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UPOV

TWO/XXI/16
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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

Twenty-first Session
Ghent, Belgium, June 20 to 24, 1988

REPORT

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

Opening of the Session

1. The twenty-first session of the Technical Working Party for Ornamental Plants and Forest Trees (hereinafter referred to as "the Working Party") was held near Ghent, Belgium, from June 20 to 24, 1988. The list of participants appears in Annex I to this report.

2. Prof. J.G. van Onsem, Director of the Institute for Ornamental Plant Growing, welcomed the participants to his institute at Melle. The session was opened by Mr. C. J. Barendrecht (Netherlands), Chairman of the Working Party.

Adoption of the Agenda

3. The Working Party unanimously adopted the agenda for its twenty-first session as reproduced in document TWO/XXI/1, after having noted that under item 10, subitems (vii), (xi), (xiii) and (xv) would be postponed to the next session as no documents had been prepared in time for the present session.

Short Report on Special Developments in Plant Variety Protection in Ornamental Plants and Forest Trees

4. The Working Party received short reports from some of the experts on further recent developments in their countries. It noted with special interest the report from the Danish expert on the preliminary results of a pilot project in Denmark involving tests done by breeders, and from the expert from the United Kingdom on the review of the variety testing system in that country. The preliminary report on the Danish pilot project is reproduced in Annex II to this report.

Important Decisions Taken During the Last Sessions of the Technical Working Party and of the Technical Committee

5. Dr. M.-H. Thiele-Wittig gave a brief report on the last session of the Technical Committee, referring for further details to the full report reproduced in document TC/XXIII/6. He especially highlighted the discussions on the Combined Over-Years' Analysis (paragraphs 40 to 43 and the new document TC/XXIII/4 Rev.), the discussions on Continuous Characteristics of Which Only Three States can Actually be Separated (paragraphs 21 and 22 and the documents TC/XXIII/5 and TC/XXIII/7), the Revision of the UPOV Model for the Report on Technical Examination (paragraphs 31 and 32 and the new document TWV/XXI/15) and the discussions on Minimum Distances held jointly with the Administrative and Legal Committee (Annex V to TC/XXIII/6).

Use of Pictures in Variety Applications

6. The Dutch experts informed the Working Party that, in the Netherlands, applications for breeders' rights for ornamental varieties would have to be completed by a representative color picture of the variety. As a result of the ensuing discussions, it was agreed to include in the Agenda of the coming session an item on the use of pictures in variety applications.

Combined Over-Years' (COY) Analysis

7. The Working Party noted document TC/XXIII/4 Rev., but repeated that, in its field of competence, application of the analysis would be rather limited as 99% of the varieties would be tested only for one year.

States of Expression and Notes of Certain Characteristics

8. The Working Party noted documents TC/XXIII/5 and TC/XXIII/7. It expressed its view that the possibilities of expression should not be limited too much. It will take the documents into account and consider certain proposals during discussion of the individual Test Guidelines.

Revision of the UPOV Model for a Report on Technical Examination

9. The Working Party noted document TWV/XXI/15 containing a proposal prepared by the Netherlands for a change to the first page of the UPOV Model for a Report on Technical Examination. It agreed to align the first part of the Model Report as closely as possible on that of the adopted revised Model Variety Description Form. It should, however, also include information on the agent and the breeder. Furthermore, the questions and answers should be placed in two separate columns and the conclusions should follow more closely the wording of the Convention, and the word "clearly" should be inserted before "distinguishable" in paragraph 10(a).

Report on the last Session of the Technical Working Party on Automation and Computer Programs (TWC)

10. Dr. M.-H. Thiele-Wittig gave a short report on some parts of the discussions held during the last session of the Technical Working Party on Automation and Computer Programs. The full report is reproduced in document TWC/VI/13 Prov.

11. The Working Party did not find it necessary to include a report by a statistician on selected items in the agenda for its next session. It will do so when it feels the need for such a report.

12. The Working Party noted that there were differences in what was understood by the term "similar variety" used in the UPOV Variety Description Form. While some member States indicated only varieties that had posed difficulties during the examination because differences were rather small, others considered all varieties which were different in one characteristic only. While in the first case similar varieties would be indicated only if confusion was otherwise possible, other member States would indicate similar varieties in most of the variety descriptions.

13. The Working Party agreed, albeit somewhat reluctantly, to follow the wish of the Technical Working Party on Automation and Computer Programs to select two species and certain characteristics within these species that had posed special problems and to supply data for these characteristics together with an explanation of the problems encountered and the present rules applied. The expert from the Netherlands will supply the information on Gerbera, that from the Federal Republic of Germany on Pelargonium or Saint Paulia.

Final Discussion on Draft Test Guidelines

Test Guidelines for Exacum

14. The Working Party noted that no comments had been received in writing on the Draft Test Guidelines for Exacum as reproduced in document TG/114/1(proj.), with the exception of the comments on the logical order of states (document TWV/XXI/16). It therefore only made the following main changes in that document:

(i) Conduct of Tests: In paragraph 3, under "Irrigation," to have the text after the semicolon read "the bench must dry between irrigations" and at the end of that paragraph to have the words "size of the plots" replaced by "size of the tests."

(ii) Methods and Observations: Paragraph 2 to read at the end "when there are five flowers open above the leaves."

