Disclaimer: unless otherwise agreed by the Council of UPOV, only documents that have been adopted by the Council of UPOV and that have not been superseded can represent UPOV policies or guidance.

This document has been scanned from a paper copy and may have some discrepancies from the original document.

———

Avertissement: sauf si le Conseil de l'UPOV en décide autrement, seuls les documents adoptés par le Conseil de l'UPOV n'ayant pas été remplacés peuvent représenter les principes ou les orientations de l'UPOV.

Ce document a été numérisé à partir d'une copie papier et peut contenir des différences avec le document original.

———

Allgemeiner Haftungsausschluß: Sofern nicht anders vom Rat der UPOV vereinbart, geben nur Dokumente, die vom Rat der UPOV angenommen und nicht ersetzt wurden, Grundsätze oder eine Anleitung der UPOV wieder.

Dieses Dokument wurde von einer Papierkopie gescannt und könnte Abweichungen vom Originaldokument aufweisen.

———

Descargo de responsabilidad: salvo que el Consejo de la UPOV decida de otro modo, solo se considerarán documentos de políticas u orientaciones de la UPOV los que hayan sido aprobados por el Consejo de la UPOV y no hayan sido reemplazados.

Este documento ha sido escaneado a partir de una copia en papel y puede que existan divergencias en relación con el documento original.

UPOV

TC/XXI/3
ORIGINAL: English
DATE: August 28, 1985

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL COMMITTEE

Twenty-First Session
Geneva, November 12 and 13, 1985

MATTERS ARISING FROM THE 1985 SESSIONS OF THE TECHNICAL WORKING PARTIES TO BE DEALT WITH BY THE TECHNICAL COMMITTEE

Document prepared by the Office of the Union

This document summarizes, in its Annex I, matters arising from the 1985 sessions of the Technical Working Parties which have to be dealt with by the Technical Committee (hereinafter referred to as "the Committee"). They comprise: (i) questions presented by the Technical Working Parties to the Committee; (ii) important decisions taken by the Technical Working Parties and communicated to the Committee for information; (iii) matters dealt with by the Technical Working Parties on the instructions of the Committee or in preparation for discussions planned in the Committee under separate agenda items. The headings of the different items are listed on page 1 of Annex I.

To shorten references in this document to the various Technical Working Parties, use is made of the codes that designate their documents, namely:

TWA - Technical Working Party for Agricultural Crops
TWC - Technical Working Party on Automation and Computer Programs
TWF - Technical Working Party for Fruit Crops
TWO - Technical Working Party for Ornamental Plants and Forest Trees
TWV - Technical Working Party for Vegetables.

[Annex I follows]

ANNEX I

MATTERS ARISING FROM THE 1985 SESSIONS OF THE TECHNICAL WORKING PARTIES TO BE DEALT WITH BY THE TECHNICAL COMMITTEE

List of Contents

	Paragraphs
Testing of Distinctness	1 - 3
Testing of Homogeneity	4 - 7
Homogeneity of Hilum Color in Broad Beans and Field Beans	8 - 9
Tolerances of Inbred Plants	10 - 11
Different Approaches Between Member States With Respect to the Testing of Distinctness, Homogeneity and Stability	12 - 13
New Developments in Plant Breeding	
- Hybrid Wheat	14 - 15
- The Variety Concept in Rape	16 - 17
- Triticale	18 - 19
Harmonization of Lists of Characteristics Established by Different Bodies and Improvement of Contacts With Those Bodies	20 - 26
Information on Resistance Genes in Cereal Varieties	27 - 29
Sanitary Status of Plant Material Sent in for Examination	30 - 33
Annual List of Varieties Under Test	34 - 35
Items for the TWC	36 - 39
Lack of Participation in the Work of the Technical Working Parties	40 - 42
Need for a New Means of Exchanging Technical Information Informally at an Early Stage	43 - 44
Negative List of Characteristics Indicating Characteristics That Should Not be Used for a Given Group of Varieties Inside a Species Covering Several Different Groups	45 - 46
Combined Over-Years (COY) Analysis for the Testing of Distinctness	47 - 52
List of Reference Books and Other Documents Useful in Connection With the Testing of Varieties	53 - 56
Revision of the UPOV Model for a Report on Technical Examination	57 - 62
Standard Draft Test Guidelines	63 - 66
Color Charts and Connected Questions	67 - 71
Report on the Study of the Use of Various Electrophoretic Methods on Wheat	72 - 75
Plant Variety Protection and Virus Diseases	76 - 79

