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## INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

## TECHNICAL COMMITTEE

**Sixteenth Session  
Geneva, November 10 to 12, 1980**

DRAFT REPORT

prepared by the Office of the UnionOpening of the Session

1. The Technical Committee (hereinafter referred to as "the Committee") held its sixteenth session in Geneva at the Headquarters of UPOV from November 10 to 12, 1980. The list of participants appears in Annex I to this report.
2. The session was opened by Mr. C. Hutin, Chairman of the Committee, who welcomed the participants.

Adoption of the Agenda

3. The Committee adopted the Agenda as appearing in document TC/XVI/1 after having agreed to discuss document TC/XVI/4 under item 5 and to include an additional item, "Any Other Business," after item 8, under which the list of species to which the Convention is applied would be discussed as well as the presentation of example varieties for the different groups foreseen for the Test Guidelines for Citrus.

Adoption of the Report on the Fifteenth Session

4. The Committee unanimously adopted the report on its fifteenth session as appearing in document TC/XV/7.

Progress Report by the Chairmen of the Technical Working Parties

5. Mr. A. Berning (Federal Republic of Germany), Chairman of the Technical Working Party for Fruit Crops, reported on the eleventh session of his working party, which had taken place in Nelspruit, South Africa, from May 5 to 8, 1980. The report on that session was reproduced in document TW/38. During that session the Working Party had finalized the draft Test Guidelines for Blackberry for submission to the Committee with a view to their adoption during the current session. It had discussed the working papers on Test Guidelines for Citrus (Orange, Mandarin, Lemon, Grapefruit), for Japanese Plum, and for Kiwi Fruit, and had started discussions on working papers on Test Guidelines for Persimmon (kaki fruit) and--in a subgroup--for Quince. The experts had also taken the opportunity of their presence in South Africa to visit several bodies dealing with research, breeding, production and/or marketing of fruit crops in South Africa. For the Working Party's twelfth session at Wageningen (Netherlands), to be held

from September 22 to 25, 1981, it was planned to prepare first drafts for Test Guidelines for Citrus, for Kiwi Fruit and for Japanese Plum and to continue discussions on the working papers on Test Guidelines for Persimmon (kaki fruit) and for Quince and on the revision of the Test Guidelines for Apple. If working papers could be prepared on Test Guidelines for Avocado and for Olive--time permitting--those two documents would also be discussed. In addition, discussions were foreseen on root stocks for plums, on genetic heterogeneity in vegetatively propagated plants and on disease tests.

6. Miss Jutta Rasmussen (Denmark), Chairman of the Technical Working Party for Agricultural Crops, reported on the ninth session of her working party which had taken place in Wageningen, Netherlands, from May 12 to 14, 1980. The report on that session was reproduced in document TW/39. During that session, the Working Party had finalized its work on the draft Test Guidelines for Flax and Linseed and for Sheep's Fescue and Red Fescue and on the drafts for revised Test Guidelines for Ryegrass and for Maize, for submission to the Committee with a view to their adoption during the current session. It had also discussed the Proposed Harmonized Procedure for Testing Varieties of Lolium spp. for Distinctness, Uniformity and Stability prepared by the European Communities. It had furthermore discussed drafts for revised Test Guidelines for Peas prepared by the Technical Working Party for Vegetables and proposed some amendments to that document, to enable it to apply also to field peas. It had also started discussing a working paper on Test Guidelines for Soya Bean. Only a short discussion had been possible on the harmonization of testing methods, the harmonization of reference collections and harmonization and cooperation in the testing of resistance to diseases and the implications of sophisticated methods in the testing of distinctness. It had further noted that the Subgroup on Cereals had prepared working papers on revised Test Guidelines for Wheat, for Barley and for Oats and agreed that those documents should be circulated as first drafts to the professional organizations for comments if no serious objections were received by correspondence by the members of the Working Party, which had not been the case. For the Working Party's tenth session, to be held at Edinburgh, Scotland, from June 23 to 25, 1981, it was planned to finalize the work on the drafts for revised Test Guidelines for Wheat, for Barley and for Oats and to establish a first draft for Test Guidelines for Soya Bean. Furthermore, it was intended to discuss a working paper on Test Guidelines for Sunflower. It was also envisaged to start drawing up Test Guidelines for subtropical crops. If working papers on Test Guidelines for Cotton, for Peanuts and for Safflower could be prepared by correspondence they would also be discussed, time permitting. Furthermore, it was intended to discuss questions connected with inter-generic varieties, sophisticated methods such as electrophoresis, multi-line varieties, cooperation in the testing of resistance to diseases and harmonization of reference collections. A subgroup was also to be set up to revise the Test Guidelines for Cocksfoot, for Timothy and for Meadow Fescue and Tall Fescue. Special attention was to be given to the testing procedures.