(iii) Table of Characteristics:

Characteristic

3 to have the example variety for Note 3 deleted

4 to read: "Stem: anthocyanin coloration of nodes" with the states "absent, present"

5 to have the words "red color" replaced by "anthocyanin coloration"

6 to have the example varieties for Notes 3 and 7 deleted

7 to have the example varieties for Note 7 deleted

8 to be deleted and replaced by a new characteristic with an asterisk (*) and drawings reading: "Leaf blade: predominant shape of base" with the states "acute (3), obtuse (5), truncate (7)"

9 to have the additional state "semi-double" between the other states

10 to have the words with the limitation deleted

(iv) Technical Questionnaire: Characteristics 5.3 ii) to receive the additional state "pink".

Test Guidelines for Gladiolus

15. The Working Party noted the comments on the Draft Test Guidelines for Gladiolus as reproduced in documents TWO/XXI/9 and TWO/XXI/12 and made the following main changes in document TWO/XXI/9:

(i) Subject of these Test Guidelines: To have the family name corrected into "Iridaceae."

(ii) Conduct of Tests: To have at the end of paragraph 3 the words "size of plots" replaced by "size of tests."

(iii) Methods and Observations: To have an additional paragraph included reading: "4. Unless indicated otherwise, all observations on the segments have to be made on the upper side of the segment."

(iv) Table of Characteristics:

Characteristics

2 to have the states "short, medium, tall"

3 to read: "Foliage: height" with the states "short, medium, tall"

6 to have the asterisk (*) deleted

9 to read: "Spike: diameter of axis at base" with the states "small, medium, large"

10 after this characteristic, a new characteristic to be inserted reading: "Spike: number of flowers flowering simultaneously (when first flower is fading)" with the states "few, medium, many"

12 to receive drawings and to have the states "one row (1), zigzag (2), two rows (3), irregular (4)"

17 to receive an asterisk (*)

23 to receive drawings and to have the first state read "self-colored"

24 to have the states "short, medium, long"

25 to have the states "narrow, medium, broad"

26 to have the words "on midrib of the inner side" deleted

29, 30 to have the word "outer" replaced by "inner" and to be placed after characteristic 61

34, 38, 43, 49, 53, 57, 59, 64 to be deleted

40, 41, 42, 55, 56, 58, 67 to have the word "stripes" in the singular

42 to have the same states as characteristic 58

50 to have the words "on the inner side" deleted

58 to have the words "on midrib of inner side" deleted

66 to have the word "lobe" replaced by "segment" and to have the states "short, medium, long"

67 to have the last state read "broad"

71, 72 to have the word "inner" replaced by "outer"

The experts from the Netherlands will provide additional example varieties before the session of the Technical Committee.

Test Guidelines for Tuberous Begonia Hybrids

16. The Working Party noted that no comments had been received in writing on the Draft Test Guidelines for Tuberous Begonia Hybrids as reproduced in document TG/107/1(proj.), with the exception of the comments on the logical order of states (document TWV/XXI/16). It therefore only made the following main changes in the document:

(i) Grouping of Varieties: To have an additional group "Gr. 14, Others" added in paragraph 1.

(ii) Table of Characteristics:

Characteristic

20 to receive the bracketed addition "basal part"

30 to have the states "flat (3), slightly concave (5), concave (7)"

31 to be placed after characteristic 32 and to read: "Bract: color of apex"

32 to read: "Bract: shape of apex"

34 to have the first state read: "partly below"

45 to have the second state read: "rounded"

(iii) Literature: "Haegeman" and "Times" to be corrected

(iv) Technical Questionnaire: Paragraph 5.8 to receive the additional group "Others."

Test Gudelines for Tulip

17. The Working Party noted that no comments had been received in writing on the Draft Test Guidelines as reproduced in document TG/115/1(proj.). It therefore only made the following main changes in the document:

(i) Material Required: To be "30 bulbs of commercial size, stored at about 20°C"

(ii) Table of Characteristics:

Characteristic

2 to have the states "few, medium, many"

8 to have the example variety "Grand Prestige" for Note 1

10 to have the state "semi-double" deleted

14 to have the states "globose (1), ellipsoid (2), ovoid (3), obovoid (4)"

16 to have the state "three" deleted

17 to have the states "edged only laterally (1), edged all around (2), flamed (3)"

29 to have the state "more than two" deleted

Test Guidelines for Euphorbia Fulgens (Revision)

18. The Working Party noted that no comments had been received in writing on the Draft for revised Test Guidelines for Euphorbia fulgens as reproduced in document TG/10/5(proj.). It therefore only made the following main changes in the document:

(i) Methods and Observations: To have paragraph 4 deleted.

(ii) Table of Characteristics: In characteristics 2 and 3, to have the words "upper third of flowering part of shoot" placed in brackets. The characteristic 5 to have the words "of upper third" changed into "on upper third."

List of Reference Books and Documents

19. The Working Party noted document TWV/XXI/3, which contains additional information to that included in document TC/XXII/4. It invited its members to inform the Office of UPOV of any additional information or corrections which might be necessary in the documents.

Items for the Technical Working Party on Automation and Computer Programs

20. The Working Party had no items to propose to the Technical Working Party on Automation and Computer Programs. It encouraged its members to participate in meetings of the Working Party if they took place in their country.

