrs. Julia Boris of UPOV for organizing this meeting, and I wish all of you good health and a pleasant stay in this beautiful island of Jeju in the Republic of Korea.

Thank you.

[Annex III follows]

Plant Variety Protection in Korea

TWO 45th session, Jeju, 6-10 August 2012



- ## Missions
- ➔ Supplying Seeds of Agricultural Crops
 - ➔ Supervising Circulation of High Quality Seeds
 - ➔ DUS Test for Plant Breeders' Rights
 - ➔ VCU Test for National Listing
 - ➔ Seed Certification
- TWO 45th session, Jeju, 6-10 August 2012

Supplying Seeds of Agricultural Crops

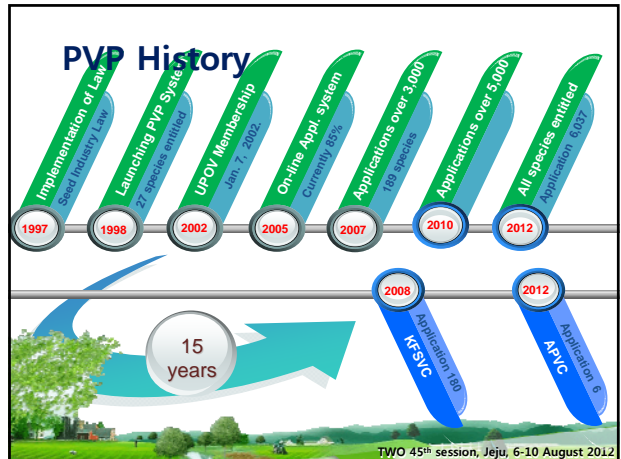
- Production, processing & distribution
- Increase of staple food production & farmers' income
- Seed quality performed under ISTA accreditation

TWO 45th session, Jeju, 6-10 August 2012

Supervising Circulation of High Quality Seeds

- To prevent losses caused by circulation of poor quality seeds
- educating the law regarding circulation inspection, indication of seed quality, registration of seed business

TWO 45th session, Jeju, 6-10 August 2012



Field & Facilities for DUS

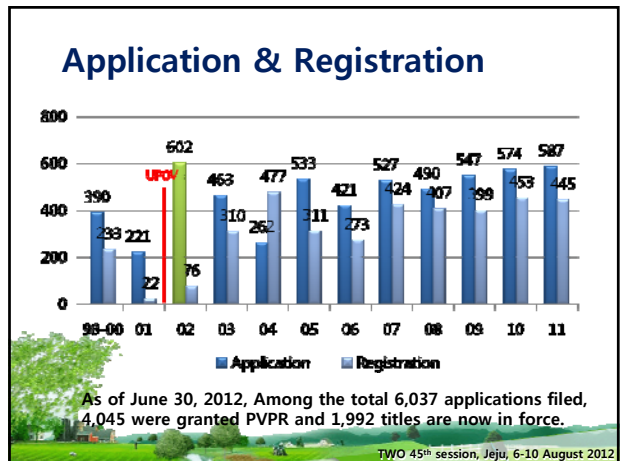
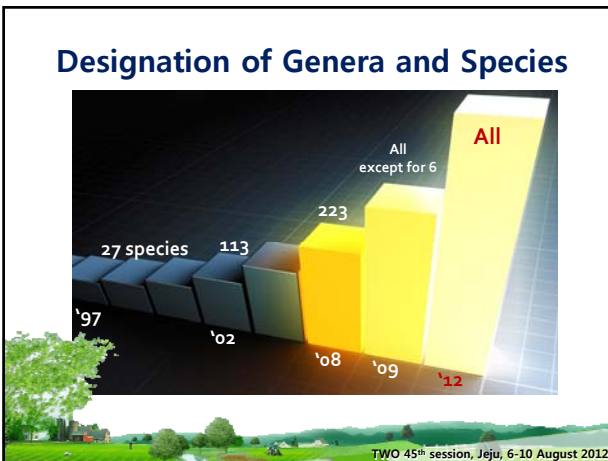
Section		Total	Variety Testing Div.	Dong Bu	Seo Bu	Gyeong Nam
Field	Total (ha)	26.1	5.8	7.2	8.7	4.4
	Field	18.6	4.9	6.2	4.1	3.4
	Others	7.5	0.9	1.0	4.6	1.0
Facilities	Total (m ²)	34,327	10,187	5,229	10,683	8,228
	Glass house	8,762	3,020	520	2,379	2,843
	Plastic house	15,778	4,050	2,670	5,412	3,646
	Office building	3,777	1,067	771	1,272	667
	Seed storage	139	139	-	-	-
	Others	2,651	1,054	777	430	390