Testing of Distinctness

1. The TWO noted paragraph 16 of the draft report of the previous session of the Technical Committee (document TC/XX/12 Prov.) concerning the testing of distinctness. It considered that in general a multitude of plants considered off-types inside one variety would normally be sufficiently distinct from that variety for a separate right to be granted for it provided that it fulfilled the other conditions for protection as a new variety. There could, however, be cases where the testing authority gained the impression that the new variety was unstable or, in view of the genetics of the species concerned, would become unstable in a few years' time. The TWO agreed that all experts would check the question further in their countries and report back to the Working Party at its next session (see document TWO/XVIII/16 Prov.).

2. The other Technical Working Parties took the view that the problem seemed to be specific to vegetatively propagated ornamental plants. They agreed that in their fields of competence there should be no gap between on the one hand the minimum distance a variety had to possess in comparison with any other variety to be considered distinct and on the other hand the range of variation tolerable in terms of homogeneity; when one candidate variety was considered to be not homogeneous because of the existence of off-types, those off-types should be accepted as a new variety if all other conditions for protection were fulfilled (see documents TWA/XIV/14 Prov., paragraph 25, TWF/XVI/23 Prov., paragraph 32, and TWV/XVIII/14 Prov., paragraph 13).

3. The Committee is invited to note the above information.

Testing of Homogeneity

4. The TWC is at present studying a method proposed within the Working Party itself for the testing of homogeneity. According to that method, all varieties could be in the trials and not only those belonging to a group of comparable varieties. It would thus eliminate any influence that the selection of groups of comparable varieties might have on the decision as to homogeneity. In the proposed method, the linear regression of the variety log standard deviations (SDs) of reference varieties in relation to variety means was used to adjust both reference and candidate variety log SDs for differences in characteristic means. This would eliminate the distortion of the tests by varieties whose SD differed greatly from the median SD of reference varieties (see document TWC/III/13 Prov., paragraph 18).

5. The expert from the Netherlands in the TWA announced that he would prepare another method which would apply only to those reference varieties that were scattered near the variety mean. He would propose the method first at the next session of the Technical Working Party on Automation and Computer Programs (see document TWA/XIV/14 Prov., paragraph 26).

6. The other Technical Working Parties, having noted that the TWC was currently discussing a new method of overcoming the problem of selecting control varieties which involved using all varieties in the trials, decided to await the outcome of those discussions before considering the subject further (see documents TWA/XIV/14 Prov., paragraph 26, TWF/XVI/23 Prov., paragraph 33, TWO/XVIII/16 Prov., paragraph 17, and TWV/XVIII/14 Prov., paragraph 14).

7. The Committee is invited to note the above information.

Homogeneity of Hilum Color in Broad Beans and Field Beans

8. Having rediscussed the question of homogeneity of the hilum color in broad beans and field beans, the TWV urged the Technical Committee to review its decision and revise the Test Guidelines for Broad Bean and Field Bean to include an asterisk for that characteristic. It was the opinion of the Working Party that the characteristic had to be homogeneous for both broad beans and field beans. In order to avoid problems in the future, it should be recommended that member States combine their tests for broad beans and field beans in one single trial to avoid different treatment of the two groups (see document TWV/XVIII/14 Prov., paragraphs 15 and 34). The TWA did not discuss the question of the hilum color but agreed to the expert from the Netherlands preparing some suggestions for a solution before the end of the year (see document TWA/XIV/14 Prov., paragraph 27).

9. The Committee is invited to take the necessary decisions.

Tolerances for Inbred Plants

10. The TWV discussed again the question of tolerances for inbred plants in addition to the tolerances indicated in the General Introduction to the Test Guidelines for off-types in hybrid varieties. It finally agreed to the possibility of accepting certain additional tolerances for off-types in hybrid varieties within a range of 5 to 10% as long as those inbred plants did not interfere with the testing. The actual percentage would depend on the species and breeding method concerned. The TWV would fix the percentage and include it in the Test Guidelines whenever it established or revised a Test Guidelines document for a species in which those inbred plants occured (see document TWV/XVIII/14 Prov., paragraph 8).