Color Observations

21. The Working Party noted the report of the expert from the Federal Republic of Germany on the progress made in the empirical grouping of the RHS Colour Chart with the aim of facilitating the screening of varieties by computer. A paper on that grouping will be prepared by Mrs. Löscher (Federal Republic of Germany) before the end of the current year for distribution to the member States.

22. The expert from the Federal Republic of Germany also reported on joint trials with the Registration Group of the Permanent Judgement Committee (VKC) of the Royal Society for Horticulture and Plant Science (KMTP) of the Netherlands on the use of a chromameter for the measuring of colors. The first results looked rather promising. Trials will be continued in the Federal Republic of Germany and in the Netherlands. It was, however, stated that color charts would not be replaceable completely as mixed colors could not be measured. The size of the colored part of the plant might also be decisive if it became too small.

Improving Efficiency in Variety Testing

23. The Working Party will await the preparation of a document proposed by the experts from Israel before it enters into discussions on this subject during its coming session. However, it already noted some general ideas of the expert from Israel on possibilities of reducing costs and required time through better cooperation and exchange of data on variety description and further information on varieties in order to reduce considerably the number of reference varieties required to be grown together with candidate varieties. The Working Party encouraged that exchange at a bilateral level. It noted at the same time that central testing had already played an important role in the reduction of costs for individual offices.

Discussion on Working Papers on Test Guidelines

Test Guidelines for Protea

24. The Working Party noted that no comments had been received on document TWO/XXI/6 and therefore made only the following main changes in the document:

(i) Conduct of Tests: To have the second sentence of paragraph 3 deleted.

(ii) Methods and Observations:

Paragraph

2 to read: "All observations should be made on 10 parts of 4 plants"

3 to read: "All observations should be made on plants of the same age, not less than 3 years old"

5 to have the word "vegetative" deleted

6 to read: "All observations on the leaf and the flowering branch should be made on the upper third of the flowering branch, at the peak of the flowering season"

7 to read: "Unless otherwise stated, all observations on the inflorescence should be made at the peak of the flowering season on inflorescences on which only the first few florets on the outer series have reached anthesis"

8 to have the words "on the middle third" replaced by "just below middle third"

(iii) Table of Characteristics:

Characteristics

2 to have the first state read "short"

10 to have the bracketed part read: "secund leaves" excluded

12, 43, 47, 52 to have the word "wide" replaced by "broad"

14 to have the order of states reversed

15 to have the Notes "3, 5, 7"

17 to have the word "terate" corrected to "terete"

21 to read: "Leaf: conspicuousness of midrib on upper side" with the states "inconspicuous, conspicuous"

22 to have the word "distinct" replaced by "conspicuous"

24 to read: "Leaf: conspicuousness of color of margin with the states "inconspicuous, conspicuous"

25 to read: "Leaf: color of conspicuous margin"

30 to have the word "flexibility" replaced by "rigidity"

34 to 41 to have the word: "Inflorescence" replaced by "Flower head"

41 to have the additional state "pale pink" inserted before "pink"

44 to be placed before characteristic 42

45 to have the additional state "acute" inserted before "obtuse"

46, 47 to have the word "necrotic" replaced by "dry"

48 to read: "Outer involucral bract: color of marginal area below dry margin" and to have the state "cream" deleted

49 to read: "Outer involucral bract: color of central exposed area" and to have the state "cream" deleted

53 to be placed after characteristic 51

56 to read: "Inner involucral bract: incurving of apex"

57, 58 to have the words "on outer side" added and the additional state "pale pink" inserted before "pink"

59 to read: "Inner involucral bract: pubescence on outer side"

60 to receive the same changes as made for characteristic 59; after this characteristic, to have a new characteristic inserted reading: "Inner involucral bracts: waxy covering on outer side" with the states "absent, present"

64 after this characteristic, to have a new characteristic inserted reading: "Involucre: resin on bracts" with the states "absent, present"

65 to have the states "small, medium, large"

66 to 69 to have the word "Involucral" deleted

68 to be deleted

72 to have the word "at" deleted in states 9 and 10

77, 78 to be combined to read: "Time of flowering (Southern Hemisphere)" with the states from "very early" to "very late"

Several example varieties supplied by experts from South Africa as well as improved drawings were included.

(iv) Technical Questionnaire: In paragraph 1, the applicant would be asked to indicate the species concerned.

(v) The experts from South Africa would further supply information on characteristic 40, on literature for growing conditions and on addresses of institutes or organizations to whom the draft Test Guidelines could be sent for comments.

Test Guidelines for Leucospermum

25. The Working Party noted that no comments had been received on document TWO/XXI/5 and therefore made only the following main changes in the document:

(i) Changes as made for Protea: To have paragraphs III(3), IV(2), IV(3), IV(5) and X(1) changed as for protea.