TWO 45th session, Jeju, 6-10 August 2012

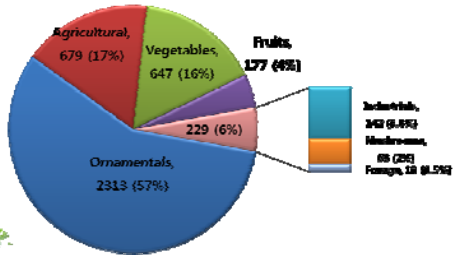
Personnel

Division	Major Crops	Examiner	DUS staff
PVP Div.	(Application)	2	-
Variety Testing Div.	Rice, Rose, Mushroom	2	4
DongBu	Vegetables, Potato	1	2
SeoBu	Fruits, Gerbera, Tomoto	1	6
GyeongNam	Cucumber, Orchids, Cactus	1	5
Total		7	17

TWO 45th session, Jeju, 6-10 August 2012

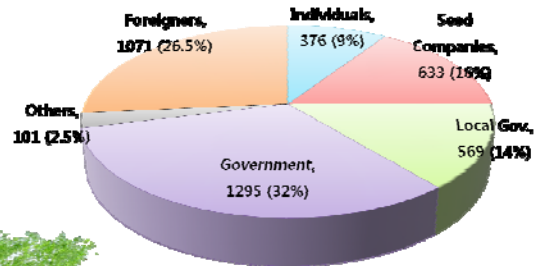


Registration by Crop Category

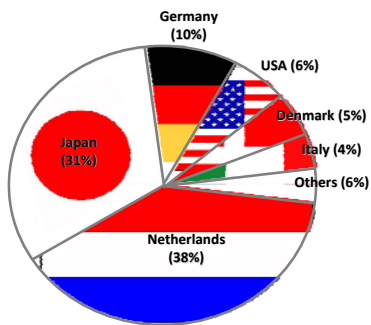


Total number of 4,045 registrations for plant breeders' rights had been filed until June 30, 2012.

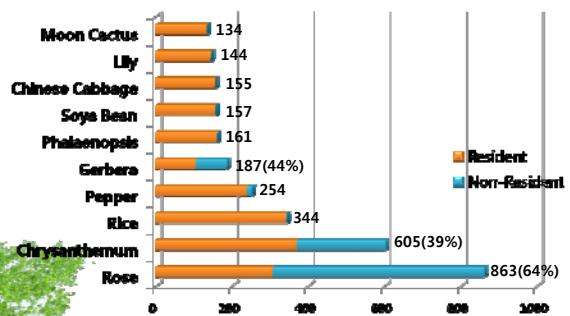
Registration by Applicants



Application by Non-Residents



Top 10 Application Crops



Electronic Application System



Electronic Application System

- ① Permission of membership
- ② Log-in
- ③ Filling-in the application form
- ④ Attachment of additional files
- ⑤ Submission

Application Receipt



E-gazette



TWO 45th session, Jeju, 6-10 August 2012

PVP Training Program



TWO 45th session, Jeju, 6-10 August 2012

감사합니다
Thank you

TWO 45th session, Jeju, 6-10 August 2012

Production & Application

KIM JEONG MOON
ALOE CO., LTD.

August 8, 2012
Syewoong KIM




KIMA

1

Contents

KIM JEONG MOON ALOE

- + ALOE & JEJU FARM
- Aloe, History, ...
- + ALOE Production Management
- Cultivation, Commercialization, ...
- + ALOE Application
- R&D, Application, ...