7. Mr. F. Schneider (Netherlands), Chairman of the Technical Working Party for Forest Trees, reported on the eighth session of his Working Party which had taken place in Scharnhorst, Federal Republic of Germany, from August 26 to 28, 1980. The report on that session was reproduced in document TW/40. During that session the Working Party finalized its work on the draft for revised Test Guidelines for Poplar, bringing them closer into line with the comparable system applied by the International Poplar Commission. In addition, it had continued its discussion on the draft Test Guidelines for Willow and on the problems connected with the testing of Norway spruce and approved the draft Test Guidelines for White Cedar established by the Technical Working Party for Ornamental Plants. As there were not many applications in the forest sector, the Working Party held a long discussion on its future work. It considered whether it would in fact be necessary to have a session every year, whether it would not be preferable to have only subgroup meetings on the species concerned unless an advanced draft had been prepared and whether it might not even be preferable to combine the Working Party with the Technical Working Party for Ornamental Plants. It finally decided to have no session in 1981 but at least one further session at Casale Monferrato near Milan, Italy, from April 19 to 23, 1982, to discuss the draft Test Guidelines for Willow and example varieties for the Test Guidelines for Poplar. A subgroup on Norway Spruce was to meet either immediately before or after the session of the Technical Working Party for Ornamental Plants scheduled for 1981. The Working Party further decided that for the time being it would not plan to start drawing up Test Guidelines for further species.

8. Mr. A.G. George (United Kingdom), Chairman of the Technical Working Party for Ornamental Plants, reported on the thirteenth session of his Working Party, which had taken place at Lund, Sweden, from September 16 to 18, 1980. The report on that session was reproduced in document TW/41. During that session, the Working Party had finalized its work on the Test Guidelines for Gerbera, for Kalanchoë, for White Cedar, and the revised Test Guidelines for Rose, for submission to the Committee with a view to their

adoption during the current session. It had also prepared first drafts for revised Test Guidelines for Poinsettia and for Euphorbia Fulgens for submission to the professional organizations for comment. In addition, it had held a preliminary discussion on the question of homogeneity of varieties of vegetatively propagated species. At the Working Party's fourteenth session at Antibes, France, from October 6 to 8, 1981, it was planned to discuss comments received on the first drafts for revised Test Guidelines for Poinsettia and for Euphorbia Fulgens and to start discussing working papers on Test Guidelines for Narcissus and for Crab Apple as well as--time permitting--for Anthurium, for Heather and for Christ's Thorn. It was also planned to start revising the Test Guidelines for Carnation on the basis of a working paper to be prepared by a subgroup to meet in July 1981 in the Netherlands. A further item to be discussed would be the testing of vegetatively and seed propagated varieties of one and the same species. The implications of tissue culture and those of the protection of seed propagated ornamental varieties in general might also be an agenda item for future sessions, but not necessarily for the fourteenth session.

9. Mr. A.G. George also reported on a workshop on Chrysanthemums held at Hoddesdon, United Kingdom, on November 4 and 5, 1980. During that workshop the experts discussed the difficulties of maintaining a reference collection for Chrysanthemums, the problems connected with the post control tests, the restrictions of plant health regulations in the United Kingdom, the problem of easy mutations, the possibility of color measurement with machines, the possibilities of direct contact between the testing authority and the applicant or breeder in another member State and the possibilities of visits by breeders not having a pending application to the testing fields of the national authority.