(ii) Methods and Observations:

Paragraph

6 to have the words "time of full flowering" replaced by "peak of flowering season"

7 to read: "Unless otherwise stated, all observations on the inflorescence should be made when approximately 80% of the florets of the inflorescence have reached anthesis, at the peak of flowering season. (Exception: in cases where the styles are reflexed at anthesis, observations should be made at approximately 20% anthesis)

8 to have the words "the anthesised styles" replaced by "these styles"

(iii) Table of Characteristics:

Characteristics

2 to have the first state read "short"

9 to have the bracketed part read: "secund leaves excluded"

11, 49 to have the word "wide" replaced by "broad"

13 to have the order of states reversed

14 to read: "Leaf, shape of distal part" with the first state "long acute" and the Notes from 1 to 9

20 to read: "Leaf: incisions of distal part" with the states "absent, present"

21 to read: "Leaf: number of incisions of distal part"

22 to read: "Leaf: depth of incisions of distal part"

23 to read: "Leaf: tip of teeth"

24 to have the word "apical" deleted

26 to have the states "inconspicuous, conspicuous"

27 to read: "Leaf: color of conspicuous margin"

33 to have the word "flexibility" replaced by "rigidity"

37 to 56 to have the word "inflorescence" replaced by "flower head(s)"

39 to be placed after characteristic 30 and to read: "Plant: number of flowering branches on 30cm length of flowering material"

42 to have the states from "very small" to "very large"

52 to 55 to have the word "involucral" deleted

54 to be deleted

55 to have the state "flattened" replaced by "oblate"

63, 64 to have the word "freed" deleted

68 to have the word "firmness" replaced by "rigidity" and to have the states "weak, medium, strong"

70 to 73 to have the words "pollen presenters" placed into singular and to have the bracketed remark deleted

71 to have the last state read: "ungulate"

74 to have the bracketed addition "Southern Hemisphere"

(iv) Explanations on the Table of Characteristics: To have the drawings for characteristics 40, 41, 42 and 56 improved.

Test Guidelines for Leucadendron

26. The Working Party noted that no comments had been received on document TWO/XXI/4 and therefore made only the following main changes in the document:

(i) Changes as made for Protea: To have paragraphs III(3), IV(2), IV(3), IV(6) and X(1) changed as for protea.

(ii) Methods and Observations:

Paragraph

5 to have the word "branch" replaced by "stem"

7 to read: "Unless otherwise stated, all observations on the inflorescence should be made at the peak of flowering season at 50% anthesis"

8 to have an addition at the end reading: "at the peak of the flowering season at 50% anthesis"

(iii) Table of Characteristics:

Characteristics

1 to have the Notes "3, 5, 7"

2 to have the first state read "short"

9 to have the bracketed part read: "secund leaves excluded"

11 to have the word "wide" replaced by "broad"

13 to have the order of the states reversed

14 to have the order of the states as follows: "acute (1), obtuse (2), rounded (3), truncate (4), emarginate (5)"

19 to read: "Leaf: conspicuousness of color of margin" with the states "inconspicuous, conspicuous"

20 to read: "Leaf: color of conspicuous margin"

25 to have the word: "flexibility" replaced by "rigidity"

28 to read: "Flowering branch: predominant color"

29 to be placed before characteristic 23 and to read: "Plant: number of flowering branches on 30cm length of flowering material"

30, 31, 34 to have the word: "Inflorescence" replaced by "Flower head"

32 to read: "Involucral leaf: color compared to stem leaf" with the states "same, different"

33 to be placed before characteristic 32 and to read: "Flower head: number of involucral leaves"

34 to have the Notes "3, 5, 7"

38 to have the order of the states reversed

39 to have before "acute" the additional state "long acute" and the Notes from 1 to 9

40 to read: "Involucral leaf: incurving of apex"

41 to read: "Involucral leaf: degree of incurving of apex"

43 to 45 to be placed at the end of the table

43, 45 to have the word "after" replaced by "out of"

44 to read: "Involucral leaf: season of color change" with the Notes "2, 4, 6, 8"

53 to have the words "of florets" added after "concealment" and to have the order of the states reversed with the Notes "3, 5, 7"

54 to be placed at the beginning of the table and to read: "Plant: sex"

55 to 65 to have the word "Inflorescence" replaced by "Floret mass"

58 to have the bracketed addition "before anthesis"

60, 61 to have the bracketed part deleted

66, 67 to be combined to read: "Time of flowering (Southern Hemisphere)" with the states from "very early" to "very late"

Test Guidelines for Chrysanthemum (revision)

27. The Working Party noted document TWO/XX/15 on the revision of the Test Guidelines for Chrysanthemum and agreed to the proposals for amendments contained therein with the following main exceptions:

(i) Subject of these Guidelines: To include Chrysanthemum indicum. L.

(ii) Conduct of Tests: Paragraphs 3 and 3.1 to read: "The tests should be carried out under conditions ensuring normal growth. These will depend upon the type of chrysanthemum and upon the location of the testing place, especially latitude. Thus, no general growing conditions can be given. The Working Party has selected the latitude of Cambridge, United Kingdom, (52° 12°N) to give an example for growing conditions for the three main groups of varieties (all year round varieties, traditional pot varieties, other natural season flowering varieties). These growing conditions are reproduced at the end of Chapter VIII." Weeks 31 to 44 and weeks 10 to 21 should have lighting at 100 lux. The name of the peat blocks "Jiffy 9" should be deleted.