KIMA

2

KIM ALOE CO., LTD.

(주)김정문알로에는...



2012년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2011년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2010년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2009년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2008년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2007년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2006년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2005년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2004년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2003년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2002년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2001년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
2000년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1999년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1998년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1997년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1996년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1995년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1994년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1993년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1992년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1991년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1990년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1989년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1988년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1987년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1986년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1985년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1984년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1983년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1982년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1981년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함
1980년	대한민국 식품안전관리인증기준(KFDA)을 준수하여 생산된 알로에 제품을 출시함

KIMA

3

KIM ALOE JEJU FARM

Jeju Farm...

- Was built in 1989
- A botanical garden specializing in aloes with about 450 varieties from all over the world




KIMA

4

KIM ALOE JEJU FARM

Aloe Display Space




- Greenhouse of 7,600 m2 (or 2300pyeong)
- About 100 species of other succulent plants, orchids and crythanthemums
- Open to public for free

ALOE

5

KIM ALOE JEJU FARM

Display & Management



- 14 workers maintain the farm and conduct researches on breeding
- Purchases aloes from local farmhouses through contract

ALOE



6

KJM ALOE

ALOE

Present Condition

- + A specialized aloe company with 35 years of history
- + Sales revenue of more than US\$90 million
- + Healthy food, dietary supplement
- cosmetics, and other products
- + Overseas market such as China
- + Plant to build an aloe healing center and a resort

7

Production Management

How to produce and manage aloes

- Growth
- General management
- Commercialization
- R&D




8

Cultivation

Aloe cultivation in greenhouse




9



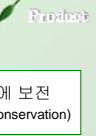
Identification

알로에 동정 (identification) → 형태·생리 분석 (analysis) → 알로에 보전 (ex situ conservation)

Aloes in Jeju Farm and Factory ↔ comparison ↔ Aloe picture book

화서 (inflorescence)


ALOE DB



10

Groups (Growth Habit)

Grouping depending on a mode of growth



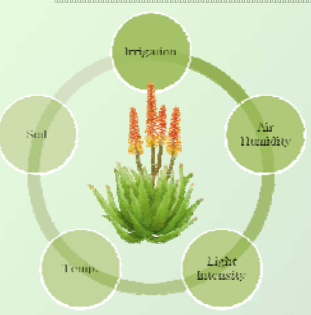
김정문 알로에 도감


11

Growing Condition

5 points for Aloe cultivation



- + Natural environment
- + Seasonal condition
- + Aloe species
- + DB management



12

Propagation

- Seeds
- Division
- Lateral bud
- Cutting
- Others

13

Diseases & insect pest

알로에 병해충

- White scale insects
- Grain weevils
- Black rust, gall

14

Commercialization

Core Tech. → Commercialization → Aloe-Based Functional Products → Production System

1) mU-Tech for Component Fractionation
2) DIS processing Tech
3) RW Drying Tech

Quality UP 20-30%
Cost Reduction 20-40%

1. mU-Tech, 2. DIS, 3. RW, U-Tech, FD

Traditional process

Verification & Validation

15

Production

First Stage: Collecting literatures, data & analyzing them; Analyzing processing or functions of equipment; Optimization test/evaluation

Second Stage: Efficacy/Performance test/Evaluation/verification test; Pilot models; Line & System Setup

Third Stage: Merchandising Research / Pilot system; Operation evaluation / Industrial application

Merchandising/Commercialization

16

R&D - Cosmetic

First Stage	Second Stage	Third Stage
Research on Metabolic regulation of Aloe component & related diseases control	Analysis of components' effects on blocking signals of inflammation	Exploration of components' effects on incurable skin diseases and anti-ageing
Analysis of aloe components' ability of skin elasticity & cell restoration in vitro	Verification & analysis of effects on improving skin conditions	Animal tests
	in vitro/in vivo Efficacy test	Production of functional cosmetics and clinical tests