10. Mr. J. Brossier (France), Chairman of the Technical Working Party for Vegetables, reported on the thirteenth session of his Working Party, which had taken place at Lund, Sweden, from September 23 to 25, 1980. The report on that session was reproduced in document TW/42. During that session, the Working Party had clarified one pending problem with regard to the already adopted Test Guidelines for Black Radish, for Radish and for Kohlrabi and had finalized its work on the draft Test Guidelines for Celeriac, for Cornsalad and for Sweet Pepper, for submission to the Committee with a view to their adoption during the current session. It had in addition prepared first drafts for revised Test Guidelines for Peas and for Lettuce, the first-mentioned in cooperation with the Technical Working Party for Agricultural Crops, for submission to the professional organizations for comment. At the Working Party's fourteenth session at Wädenswil, Switzerland, to be held from June 2 to 4, 1981, it was planned to finalize the drafts for revised Test Guidelines for Peas and for Lettuce and to start discussing working papers on Test Guidelines for Celery, for Leek, for Endive and--time permitting--for Leaf Beet and for Curly Kale. It was also planned to start revising the Test Guidelines for French Bean and to continue the discussion on the possibilities of harmonizing and centralizing resistance tests.

11. In connection with the reports of the Chairmen of the different Technical Working Parties, the Committee discussed several questions raised by the Technical Working Parties.

12. The following possible solutions to the need of the examining offices to know the commercial synonyms of variety denominations of varieties under test or given as control varieties were mentioned:

(i) Asking the applicant to indicate these in his application, or if he does not know them, to indicate the breeder.

(ii) Trying to list trademark synonyms for certain species on the basis of national lists to be drawn up.

13. The Committee agreed that in the event of lack of distinctness between a candidate variety and an existing variety, the examining authority should not draw up a description of the candidate variety but should refer to the description of the existing variety and state that the candidate variety was not distinct from that variety. As further information, it should add for which characteristics small differences had been found which, however, were not considered sufficient for distinguishing. In the event of lack of homogeneity or stability, the characteristics lacking homogeneity or stability should be named.

14. The Committee asked the Technical Working Parties to draw up lists of the characteristics used by the different national offices in addition to the characteristics mentioned in the UPOV Test Guidelines and to study which of them should be included in these Test Guidelines when these were revised.

15. The Committee discussed the problems of keeping reference collections for certain herbaceous vegetatively propagated species for which numerous varieties were known. The high cost involved for glasshouse crops, the risk of mutations and the difficulty of keeping the varieties in a healthy state made it necessary, for certain species, to rely in the first instance on precise descriptions and to grow the varieties needed for comparison only if necessary for the examination. The Committee also asked the Technical Working Parties to study whether the normal variety descriptions should be enlarged by other supporting elements (photographs, etc. to be able to rely on the use of these descriptions alone where no more plant material could be obtained. The Technical Working Parties were furthermore asked to study the possibilities of conserving living vegetative propagating material by other than traditional means (e.g. as tissue culture in glass tubes in nutritive solution in an illuminated refrigerator to reduce the growth speed).

16. The Committee noted that the post control measures differed considerably both between the different member States and the different species. This difference was largest in the ornamental species as they were mainly vegetatively propagated and the storage of a reference sample was more difficult for these species than the keeping of a seed sample in the other cases. In this connection, it was mentioned that if the national authority did not keep a reference sample two risks occurred in the event of a shift taking place in the original variety:

(i) A right might still be valid, although the original variety no longer existed.

(ii) A right might be refused because the candidate variety was not distinct from the shifted variety although it might have been distinct from the variety with its original characteristics.

17. The Committee noted that with regard to the new health restrictions in the United Kingdom solutions had been found concerning international cooperation in testing.

18. The Committee noted that the measuring of color by a Tristimulus Colorimeter would be studied in some of the member States and that it would receive a report from the Technical Working Parties once the results of those studies had been discussed in the Technical Working Parties.

19. The Committee referred to the Administrative and Legal Committee the matter of recommending direct contacts between an examining authority acting under a bilateral agreement on behalf of the authority of another member State and the applicant or breeder concerning questions on plant material arising during testing.

20. The question whether breeders not having a pending application should also be permitted access to the growing of the varieties under test will first require discussion at national level before being raised in the Administrative and Legal Committee as it also involves administrative and legal questions. Furthermore, existing bilateral agreements might need to be changed. Such access might for example disclose to other breeders information which the applicant wished to keep secret as long as possible.