(iii) Table of Characteristics:

Characteristics

1a to have the word "developing" deleted

12a to have the Notes "3,5,7"

23 to have the additional state "widely diverging" before "diverging" and to have the Notes from 1 to 9

25a to be deleted

30a + b to be used for grouping but not to be included in the Table of Characteristics

30d to read: "Flower head: color group" with the states "white, green, yellow, salmon, pink, red, purple, bronze"

30e to read: "Flower head: intensity of most intensive color"

30f to read: "Bicolored varieties only: Flower head: secondary color visible in face view" with the same states as characteristic 30d with the exception of "green"

31, 51 to have the word "aneomone" corrected

36 to 35a to have the word "florets" in the singular

42 to read: "Varieties with long to very long corolla tubes excluded: Ray floret: width of outer floret"

43 to have the same change as characteristic 42

34 to have the states "incurved, straight, reflexed, twisted, angled"

34a to read: "Ray floret: degree of curvature of longitudinal axis"

34b to read: "Ray floret: part of axis which is curved"

35 to have the states: "uncurved, straight, reflexed, s-shaped, twisted, angled"

35a to have the word "strength" replaced by "degree"

38a to read: "Varieties with short corolla tube only: Ray floret: ribbing on lower side" with the first state "absent or very weak"

38c to read: "Ray floret: bristles on lower side" with the states "absent, present"

40 to have the word: "shape of" deleted and the state "incurved" replaced by "hooked"

54 to have the state "green" brought to the beginning

55 to have the state "whitish" brought to the beginning

58 to receive drawings and to be placed after characteristic 56

(iv) Technical Questionnaire: Characteristic 5.4.1 to be enlarged by the wording of characteristic 47; after this characteristic, characteristic 30d to be included; paragraph 5.8 to be brought under paragraph 7; paragraph 7.1 to be deleted.

Test Guidelines for Gerbera (revision)

28. The Working Party noted the proposal on the revision of the Test Guidelines for Gerbera as reproduced in document TWO/XXI/11 and made the following main changes in document TG/77/3:

(i) Changes in sections I to VI: Sections I to VI to be taken from document TWO/XXI/11, with the following exceptions:

(a) The Test Guidelines to apply to all vegetatively propagated varieties of Gerbera Cass. of the family Compositae (Asteraceae).

(b) The tests to be carried out "in the glasshouse" and not "in the open air"; the soil to be "well drained soil"; the plant protection indication to be deleted.

(ii) Table of Characteristics:

Characteristics

3, 6, 8, 10, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 34, 38, 39, 43, 44, 48, 49, 51, 52 to be deleted

11 to have the state "weakly acute" replaced by "short acute"

24 after this characteristic, a new characteristic to be included reading: "Peduncle: anthocyanin coloration excluding base and top" with the states "absent, present"

29 after this characteristic, the following characteristics to be inserted:

(a) "Flower head: tendency to fasciation" with the states "absent, present"

(b) "Semi-double varieties only: Flower head: bisexual ray florets" with the states "absent, present"

(c) "Semi-double and double varieties only: Flower head: border of mass of inner ray florets" with the states "regular, irregular"

(d) "Semi-double and double varieties only: Flower head: diameter of mass of inner ray florets compared to that of flower head" with the states "small, medium, large"

31 to have the asterisk (*) deleted and to read: "Flower head: height"

35 to have the asterisk (*) deleted and to read: "Flower head: distal part of bracts"

36, 37 to have the word "top" replaced by "distal part" and to delete the word "involural"

40 to read: "Outer ray floret: shape"; after this characteristic a new characteristic with drawings to be inserted reading: "Outer ray floret: level of apex relative to top of involucre" with the states "below (3), same level (5), above (7)"

41 to read: "Outer ray floret: longitudinal axis"

42 to read: "Inner ray floret: longitudinal axis"

45 to have the second state read: "straight"

53 to have the additional states "absent or very shallow" and "very deep"

54 to read: "Outer ray floret: tendency to form long free petals" with the states "absent, present"

56 to 58 to be studied further

59 to have an asterisk (*) added and the word "main" before "color"

63 to read: "Disc: main color of perianth lobes of flowers of outer rows"

(iii) Technical Questionnaire: Characteristic 5.2(ii) to receive Notes from 1 to 6.

Test Guidelines for Hydrangea

29. The Working Party had a preliminary discussion on document TWO/XXI/8 and made the following main changes therein:

(i) Conduct of Tests: In paragraph 3, under "cuttings" the words "branches of the" were deleted and the word "precedent" replaced by "previous", under "Temperature and Light" the conditions would read: "Outdoors, where climate permits", and the penultimate sentence would read: "As a minimum, each test should include a total of 5 plants."

(ii) Methods and Observations: Paragraph 2 to have the figure "5" inserted before "plants." Paragraph 3 to read: "All observations on the leaf should be made at the time of flowering on the third pair of leaves below the tip of a vegetative shoot."

(iii) Table of Characteristics:

Characteristic

1 to have the states "upright, climbing, overhanging"

12 to have the asterisk (*) deleted and to have the states "acute (1), obtuse (2)"

15 to have the states "fine, medium, coarse"

17 to have the states "flattened (1), globular (2), coned (3)"

23 to be deleted

24 to receive an asterisk (*) and the additional states "absent or very weak (Hörnli)" and "very strong"

25 to have the example varieties "Mamman, Merveille (1), Constellation (9)"

26 to have the example variety "Steina 104 (Syn. Claudia)" placed for Note 2 and not for Note 1

(iv) The Working Party noted further proposals for amendment and agreed that the expert from Germany would send them in writing to the Office of UPOV for inclusion in the Test Guidelines for discussion during the next session of the Working Party.