17

Researches on breeding

Making aloe a local specialty through research on cold-resistance

- 방사선 및 화학약품 처리를 통한 돌연변이 유기
- Mutagenesis by radiation & chemical mutagen treatment
- 조직배양기술을 이용한 축성재배 및 육종연한 단축
- Forcing culture by tissue culture system and shortening the breeding period
- DNA 마커 개발을 통한 유용변이 선발 등 기술집약적 육종연구
- Selection of Aloe line with useful traits by DNA marker system
- 알로에에 대한 기능성 재평가 및 관상용 신품종 개발
- Reevaluation of aloe functions and development of new ornamental varieties
- 내한성 육종소재화 연구를 통한 녹색상품 개발 및 지역특산화
- Development & localization of green varieties through researches on cold-resistance

18

R&D – Tissue Culture

Establishing tissue culture conditions

Subculture-propagation

Product

19

R&D – Cross Breeding

Artificial crossing

Seedling raising, mass propagation

hybridization-seedage

Product

20

R&D – Mutation Breeding

Radiation & Chemical mutagen

Product

21

R&D – Speciation of Aloe

Interspecific relationships

- Morphological Groups
- Alignment of CIR
- Phylogenetic tree analysis
- PCR result

Product

22

R&D – DNA Marker

Development of SSR & SCAR Marker

Usage of DNA markers to protect KJMA's own Aloe varieties and to develop novel Aloe variety

Product

23

Marketing

Marketing

Development of New products

- Market research at home & abroad
- Development of business and product concepts
- Branding & design
- Mass production
- Promotion for new products
- Business strategies
- Marketing strategies for each product
- Integrated marketing system
- STP implement strategies
- Re-establishment of distribution & sales

Marketing programs

Product



24

Application

App

Uses

- + Food, medicine
- + Parts to use
- + Cultivated varieties
- + Traditional uses
- + Diversity
- + Products




25


Food & Medicine

App

Aloe species for food and medicine



vera, arborescens, ferox, africana, perryi, saponaria







26

Harvest

App

Parts to use

- + Gel
- + Leaves



27

Cultivar

App

Aloe vera (L.) Burman

- + Arabia peninsular
- + Stemless
- + Most commonly used species
- + Food, cosmetics, etc




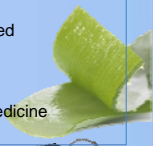

28

Cultivar

App

Aloe arborescens Mill.

- + Southeast of Africa
- + Multi-stemmed
- + Widespread
- + Purgative medicine



29

Traditional...

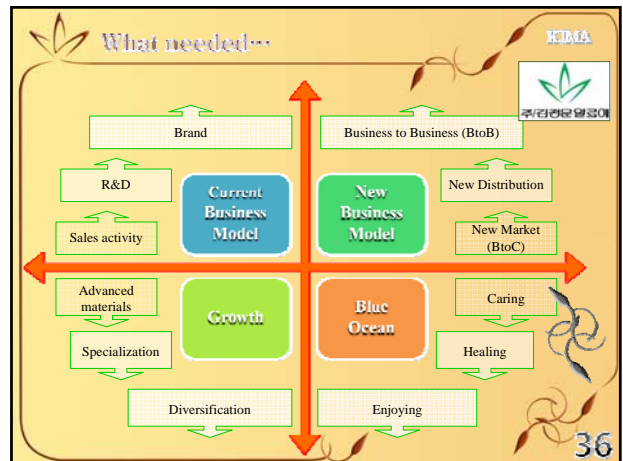
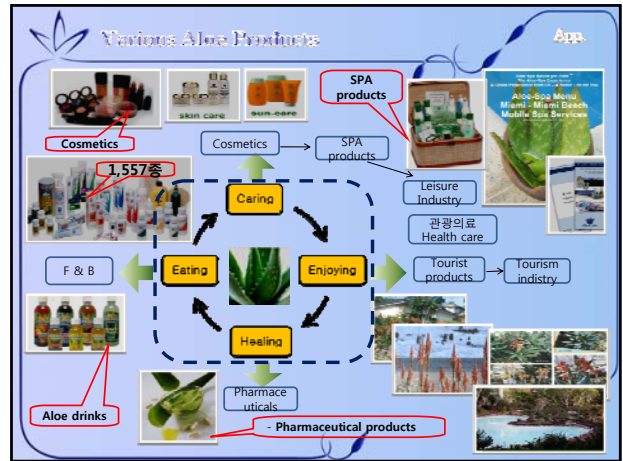
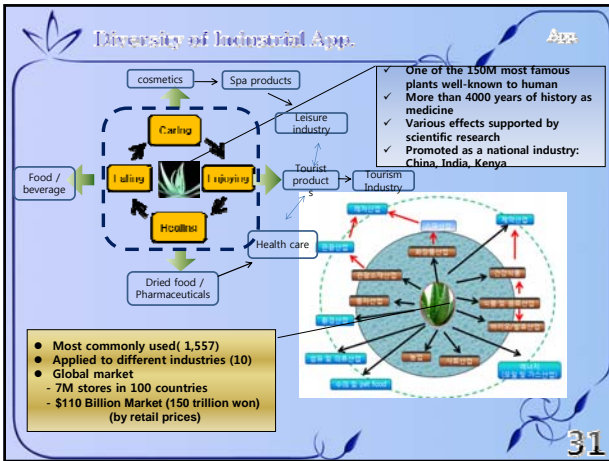
App