11. The Committee is invited to note the above information.

Different Approaches Between the Member States With Respect to the Testing of Distinctness, Homogeneity and Stability

12. The TWA regretted that several member States used a large number of additional characteristics besides those in the UPOV Test Guidelines. It would therefore revise the UPOV Test Guidelines for Wheat in the near future, starting with a reexamination of both the characteristics in the UPOV Test Guidelines for Wheat and the additional characteristics used in individual member States. The reexamination would be supplemented by information on the testing procedure for Wheat in the various member States, collected on the basis of a questionnaire (see document TWA/XIV/14 Prov., paragraphs 21 to 23).

13. The Committee is invited to note the above information.

New Developments in Plant Breeding

Hybrid Wheat

14. The TWA noted that it would be difficult to reach high percentages of hybridity in Hybrid Wheat. The occurrence of a certain percentage of off-types would therefore be inevitable as long as a chemical sterilizer was applied.

It did not yet feel able to decide on the range of the additional tolerance needed for the testing of homogeneity. It would collect further information from the Federal Republic of Germany, France and the United Kingdom for the next session (see document TWA/XIV/14 Prov., paragraph 19).

15. The Committee is invited to note the above information.

The Variety Concept in Rape

16. The TWA noted the information on possible types of variety in rape seed given in document TWA/XIV/12 and in Annex IX to document TWA/XIV/14 Prov. It will start the revision of the Test Guidelines for Rape in the near future based on experience gained with the new types of variety, such as synthetic varieties and varieties with two components. As a first step, it will collect further information on the concept of Rape variety and also detailed information on test procedures in various countries (see document TWA/XIV/14 Prov., paragraphs 33 and 34).

17. The Committee is invited to note the above information.

Triticale

18. The TWA noted the list of characteristics by which Triticale could be distinguished from rye, soft wheat and hard wheat as mentioned in document TWA/XIV/2; it also noted further information on Triticale given in Annexes V and VI to document TWA/XIV/14 Prov. .It was stated in summary that the main problems for Triticale concerned its nomenclature and distinctness. With regard to nomenclature, it was decided that the question should be brought to the attention of the International Seed Testing Association (ISTA). As for distinctness, Triticale varieties were comparable to self-pollinated plants but the rate of self-pollination was not quite as high as that found in wheat. The TWA therefore agreed to prepare separate draft Test Guidelines for Triticale (see document TWA/XIV/14 Prov., paragraph 20).

19. The Committee is invited to note the above information.

Harmonization of Lists of Characteristics Established by Different Bodies and Improvement of Contacts With Those Bodies

20. The TWF approved a proposal for the revised Test Guidelines for Vine, prepared by the Office of UPOV, based on the examination made by the expert from France, who had compared the UPOV Test Guidelines for Vine with the Descriptor List for Grape Vine Varieties and Vitis Species, drawn up jointly by experts from the International Vine and Wine Office (IWO), the International Board for Plant Genetic Resources (IBPGR) and UPOV (see document TWF/XVI/23 Prov., paragraph 11).

21. The TWF noted an answer received from the International Fruit Genetic Resource Project (IFGRP) to an offer for cooperation (document TWF/XVI/11). It regretted that the answer had been based on a misunderstanding of the attitude of UPOV to the elaboration of Test Guidelines, and agreed to make efforts to resolve such misunderstandings. The discussion concentrated on how to improve the exchange of information with international bodies, in particular

regarding the harmonization of descriptors between various bodies, and it was pointed out that it would be necessary to have contacts with other bodies, such as the International Registration Organization and the European Communities (EC), as well as to improve present contacts, for instance those with the IBPGR. The Working Party recognized the difficulty of achieving an increase in contacts with other bodies owing to the large amount of time and money that it entailed, and finally recommended the following as possible solutions for the present:

(i) to make contact with other bodies at a national level;

(ii) to send the draft Test Guidelines to a wider circle of professional organizations (see document TWF/XVI/23 Prov., paragraph 13).

22. During the discussion, some experts proposed that it would be useful to invite some experts from other bodies to Technical Working Parties for the discussion of certain Test Guidelines. The experts in the TWF were reminded, however, that, according to the decision of the Council, such experts should be invited not as representatives of other bodies but as experts on the species concerned. The TWF nevertheless agreed to propose, during the next session of the Committee, that permission be sought to invite an expert from the IBPGR to its next session for the discussions on Test Guidelines (see document TWF/XVI/23 Prov., paragraph 14).