21. The Committee asked the Technical Working Parties to continue studying the setting-up of lists of varieties under test for the species they were dealing with and to report to the Committee during its next session, especially as regards the date on which such lists were required and the information they should contain.

22. The Committee also asked the Technical Working Parties to study how the working procedures inside the Technical Working Parties could be further improved (smaller subgroups, separate meetings for certain groups of species (tropical, non-tropical, etc.), combining of the Technical Working Party for Forest Trees with another Technical Working Party, etc.) and to report to the Committee during its next session.

#### Easy Mutations

23. Mr. A.G. George introduced document TC/XVI/3 which contained two Annexes prepared by him.

24. As a result of the ensuing discussions, the Committee agreed that a mutation would not justify special treatment by the sole fact of being a mutation. Besides it would be difficult to prove whether a given variety was a mutation or not. In judging a mutation, characteristics did not necessarily require qualities which gave

an idea of a certain value of the variety. No general solution was possible either but solutions would have to be found species by species. When trying to find solutions, possible future development should also be taken into account. Thus solutions would not necessarily have to be found which were valid forever. One of the main decisions to be taken would be that of the minimum distance of a candidate variety from another existing variety which would strike a balance between the needs of the new applicant and the rights of the breeder of an existing variety. This last-mentioned decision would therefore have to take more than just technical arguments into account. It would also have to be studied whether certain characteristics might permit a variety to be described but might not necessarily be sufficient for distinguishing it for the purpose of the granting of a breeder's right.

25. The Committee finally decided that this question should be discussed further in the Technical Working Party for Ornamental Plants, taking chrysanthemums as an example. The Chairman of that Technical Working Party should report to the Committee during its next session.

#### Homogeneity of Vegetatively Propagated Varieties

26. Mr. Schneider (Netherlands) introduced document TC/XVI/4, which contained an Annex prepared by him.

27. In the ensuing discussion, the problem of diseased plants and categories of impurities (admixtures, primary off-types, secondary off-types) were discussed. Several experts expressed themselves in favor of changing the definition of the term "off-type" as given in paragraph 27 of the General Introduction to the Test Guidelines (document TG/1/2) reading "occasional mixture, mutation or other causes ..." by excluding certain very obvious impurities which could be easily explained by mistakes made by the applicant when preparing the sample of the variety.

28. The Committee did not, however, finally propose a change of the definition of the term "off-type" and accepted only special treatment for secondary off-types. It noted that these secondary off-types had not been covered by the revised General Introduction to the Test Guidelines. By analogy with paragraph 29 of that document, it therefore agreed to allow, where necessary, an additional tolerance. The Technical Working Parties were asked to study for which species this additional tolerance would be necessary, to fix the maximum tolerance and to report back to the Committee at its coming session. The Committee held the view that if special circumstances justified other exceptions these would, as already foreseen in the General Introduction to the Test Guidelines, have to be laid down in the Test Guidelines of the species concerned.

#### Implications of Sophisticated Methods such as Electrophoresis or Biochemical Methods on the Testing of Distinctness

29. The Committee noted that since its discussions on the implications of sophisticated methods such as electrophoresis or biochemical methods on the testing of distinctness during its last session very little new information had become available. As the Technical Working Parties had not been able to discuss this question or had only discussed it briefly, the Committee renewed its request to the Technical Working Parties to set aside sufficient time on the Agendas of the coming sessions of the Technical Working Parties for this question and asked the Technical Working Parties to report to it on the outcome of these discussions during its coming session.

30. The Committee noted the results of an enquiry on electrophoresis made by the Technical Working Party for Agricultural Crops and reproduced in Annex II to this report. The Committee further noted the paper on the Use of Electrophoresis and Resistance for DUS Determinations introduced by the Delegate from Sweden and reproduced in Annex III to this report.

31. The Committee finally agreed that the main importance of future discussions should not centre on the methods but on the characteristics observed by these methods and the conditions under which it was possible to introduce new characteristics. It would have to be studied whether the characteristics obtained by these methods were capable of precise recognition and description and whether the differences were clear and consistent. It would furthermore have to be studied whether a characteristic used for the establishing of distinctness should also be used for the identification of a sample and, finally, whether the characteristics obtained by these methods were important characteristics in the meaning of the UPOV Convention.