Test Guidelines for Lachenalia

30. The Working Party noted that no comments had been received on document TWO/XXI/3 and therefore made only the following main changes in that document:

(i) Conduct of Test: The expert from South Africa will supply growing conditions before the end of July. There would be no replicates in the test.

(ii) Methods and Obervation: In paragraph 5, the words "ground level" were replaced by "soil level."

(iii) Table of Characteristics:

Characteristics

1 to have the Notes "3, 5, 7" and to have the example variety "Romergo" deleted

6 to have the states "gutter shaped (1), straight (2), circular (3)"; after this characteristic, a new characteristic to be inserted, reading: "Leaf: recurving of margin" with the states "absent, present"

7 to be split into two characteristics reading:

(a) "Leaf: blistering of upper side" with the states "absent (Rosalein, Rosabeth), present"

(b) "Leaf: pubescence of upper side" with the states "absent (Rosalin, Rosabeth), present"

8 to 11 to have the word "dorsal" replaced by "upper"

26 to have the words "distal part of" inserted before "inner" and to have the word "outward" deleted

32 to read: "Outer perianth segment: color of apex relative to other part" with the states "same (1), clearly different (2)"

35 to read: "Inner perianth segment: color of margin of apex compared to other part" with the states "same (1), clearly different (2)"

36, 37 to have the word "distinct" replaced by "clearly different colored"

39 to read: "Flower: fragrance"

40 to have the last state read "exserted"

41 to have the states "oblate (1), globose to obovoid (2)" and to receive no drawings

42 to read: "Bulb: formation of bulbils"

43 to be deleted

44 to have the spelling of the example variety "Lizelle" corrected

(iv) Technical Questionnaire: To ask in paragraph 1 for the name of the species.

Test Guidelines for Carnation (revision)

31. The Working Party noted document TWO/XX/15, which contains comments for the revision of the Test Guidelines, document TWO/XXI/13 containing a report on the subgroup meeting on the revision, held at St. Laurent-du-Var, France, in March 1988, additional color observations reproduced in document TWO/XXI/14 and a further lengthy report on several new testing methods, part of which will be reproduced in document TWO/XXI/17. It finally agreed to the following main changes to document TG/25/5:

(i) Table of Characteristics:

Characteristics

1 to be deleted

2 to have the addition "only to be observed if at least 7 internodes are present"

3 to have the additional states "very thin" and "very thick"

5 to read: "Stem: cross section" with the states "circular (1), edged (2);" after this characteristic, a new characteristic to be inserted reading: "Stem: hollowness" with the states "absent, present"

10 to have the states "straight (1), weakly concave (3), concave (5), strongly concave (7)"

12 to read: "Leaf: waxy layer" with the states from "absent or very weak" to "very strong"

14 after this characteristic, a new characteristic to be inserted reading: "Bud: extrusion of styles" with the states "absent, present"

19 to have the states "absent, present"

26 to have the state "pitchershaped" deleted

27 to have the bracketed addition "tip excluded"

28 after this characteristic, the following characteristics to be inserted:
a) "Calyx: position of anthocyanin coloration" with the states "edge of lobe (1), lobe (2), whole calyx (3)"
b) "Calyx: hue of anthocyanin coloration" with the states "reddish (1), blackish (2)"

29 to be split into the following two characteristics:
a) "Calyx: shape of lobe" with the states "acute (1), acuminate (2)"
b) "Calyx: length of lobe" with the states "short, medium, long"

32 to read: "Petal: predominant shape"

35 to have the additional states "very shallow, very deep"

38 to have the states "one, two, three, four, more than four"

39 after this characteristic, a new characteristic to be inserted reading: "Petal: zone" with the states "absent, present"

40 to have the word "ground" replaced by "main"

42, 43 to be deleted

44 to have the additional state "ellipsoid"

45 to have the states "whitish, yellowish, green"

46 to be deleted

48 to read: "Styles: number" with the states "only two; two and three; only three; three and four; only four; three, four and five"

51 to have the states "white or cream (1), yellow (2), pink (3), white with red flush (4), white with purple flush (5), red (6), pale purple (7), purple (8)"

52 to be deleted

(ii) The expert from Israel will prepare for the coming session a document on the possible classification of carnations according to the type of branching.

(iii) The expert from France explained the Tramier test for the testing of resistance against Fusarium. A characteristic of the resistance against Fusarium would, however, not be included with the Test Guidelines as long as there was no need for its routine use.

32. On the basis of the report on the use of video images for the testing of varieties as now partly reproduced in document TWO/XXI/17, the Working Party agreed that the possibility for testing should be further investigated. It was considered to be useful for the recording of characteristics in the Test Guidelines. The experts from France and the Netherlands will study further the application of this method to carnations.

33. The Working Party noted the "Expert System" Method explained in the above document (TWO/XXI/17) and discussed its possible use for the selection of similar varieties for the testing of new candidate varieties. The expert from Israel explained his method of choosing those similar varieties, which consisted in the progressive elimination of varieties up to a small number of 3 to 4 similar ones. He will prepare a paper on this method for discussion during the next session of the Working Party.