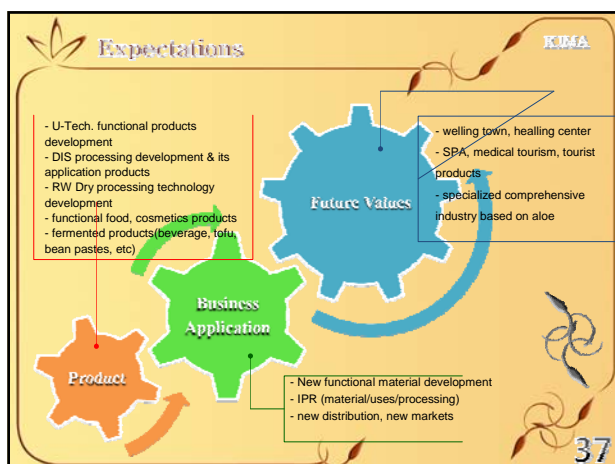
Traditional uses

- + Solid aloe juice
- + alternative medicine



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LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED
TO THE TECHNICAL COMMITTEE IN 2013**

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

by September 21, 2012

Species	Basic Document	Leading expert(s)	Interested experts (States/Organizations) ¹
Dianella (<i>Dianella</i> Lam. ex Juss.)	TG/DIANE(proj.3)	Mr. Nik Hulse (AU)	GB, NZ, QZ, ZA, Office
Eucalyptus (part of genus only)	TG/EUCAL(proj.8)	Mr. Fabricio Santana Santos (BR) / Mr. Luo Jianzhong (CN)	AU, FR, IL, KE, QZ, ZA, Office
Gladiolus (<i>Gladiolus</i> L.) (Revision)	TG/108/4(proj.6)	Mr. Henk de Greef (NL)	BG, CN, CO, IL, JP, KR, MX, PL, QZ, RO, UA, ZA, Office
Hebe (<i>Hebe</i> Comm. ex Juss.)	TG/HEBE(proj.3)	Mr. Chris Barnaby (NZ)	AU, CA, DE, DK, GB, NZ, QZ, ZA, Office
Lobelia (<i>Lobelia erinus</i> L.)	TG/LOBEL(proj.2)	Mrs. Ashley Balchin (CA)	DE, JP, ZA, Office
Lomandra (<i>Lomandra</i> Labill.)	TG/LOMAN(proj.3)	Mr. Nik Hulse (AU)	GB, NZ, QZ, ZA, Office
Osteospermum (<i>Osteospermum</i> L. and hybrids with <i>Dimorphotheca</i> Vaill. ex Moench) (Revision)	TG/176/4(proj.2)	Ms. Andrea Menne (DE)	AU, CA, GB, JP, NL, QZ, ZA, Office
Phalaenopsis (<i>Phalaenopsis</i> Blume) (Revision)	TG/213/2(proj.5)	Mr. Henk de Greef (NL)	BG, BR, CN, KR, JP, MX, QZ, SG, Office
Tree Peony (<i>Paeonia</i> Sect. <i>Moutan</i>)	TG/PAEON(proj.6), TWO/45/34	Prof. Wang Lianying (Ms.) Ms. Yuan Tao, Mrs. Zhang Xiuxin (CN)	BG, JP, NL, UA, Office