32. The Committee decided that on the basis of the draft report on its discussions during its current session the Delegates would study the question further at national level to enable the Committee to find the necessary answers to the questions raised in the preceding paragraph.

#### Harmonization and Cooperation in the Testing of Resistance to Diseases

33. The Committee renewed its request to the Technical Working Parties to study the question of resistance to diseases further and report to it during its coming session. It recommended to the Technical Working Parties to draw up lists of resistance characteristics used, to compile the methods for testing resistance, to list the problems and difficulties encountered (e.g. different races in different countries) and to study whether it was possible to use test results on resistance from other member States.

#### Test Guidelines

34. The Committee discussed the draft Test Guidelines mentioned in paragraph 1 of document TC/XVI/2 and finally adopted the following Test Guidelines, subject to the changes made by the Editorial Committee and reported on during this session:

- TG/2/3(proj.) - Maize (revised)
- TG/4/3(proj.) - Ryegrass (revised)
- TG/11/3(proj.) - Rose (revised)
- TG/21/6(proj.) - Poplar (revised)
- TG/57/2(proj.) - Flax and Linseed
- TG/67/3(proj.) - Sheep's Fescue and Red Fescue
- TG/73/2(proj.) - Blackberry
- TG/74/2(proj.) - Celeriac
- TG/75/2(proj.) - Cornsalad
- TG/76/2(proj.) - Sweet Pepper
- TG/77/2(proj.) - Gerbera
- TG/78/2(proj.) - Kalanchoë
- TG/79/2(proj.) - White Cedar

35. The Committee agreed that the Chairman of the Technical Working Party for Ornamental Plants should again check the list of example varieties stated in the draft Test Guidelines for Rose and eliminate all trademarks which might still be mentioned in that document. The Committee also agreed to the proposal of the Editorial Committee to amend paragraph 6 of the Technical Notes of the draft Test Guidelines for Poplar by adding an additional sentence reading: "For these characteristics, the drafting of the International Poplar Commission has been maintained" and to replace the Table of Characteristics of the Adult Tree by the wording established by the International Poplar Commission, thereby making it clear that that table did not conform with the UPOV standard. The Committee further stated that in adopting the Test Guidelines for Gerbera without giving example varieties it took into account the special situation with regard to gerbera and that this should not be used as a precedent for drawing up other Test Guidelines without giving example varieties. For the Test Guidelines for Flax and Linseed, the Committee decided that the question of whether the sentence "When required by the competent authority, 100 plant-rows may be grown from plants submitted by the applicant in either year 1 or year 2" should be deleted or maintained, should be referred back to the experts of the Technical Working Party for Agricultural Crops of those countries which were dealing with this species and that the Committee would follow the decision taken by the majority of these experts.

36. With regard to the general remarks on Test Guidelines made by the different Technical Working Parties and reported in paragraphs 9 to 14 of document TC/XVI/2, the Committee agreed that for grouping purposes the characteristics appearing in the Table of Characteristics of the Test Guidelines could be amended, as long as there was no contradiction between the characteristic appearing in the Table of Characteristics and that used for grouping purposes and as long as the characteristic and the border between the different states were clearly defined. For the example mentioned, a possibility for grouping purposes could be the two states "light green, other colors."

37. The Committee decided that if the characteristic "Plant: growth habit" with the states "bush pea, tall pea" were to be considered a good grouping characteristic, it should also be used as a characteristic for distinguishing purposes; if it cannot be used for distinguishing purposes, it should not be used for grouping purposes either.

38. The Committee decided that the Technical Working Party should apply the same procedure for the growth types of lettuce as used, for example, in the case of roses where the growth types were placed in a special annex to the Test Guidelines.

39. The Committee decided, with regard to the differences in homogeneity between green peas and field peas, that the Technical Working Party for Agricultural Crops should again look into the question of those characteristics in which this difference was really obvious and that the Test Guidelines for Peas should, in the case of characteristics for which the Technical Working Party for Vegetables considered an asterisk necessary, provide for an exception permitting the asterisk not to apply for field peas. Such cases should, however, be as limited as possible.