34. The method for the physical analysis of colors, also considered in document TWO/XXI/17, was only shortly discussed. The discussions will be continued during the coming session.

35. Chemical fingerprinting with the HPLC method explained in document TWO/XXI/17 was noted. The Working Party agreed that it might be interesting for identifying an existing variety or for its control, but not for the distinguishing of a new variety for the recognition of plant breeders' rights.

36. The Working Party discussed the possibility of establishing for carnations a list of characteristics which would normally not be used as a routine and thus would be included in the UPOV Test Guidelines, but which might be used occasionally if needed. It finally concluded that such an idea should not be followed up.

37. Because of the general importance of the subjects mentioned in the preceding paragraphs and contained in the lengthy report on the Subgroup meeting on carnations held at Saint-Laurent-du-Var and only distributed during the session of the Working Party, the Working Party agreed to include the majority of the information on the above methods in an ordinary document (TWO/XXI/17) for distribution to the whole Working Party and to the Technical Commitee for information.

Status of Test Guidelines

38. The Working Party agreed that the Draft Test Guidelines for Exacum, for Gladious, for Tuberous Begonia Hybrids, for Tulip and for Euphorbia fulgens (revision) should be sent to the Technical Committee for final adoption.

39. The Working Party agreed that the Draft Test Guidelines for Chrysanthemum (revision), for Gerbera (revision), for Lachenalia, for Leucadendron, for Leucospermum and for Protea should be sent to the professional organizations for comments after the information which is still required has been included.

40. Discussion on the Working Papers on Test Guidelines for Carnation (revision) and for Hydrangea will have to be continued during the coming session.

41. Lack of time did not allow the Working Party to discuss the working papers on further species mentioned under item 10 of the Draft Agenda.

Future Program, Date and Place of Next Session

42. At the invitation of the expert from the Federal Republic of Germany, the Working Party agreed to hold its twenty-second session at Hanover, Federal Republic of Germany from May 29 to 31, 1989. The Working Party session should be followed by a workshop on Elatior Begonia and Pelargonium on June 1, 1989, and June 2, 1989. In addition, it is planned to hold a Subgroup Meeting on Roses in Hanover, Federal Republic of Germany. It is planned that the following items will be discussed during the coming session of the Working Party:

(i) Short reports on special developments in plant variety protection for ornamental plants and forest trees;

(ii) Important decisions taken during the last sessions of the Technical Working Party and the Technical Committee;

(iii) Final discussion on Draft Test Guidelines for:

Chrysanthemum,
Gerbera (revision),
Lachenalia,
Leucadendron,
Leucospermum,
Protea;

(iv) Use of pictures in variety applications;

(v) Items for the Technical Working Party on Automation and Computer Programs;

(vi) Color observations

(vii) Improving efficiency in variety testing;

(viii) Discussion on working papers on Test Guidelines:

Carnation (revision),
Chinkerinchee,
Dieffenbachia,
Hydrangea,
Norway Spruce,
Pyracantha,
Rose,
Spathiphyllum,
Weigela,
Lily (revision) (NL to prepare a working paper),
Norway Spruce (DE to prepare a working paper),
Pyracantha (FR to prepare a working paper),
Spathiphyllum (DK to prepare a working paper).

43. Further invitations

The Working Party noted the invitation from Japan to hold its session in 1989 in Japan. It regretted that, because the above Workshop had to take place in Hanover, Federal Republic of Germany, the most suitable meeting place for 1988 had been Hanover. In addition, it needed more time to discuss invitations of that kind on the national level. It expressed, however, certain interest in a meeting in Japan in 1990, especially because of the planned "Expo' 90", the International Garden and Greenery Exposition in Osaka, Japan in 1990, or at a later date. The Working Party also noted statements of intention to invite it to hold its session in 1991 in South Africa, or in 1990 or 1991 in the United Kingdom.

Visits

44. During the evenings of June 21 and June 23, 1988, the Working Party visited the installations, glasshouses and fields of the Institute of Ornamental Plant Growing at Melle. On the afternoon of June 22, 1988, it visited the nurseries of FLOREAC at Lochristie and DE COSTER at Melle.

45. This report has been adopted by correspondence.

[Two Annexes follow]

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ANNEX I

LIST OF PARTICIPANTS IN THE TWENTY-FIRST SESSION OF THE TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES, GHENT, BELGIUM, JUNE 20 TO 24, 1988

I. MEMBER STATES

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III. OFFICER

Mr. C.J. BARENDRECHT, Chairman

IV. OFFICE OF UPOV

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[Annex II follows]

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ANNEX II

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Preliminary Results

VARIETY TESTING, A PILOT PROJECT IN DENMARK.

Variety testing made by the breeder:

Abstract: In this experiment, it was investigated how equal different describers could describe varieties of Schlumbergera, and how much different growing places would influence the results. The UPOV guideline for Schlumbergera was used.

It was found that the growing place (and therefore the growing conditions) only had a minor effect on the different characteristics.

The major reason for the unequal notes observed in some characteristics in this experiment, was due to the different describers. The results are however so promising that a further year of testing will be done. In the second year the guideline will be revised in the sense that explanations and definitions to the table of characteristics will be enlarged and more precise.