23. The TWA noted that efforts to harmonize lists of characteristics for testing drawn up by different bodies had been successful for Vine, but less so for other species. It confirmed that such efforts had to continue, however, even though there were great difficulties to be overcome. It came to a general agreement that, as a first step, an attempt should be made to draw up a "minimum list of common characteristics." Another possibility was to invite experts from other bodies to sessions of the Working Party as observers. With respect to potato, however, the TWA noted that the IBPGR Descriptor List had a larger number and generally a wider range of characteristics than the UPOV Test Guidelines, and that the differences between the equivalent characteristics were so large that even a linear characteristic, such as plant height, did not correspond in the two systems. This situation was due by the fact that the IBPGR Descriptors were made for all varieties, including wild and primitive varieties, while the UPOV Test Guidelines applied only to cultivated varieties. The TWA considered that to hold a meeting between the UPOV Working Party and the IBPGR would be difficult owing to the different aims of the lists of characteristics of UPOV and the IBPGR (see document TWA/XIV/14 Prov., paragraphs 29 and 37).

24. The TWO reconfirmed that, when finalizing first drafts for Test Guidelines or new Test Guidelines, it would always check which special organization or body dealt with the species concerned and would invite that organization or body to present comments on the draft (see document TWO/XVIII/16 Prov., paragraph 19).

25. The TWV noted that in its field of competence it generally received a fair number of comments on the drafts for Test Guidelines when they were circulated. A change was therefore not as urgent and pressing as in some of the other Technical Working Parties. It noted, however, that at present in the European Communities (EC), the directives governing the characteristics for the registration of varieties were updated with the help of existing UPOV Test Guidelines. As some of those UPOV Test Guidelines had been established quite some years previously, they needed revision. To avoid the EC authorities making changes that they might consider necessary and which might differ from those made within UPOV, the Working Party agreed to review its list of established

Test Guidelines and to check which of them would require advance revision (see document TWV/XVIII/14 Prov., paragraphs 16 and 29).

26. The Committee is invited to note the above information and to consider possible steps to be taken and especially to take a decision on the proposal mentioned in paragraph 22.

Information on Resistance Genes in Cereal Varieties

27. The TWA agreed to a proposal to distribute information on resistance genes in cereals. It noted the recommendations on the use of resistance genes in cereals made by the European and Mediterranean Plant Protection Organization (EPPO) and reproduced in document TWA/XIV/3, and updated its list of resistance genes in barley varieties (see document TWA/XIV/14 Prov., Annex VIII). It will compile a list of resistance genes for Powdery Mildew and Rust in Wheat Varieties as a working paper--not yet a final document-- which would be updated each year. The Working Party also studied the possibility of establishing some kind of guidelines for the testing of diseases, without however making a definite proposal (see document TWA/XIV/14 Prov., paragraphs 30 and 31).

28. The TWA agreed to report to the Committee that resistance should be defined by the resistance genes in the variety (physio form of diseases) rather than by the pathogen, because plants were more easily controlled and the goal of the work was to describe the varieties and not the pathogen, which would merely be a tool in the test in the same way as other tools, like the electrophoresis method (see document TWA/XIV/14 Prov., paragraph 32).

29. The Committee is invited to note the above information and to consider possible steps to be taken.

Sanitary Status of Plant Material Sent in for Examination

30. The TWF repeated its decision to prepare

(i) a list of diseases affecting the description of the variety,

(ii) a list of diseases for which import restrictions existed, and

(iii) a list of diseases for which the competent authorities checked plant material sent in for DUS tests.

It would collect the lists of diseases especially for those States that did tests for other States, and despite the fact that the diseases for which import restrictions existed might be beyond its competence, being more a matter for plant sanitary inspection services (see document TWF/XVI/23 Prov., paragraph 20).

31. The TWO agreed that it was necessary to include more information on the sanitary status of the plant material in the Test Guidelines. In future therefore it would always check, when discussing and finalizing Test Guidelines, whether special information on sanitary status had to be included in a given Test Guidelines document, and if necessary would include it (see document TWO/XVIII/16 Prov., paragraph 13).

32. The TWV considered that the question of the sanitary status of plant material sent in for testing was more of a problem for vegetatively propagated varieties. It would also consider this subject when it arose in its own field of competence, however, e.g. with respect to virus infections of garlic or shallot (see document TWV/XVIII/14 Prov., paragraph 17).