Partial Revisions

African Lily (<i>Agapanthus</i> L'Hér.)	TG/266/1, TWO/45/31	Mr. Adriaan de Villiers (ZA)	
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¹ for name of experts, see List of Participants

DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWO/46

(* indicates possible final draft Test Guidelines)

**New draft to be submitted to the Office of the Union
before March 8, 2013****(Guideline date for Subgroup draft to be circulated by Leading Expert: January 11, 2013****Guideline date for comments to Leading Expert by Subgroup: February 8, 2013**

Species	Basic Document	Leading expert(s)	Interested experts (States/Organizations) ²
Abelia (<i>Abelia</i> R. BR.)	(new)	Mrs. Françoise Jourdan (FR)	GB, JP, NZ, QZ, Office
Aglaonema (<i>Aglaonema</i> Schott.)	TG/AGLAO (proj.2)	Mr. Kenji Numaguchi (JP)	AU, NL, NZ, QZ, ZA, Office
Aloe (<i>Aloe</i> L.)	TG/ALOE(proj.1)	Mr. Adriaan de Villiers (ZA)	AU, CN, DE, KE, MX, NL, Office
Campanula (<i>Campanula</i> L.)	TG/CAMPA(proj.2)	Miss Elizabeth Scott (GB)	CA, CN, DK, JP, NL, NZ, QZ, ZA, Office
China Aster (<i>Callistephus chinensis</i> (L.) Nees)	TG/CALSP(proj.1)	Mr. Ken-ichi Atsuta (JP)	CN, DE, GB, MX, Office
Cordyline (<i>Cordyline</i> Comm. ex Juss.)	(new)	Mr. Chris Barnaby (NZ)	AU, KR, NL, QZ, Office
*Cosmos (<i>Cosmos</i> Cav.)	TG/COSMOS(proj.4)	Mr. Takayuki Mikuni (JP)	GB, HU, KR, MX, NZ, RO, Office
*Carnation (<i>Dianthus</i> L.) (Revision)	TG/25/9(proj.5)	Mr. Henk de Greef (NL)	BG, CO, GB, IL, JP, KE, KR, MX, NZ, QZ, ZA, Office
Grevillea (<i>Grevillea</i> R. Br. corr. R. Br.)	(new)	Mr. Nik Hulse (AU)	NZ, MX, Office
*Hosta (<i>Hosta</i> Tratt.)	TG/HOSTA(proj.6)	Mr. Henk de Greef (NL)	CN, GB, HU, JP, KR, NZ, QZ, UA, ZA, Office
*Lilac (<i>Syringa</i> L.)	TG/LILAC(proj.3)	Dr. Cui Hongxia (Ms.) (CN)	CA, DE, FR, GB, JP, KR, PL, QZ, UA, Office
*Mandevilla (<i>Mandevilla sanderi</i> (Hemsl.) Woodson; <i>Mandevilla xamabilis</i> (Backh. & Backh. f.) Dress)	TG/MANDE(proj.4)	Mr. Henk de Greef (NL)	AU, IL, JP, KE, NZ, QZ, ZA, Office
Regal Pelargonium (<i>Pelargonium grandiflorum</i> hort. non Willd.) (Revision)	(TG/109/3)	Ms. Andrea Menne (DE)	AU, CA, JP, KR, MX, QZ, Office
Salvia (<i>Salvia</i> L.)	(new)	Mr. Tetsuya Takahashi (JP)	CA, CN, GB, IL, NZ, MX, QZ, Office
Zinnia (<i>Zinnia</i> L.)	TG/ZINNIA(proj.2)	Mr. Jose Mejía Muñoz (MX)	CN, GB, IL, JP, Office

[End of Annex V and of document]

² for name of experts, see List of Participants