Introduction: The increasing demand from breeders to have a greater possibility to get more plant species into the list of species, that can be protected by Plant Breeders Rights, makes it necessary to develop a less expensive way of testing. The purpose of this experiment was to investigate the possibility to let the breeder make the variety testing and -describtion after the guideline made by UPOV. This paper describe the results from this experiment in Denmark in 1987. The further work with this testing system is also described and so are some thoughts of how the system shall work in practice.

Experimental design:
Plant species: Schlumbergera

Growing places: In the experiment there were 4 growing places (3 commercial growers/breeders and the central testing station (Institute of Glasshouse Crops, Aarslev, Denmark)).

Describers: At each grower there were 3 describers and one of them was describing at all places. This was the technician from Aarslev who normally makes the testing work for Plant Breeders Rights. In Aarslev there were only 2 desribers. This gives 8 describers and 11 describtions.

The desribers were chosen so there at each place were 1 person with experience in describing varieties and one person without that experience. This should give an expression of how good this system would work for all breeders, both big companies and smaller breeders who finds a mutation once a while.

Varieties: At each place the same 5 varieties were grown. Ten plants per variety. The varieties was chosen in the same color group, so they were as alike as possible.

Growing conditions. The plants followed the normal conditions at the breeders place, but it was tried to get the same time schedule at each place, regarding propagation time, time of pinching and start of short day treatment.

Variety describtion: Each describer made a describtion of each of the 5 varieties where the UPOV guideline for Schlumbergera was used. The guideline was enlarged with more detailed explanations to the table of characteristics. Also more specified definitions of some of the characteristics and notes were made. For each variety there were 10 plants and each plant was described according to the guideline. The results were analyzed statistically.

Results:

Growing conditions: In general there were not found any significant effect of the different growing conditions. This was surprisingly since there were noticed differences between the growing places on a whole plant scale. But when there were made observations on the specific characteristics these differences could not be seen.

Describer: The largest effect on the describtions had the different describers, but there were not found any qualitative differences between experienced and not-experienced describers.

Groups of characteristics: There were found a difference between the characteristics in how unambiguous they were to describe. So the characteristics in the guideline can be separated in different groups after how much effect the describer had upon the note given.

Characteristics easy to handle: The group of characteristics which was less affected by the describer included characteristics that were measured or counted. This is length and width of phylloclade and flower, number of phylloclades, length of stamen and pistil and days to flowering. The describer had also only a small effect of some characteristics which were observed in non-exact numbers. This is shape of flower bud, color of phylloclade, presence of a colored ring at the mouth of the corolla tube and the width of this ring.

Characteristics harder to handle: Other characteristics need better explanations or the notes should be more precisely defined. This is the case for the attitude of the limb ad full opening, the duration of flowering and the size and color of the different colored zones on the corolla lobe, the color of the ovary and the flower bud. Also some of the characteristics measured in exact numbers could probably be even better suited, if the definitions were more precise.

Characteristics hard to handle: Only few of the characteristics were not suited for this way of variety testing. This deals for the shape of the mouth in the corolla tube, shape of the teeth on the phylloclades and the growth habit of the whole plant. The shape of the mouth of the corolla tube is not very important in the describtion of a Schlumbergera va-

riety. The problem with the shape of the teeth on the phylloclades is according to variation within the single plant, but the problem could be overcome if the describtion was a xerograph of some phylloclades. The growth habit can maybe be better described by a better definition, but in the way Schlumbergera is grown commercially this characteristic will almost be the same for all varieties and so it is not very important.

Conclusion: The results from this first year of variety testing by the breeder are very promisingly, and we think that this can be a way of testing new varieties which is less expensive for the testing authorities and which gives the opportunity to have a broader list of plant species that can be protected by Plant Breeders Rights.

Continuation: The results show that it is necessary to make more precise definitions and detailed explanations for several characteristics. In the autumn 1988 there will be made a new experiment with Schlumbergera which include the results and the experience from the 1987 experiment.

The 1988 experiment will include a complete scheme for the testing of varieties. This include a new and more detailed technical questionaire, date for application, establishing an expert group in Schlumbergera, revision of the guideline with more detailed explanations and definitions to the specific characteristics and ways of control of the describtions made by the breeder.

How is this system dealing with a new application:
Some thoughts of how the system can work in practice.

1. The applicant fills the application with a detailed technical questionaire, which include some further specified photographs and xerographs.
2. An expert group in Schlumbergera varieties (breeders and testing authorities) names the reference varieties which must be included in the testing of the new variety.
3. The applicant grows the new variety side by side with the

reference varieties and the breeder completes the UPOV guideline and describes the differences to the reference varieties.
4. The testing authorities evaluates the describtion and decides if the describtion can be accepted and protection be granted or there must be a control at plant level.

The above shown system is **NOT** the final conclusion by the danish authorities.

Problems: There are some problems in this way of testing new varieties which are not clarified:
How to control the describtions from the breeders, especially those from abroad?
Can there be made control tests at a danish grower, breeder or at the central testing station, for varieties from abroad?
How to ensure that breeders from abroad can have confidence in the decisions made by the authorities?

[End of document]