33. The Committee is invited to note the above information.

Annual List of Varieties Under Test

34. The TWC repeated that member States should try to harmonize further the annual lists of varieties under test, in accordance with the recommendations made during its preceding session (see documents TWC/II/9, paragraphs 20 and 22 and TC/XX/3, paragraphs 34 to 37). The TWC did not consider it necessary to try to harmonize the format of those lists also. Some experts repeated that the distribution of the lists at national level should be made according to the previous year's recommendations, to ensure that the expert really working on a given species would receive the relevant parts of those lists. For ease of identification, the lists should always contain the full title "Annual List of Varieties Under Test" and indicate the species, the State issuing the list and the year to which the list related. The TWV proposed to the Committee that it should recommend to the member States that more of them distribute the annual lists of varieties under test and that the distribution be made as early as possible (see documents TWC/III/13 Prov., paragraphs 26 and 27, TWV/XVIII/14 Prov., paragraph 33).

35. The Committee is invited to note the above information and to consider possible steps to be taken.

Items for the TWC

36. The TWA, TWF and TWO had no special items to propose to the TWC (see documents TWA/XIV/14 Prov., paragraph 41, TWF/XVI/23 Prov., paragraph 16, and TWO/XVIII/16 Prov., paragraph 10).

37. The TWV was studying problems encountered in the testing of onion and carrot varieties. It agreed that the results of the same test that was going on in France for another year should be incorporated in a new document, for presentation and discussion at its next session, before the question could be presented to the TWC (see document TWV/XVIII/14 Prov., paragraph 10).

38. The TWV will draw up an inventory of the statistical methods used at present for comparing data on vegetable varieties. The answers to a questionnaire on the type of information required would be distributed to the members of the TWV and also to the TWC (see document TWV/XVIII/14 Prov., paragraph 11).

39. The Committee is invited to note the above information.

Lack of Participation in the Work of the Technical Working Parties

40. Some experts of the TWA expressed concern that the present draft Test Guidelines for Cotton were not complete, owing both to a shortage of example varieties, which are an important component of Test Guidelines, and also to a

lack of participation by specialists in the sessions of the Working Party. The TWA agreed however that they should nevertheless be sent to the Committee for adoption, with a mention of those shortcomings (see document TWA/XIV/14 Prov., paragraph 8).

41. The TWF regretted at its last session that it could not discuss in detail the Test Guidelines for Tropical Fruit Crops such as Banana, Guava, Macadamia and Mango, owing to a lack of participation in the session by specialists on such crops. It proposed that the problem should also be discussed in the Committee, so that the member States concerned would be able to send their specialists on tropical fruits to sessions of the Working Party. There are plans to convene a two-day subgroup meeting specially for those species immediately before the next session of the TWF in 1986, if the participation of those experts can be relied upon (see document TWF/XVI/23 Prov., paragraph 27).

42. The Committee is invited to note the above information and to consider possible steps to be taken.

Need for a New Means of Exchanging Technical Information Informally at an Early Stage

43. The TWA noted the need for technical experts to have some means of informally exchanging technical information, for example proposals for new testing methods, information on resistance genes, etc., at an early stage among UPOV member States. It asked the Committee to decide whether the UPOV Newsletter in "Plant Variety Protection" might be that forum, or whether the information envisaged was too technical and not yet at the level required for publication in that organ, which had a rather wide circulation among the general public. Another possible means was a bulletin with a small circulation. One might also consider using a circulation system with a distribution list (see document TWA/XIV/14 Prov., paragraph 50).

44. The Committee is invited to note the above information and to consider possible steps to be taken.

Negative List of Characteristics Indicating Characteristics That Should Not be Used for a Given Group of Varieties Inside a Species Covering Several Different Groups

45. The TWO noted that, in the Table of Characteristics of the Test Guidelines for Apple, several characteristics had been added that were of importance to one of the groups (fruit varieties, ornamental varieties or rootstocks), but not to the others, and that it was difficult to identify those characteristics. The Committee might therefore wish to search for possibilities of providing such identification, for example by adding to the Table of Characteristics negative lists of characteristics for the three groups indicating those of the characteristics mentioned in the UPOV Test Guidelines that should not be used in a given group (see document TWO/XVIII/16 Prov., paragraph 22).