40. With regard to the wish expressed by ASSINSEL, that "two Notes corresponding to the most frequently observed range, possibly underlining the most frequent state," be provided for a given characteristic, the Committee decided that where more than one expression was observed in a given characteristic and, as long as there was no entry to the contrary, the predominant expression should be given and the other expression only included in the remarks.

41. The Committee noted the intention of the Technical Working Party for Fruit Crops, expressed by its Chairman, to provide in the Test Guidelines for Citrus, which were under preparation, four columns of example varieties for the four different groups (orange, mandarin, lemon, grapefruit). It felt that in those cases where the range of the different expressions differed for certain characteristics, and where the example varieties shown for a given state of expression did not represent the same fact in all four groups, those characteristics should be mentioned in the Technical Notes.

#### List of Species to which the Convention was Applied

42. The Committee noted document C/XIV/6 containing a list of species to which the Convention was applied. The Chairman invited the delegates to inform the Office of UPOV of any mistakes or additions to allow the list to be as complete and correct as possible.

#### Program for the Seventeenth Session

43. The Committee noted that its seventeenth session would take place from November 9 to 11, 1981. It agreed to take note during the coming session of the progress reports by the Chairmen of the Technical Working Parties and to discuss: the importance of characteristics and the minimum distances in the testing of distinctness, homogeneity and stability, which would include discussions on characteristics obtained by sophisticated methods, characteristics of resistance to diseases, color characteristics and the minimum distances between varieties; the improvement of the Table of Characteristics for certain Test Guidelines; the lists of varieties under test; the reference collections of varieties which could only be maintained with difficulty or at high cost; secondary off-types; the improvement of the working procedure of the Technical Working Parties; the adoption of Test Guidelines presented to it by the Technical Working Parties for adoption; the possible holding of training courses for non-member States or the exchange of personnel between the offices of member States.

[Three Annexes follow]



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[Annex II follows/  
L'annexe II suit/  
Anlage II folgt]

## RESULTS OF THE ENQUIRY ON ELECTROPHORESIS

In order to prepare the discussion on electrophoresis in the meeting, a small enquiry was made among the delegates of the twelve UPOV member States. A response was received from eleven countries, all except Spain. The affirmative replies are summarized below. The order has been changed to facilitate discussion.

A. Is electrophoresis in relation to varietal differences under study by the authorities?

Yes: B, D, F, I, NL, S, SA and UK.

The levels of research and development vary widely with country and crop.

B. Is electrophoresis practised as a means of identification of samples of already established varieties?

Yes: D: potato, wheat and barley: varieties in commerce.

F: wheat: marketed grains, not seed.

NL: wheat: occasionally by milling industry.

C. Are any applications pending for a grant of plant breeders' rights or admission to the National List for a variety for which distinctness is claimed on the basis of its electrophoresis pattern?

Yes: S and UK: no further specification.

D. Has any decision been taken whereby distinctness of a variety was established on the basis of its electrophoresis pattern?

Yes: S: barley 'Pernilla' and red fescue 'Satin' for Plant Breeders' Rights; pea 'Timo' and red fescue 'Dawson' for the National List.

F: Italian ryegrass 'Lyra' to confirm distinctness for the National List.

[Annex III follows]

## ANNEX III

## THE USE OF ELECTROPHORESIS AND RESISTANCE FOR DUS DETERMINATIONS

For determination of distinctness of a new variety at least one--and if possible more--important characteristic should be recognized. A stepwise application of the guidelines should be made. If none of the prescribed characteristics can be applicable, the breeder has to present additional evidence, e.g. by electrophoretic and resistance characteristics. In this sense there is no sharp difference between agricultural and vegetable species.

Reference should be made to the method used. In the case of resistance, race, specificity, isolate, etc. must be noted. If possible, the gene or source of resistance should be reported.

Normally it is not necessary to use these methods, except for single cases when ordinary guideline characteristics are insufficient.

Preferably, the breeder should describe the new variety according to the principles stated above. Then, the authority will apply the special methods for checking only when the breeder has used it for his variety description.

When new characteristics such as electrophoretic patterns, resistance, etc. are added to the guidelines, reference varieties should be specified.

The variety must be homogeneous also in these respects according to the definitions in the revised general introduction to the guidelines. As to details, "either-or" as a rule seems to be more applicable than "degrees" in connection with electrophoretic and resistance testing.

[End of Annex III and of document]