46. The Committee is invited to note the above information and to consider possible steps to be taken.

Combined Over-Years (COY) Analysis for the Testing of Distinctness

47. This subject is item 7 on the draft agenda (document TC/XXI/1).

48. The TWC repeated that it considered the combined over-years analysis (referred to below as "the COY analysis") to be the most suitable method and to be the best option for the testing of distinctness. There were three main practical problems that would have to be studied before the present UPOV criteria could be replaced by the COY analysis:

(i) the present differences in the estimation of the standard error based on the analysis of variance of single plants or of the plots;

(ii) the need to ensure the consistency of distinctness decisions when introducing the COY analysis and

(iii) the need to retain the present possibility of already deciding on distinctness after two years of testing.

49. The main question was how a recommendation could be reached that would represent a compromise between the different desires regarding levels of significance in the application of the COY analysis for three years of data, in order that continuity might be maintained in the distinctness decisions of the various member States during the transition from the present method to the COY analysis. All members of the TWC agreed to recommend that all varieties with a 1% significance level for distinctness be accepted as distinct varieties. However, the recommendation that all varieties not reaching the 5% significance level for distinctness be rejected as not distinct raised doubts among some experts as to whether it could be applied so strictly without any exceptions, especially by States that for certain species already applied a significance level lower than the 1% recommended by UPOV. No common recommendation was reached for varieties falling between the 1% and the 5% significance levels.

50. The TWC would therefore be studying the question further on the basis of further experience gained by individual member States in the application of the COY analysis to varieties of a given grass species. The study would concentrate on identifying the problems and looking for solutions. It was to include (i) the grouping of the varieties according to obvious characteristics in order to form groups of varieties of similar type, (ii) the separation of varieties that would be distinct at a 1% significance level, (iii) the separation of varieties that would have to be rejected as not distinct for failure to reach the 5% significance level and (iv) problems and possible solutions concerning the treatment of varieties falling between the 1% and the 5% significance level.

51. From a United Kingdom application of the COY analysis to data from two years of testing, it was noted that, in order to achieve roughly the same reliability as with three-year data, the significance levels of 1% and 5% for three years of data would have to be changed to 0.1% (which would be a little more stringent) and 10% respectively. The TWC agreed to broaden the planned study (see paragraph 50) to include the application of the COY analysis to two years of data only and also the calculation of distinctness for different levels of significance, namely 10%, 5%, 1%, 0.5% and 0.1%.

52. The Committee is invited to note the above information and to consider possible steps to be taken.

List of Reference Books and Other Documents Useful in Connection With the Testing of Varieties

53. This subject is item 8 on the draft agenda (document TC/XXI/1). The draft for the list of reference books and other documents useful in connection with the testing of varieties is reproduced in document TC/XXI/4.

54. Document TC/XXI/4 already follows proposals from the TWC, TWF and TWO with respect to the grouping of the information. It is grouped into several chapters, one chapter of general books, followed by chapters of general books on agricultural crops, on vegetables, on ornamental plants, on fruit crops and on forest trees, followed by books on special species which are grouped according to the Latin name of the genus and, if need be, further split up by common name. Where a book refers to two genera, the title of the book is repeated under the heading of each genus. The name of the country that gave the information has been deleted. The TWF, TWO and TWV further agreed to update the list of reference books and documents annually by correspondence, before their sessions (see documents TWF/XVI/23 Prov., paragraph 12, TWO/XVIII/16 Prov., paragraph 11, and TWV/XVIII/14 Prov., paragraph 9).

55. The TWV also proposed to the Committee that it consider the possibility of including in that list of documents the titles of the official gazettes of UPOV member States, the national lists of varieties, the EC lists of varieties, the national descriptive lists, the national recommended lists, the UPOV Test Guidelines and the description of varieties (see document TWV/XVIII/14 Prov., paragraph 9).

56. The Committee is invited to take the necessary decisions.

Revision of the UPOV Model for a Report on Technical Examination

57. This subject is item 9 on the draft agenda (document TC/XXI/1). It is foreseen that the experts from the Federal Republic of Germany will prepare a draft for a revised UPOV model for a report on technical examination. At the time of writing the present document, that draft has not yet reached the Office of UPOV.

58. The TWO stressed that the planned revised form for test reports should allow a column for remarks where additional information could be supplied on the individual characteristics (see document TWO/XVIII/16 Prov., paragraph 15).

59. Having noted that the Committee planned to discuss a draft for a revised form for a test report, the TWC asked its Chairman to inform the Committee of the relevant proposals made by the TWC in connection with its discussions on the question of description of varieties (see document TWC/III/13 Prov., paragraphs 30 to 35).

60. During those discussions, the TWC agreed on a revised proposal for a UPOV variety description form to be used for the preparation and exchange of variety descriptions (see document TWC/III/13 Prov., Annex III), which is reproduced in Annex II to this document. It agreed that efforts should be made to have one form available for each of the various purposes, namely:

(i) test reports at national level;

(ii) variety descriptions at national level;

(iii) exchange of test reports on the basis of bilateral agreements;

(iv) variety descriptions for national certification offices (with a possible addendum for the special needs of those offices).

61. In answer to the specific questions, the TWC agreed on the following:

(i) Characteristics should be listed chronologically according to the number in the UPOV Test Guidelines. Characteristics with an asterisk (*) should therefore not be grouped together. Additional characteristics should be added at the end of the list.

(ii) Example varieties need not be indicated for each state of expression.

(iii) Quantitative characteristics should always be converted to the 1 to 9 scale and no actual figures should be indicated. As some experts considered that actual figures, for example the 1000 seed weight, might be useful at national level, the experts agreed to study how reliable such information could be and whether, if considered reliable, it should be added, and to report the outcome of their study to the Working Party at its next session.

(iv) The provision of further information under the heading "Additional Data" may be helpful. It should be left to the Technical Working Party establishing the Test Guidelines for the species concerned to specify the types of additional information that could be useful (origin, breeding history, photographs, diagrams, shadowgraphs, variants and off-types likely to appear, etc.).

(v) There was no consensus on whether the characteristics of the UPOV Test Guidelines that had not been tested should also be indicated. However, it was agreed that preprinted forms should not be used.

62. The Committee is invited to take the necessary decisions.

Standard Draft Test Guidelines

63. This subject is item 10 on the draft agenda (document TC/XXI/1).

64. The Technical Working Parties based their discussions on document TWO/XVIII/3, which contained the proposal for standard Test Guidelines, using the example of streptocarpus, prepared by experts from the Netherlands and translated by the Office of the Union. They regarded it as a common layout for all plants. After examination of this proposal, the Working Parties agreed to accept that layout in principle, but they did make the following remarks to be reported to the Committee (see documents TWA/XIV/14 Prov., paragraph 43, TWF/XVI/23 Prov., paragraph 15, TWO/XVIII/16 Prov., paragraph 12, and TWV/XVIII/14 Prov., paragraph 12):

(i) The numbering of the paragraphs which had been included by the Office of UPOV should not be continuous throughout the document but should start from one in each of the chapters (TWA, TWF, TWO, TWV).

(ii) The contents of the Legend should be placed on the bottom of the first page of the Table of Characteristics in the three UPOV languages (TWA). The TWO on the other hand proposed that the Legend be kept at the beginning of the document, as it could be expected that other information, not only referring to the Table of Characteristics, might have to be included in it.

(iii) The trilingual information on the Table of Characteristics should be placed directly before the Table in all three languages, to avoid it being repeated and appearing on different pages (TWA, TWO, TWV).

(iv) The explanation of the asterisk in chapter VII should be deleted, as it was already covered by the Legend (TWA).

(v) The grouping chapter should be called "Classification" (TWV).

(vi) The chapter "Conduct of Trials" should remain in the standard Guidelines although it might not always be necessary to include it in specific Test Guidelines. It might however be necessary, in the future, to include in that chapter information on the testing of resistance or on the minimum requirements (TWV);

(vii) A new chapter "Additional Information to Complete the Description of Varieties" should be included before the chapter on the literature, to enable the national authorities to supply further special features for inclusion in the variety description, for example shadowgraphs or photos of particular organs of the variety (TWV).

The Technical Committee would have to decide on the date as from which all Test Guidelines should be presented in the new form.

65. In connection with the proposals on the Revision of the UPOV Model for a Report on Technical Examinations made by the TWC (see document TWC/III/13 Prov., paragraph 32 and paragraph 61(iv) of this document) it was proposed that the Technical Working Parties, when establishing the Test Guidelines for the species concerned, should specify the types of additional information that could be useful (origin, breeding history, photographs, diagrams, shadowgraphs, variants and off-types likely to appear, etc.). If the proposal is followed, that information may also have to be included in the Test Guidelines at an appropriate place.

66. The Committee is invited to take the necessary decisions.

Color Charts and Connected Questions

67. This subject is item 11 on the draft agenda (document TC/XXI/1).

68. The TWF reconfirmed the recommendations made by the TWO, presented to the Committee and approved by it during its twentieth session (see document TC/XX/12 Prov., paragraph 43), namely that it

(i) preferred the use of a color chart to the use of a colorimeter;

(ii) recommended in the first place that the use of the Royal Horticultural Society (RHS) Colour Chart should be continued and that for certain colors lacking in that chart the Horticultural Colour Chart (HCC) should be used, if possible;

(iii) recommended the use of the Japan Horticultural Standard (JHS) Colour Chart if a breeder or an authority had no RHS Colour Chart and could not obtain a copy of it;

(iv) recommended that an applicant who had none of the above-mentioned charts and did not find it opportune to buy one of them, should indicate to

the national authority a well-known comparable variety which would exactly match the color of the candidate variety (see document TWF/XVI/23 Prov., paragraph 18).

69. The TWO noted a comparison made in the Netherlands between the Horticultural Color Chart (HCC), the Royal Horticultural Society Colour Chart (RHS), the Japanese Horticultural Standard Color Chart (JHS) and the Munsell Color File (MCF), reproduced in Annex III to this document.

70. The TWF and the TWO noted that discussions had been planned in the Netherlands between the Royal Horticultural Society (RHS) and the Dutch Flower Auction Society (VBAN) together with a painting firm and a printing firm with the view to reprinting the RHS Colour Chart. The experts from the Netherlands assured the Working Parties that they would be informed on the outcome of those discussions. The Working Parties repeated that they fully supported the idea of reprinting the RHS Colour Chart without any changes, in view of the urgent need for it.

71. The Committee is invited to note the above information and to consider possible steps to be taken.

Report on the Study of the Use of Various Electrophoretic Methods on Wheat

72. This subject is item 12 on the draft agenda (document TC/XXI/1).

73. The TWA noted the information on the UPOV Collaborative Study on Electrophoresis in Wheat as given in document TWA/XIV/10 and in Annexes II and III of document TWA/XIV/14 Prov. During the discussion, some experts pointed out that the repeatability of the results with some varieties was very low when both electrophoresis and morphological methods were used, which might be caused by segregations or by the actual differences between the methods themselves. Without a replication it was difficult to separate those sources of variability. The correlation between morphological characteristics and the results of the electrophoresis tests was clear and did not need to be proved again.

74. The TWA agreed to continue its study on electrophoresis, with emphasis on the following aspects, before reaching a final conclusion:

(i) member States would use the second grain stored to repeat the electrophoresis tests;

(ii) the present status of the study on the electrophoresis test would be summarized in a comparative table of the different electrophoretic methods used, with accompanying details on each method;

(iii) the results of the second year of testing would be awaited (see document TWA/XIV/14 Prov., paragraphs 15 to 17).

75. The Committee is invited to note the above information and to consider possible steps to be taken.

Plant Variety Protection and Virus Diseases

76. This subject is item 13 on the draft agenda (document TC/XXI/1).

77. During its fifteenth session, the Administrative and Legal Committee discussed the question of plant variety protection and virus diseases on the basis of document CAJ/XV/5. It eventually decided first to seek the opinions of the Technical Committee on the subject (see document CAJ/XV/8, paragraphs 30 to 35).

78. The TWO discussed the question of plant variety protection and virus diseases, as mentioned in document CAJ/XV/5, where through the grafting of the pelargonium variety "Mexikanerin" on to another variety or vice versa--and only in that way--the color of the petals of the other variety was influenced. It seemed that it was still not clear whether or not the effect was caused by a virus. The TWO considered that it would need more information and research on the question and stated that it would rediscuss the matter at its next session. In the meantime, research should also concentrate on the stability of the new color. The TWO agreed that, as long as it was not proved that the effect was not caused by an infection, the authorities should not accept new varieties which were only distinct in that feature (see document TWO/XVIII/16 Prov., paragraph 43).

79. The Committee is invited to note the above information and to consider possible steps to be taken.

[Annex II follows]

TC/XXI/3

ANNEX II

UPOV VARIETY DESCRIPTION FORM
(proposal made by the Technical Working Party on Automation and Computer Programs during its third session using Vicia faba as an example)

Species: Vicia faba L., Broad Bean, Field Bean

UPOV Test Guidelines document No. TG/8/4, dated 1984-11-07
(quote document number and date)

Testing Place: NIAB, Cambridge, United Kingdom
Years of Testing: 1982 and 1983
Proposed Variety denomination or Breeder's reference: Troy
Application No. and Reference No.: AFP 33/33
Date of preparation of description: April 3, 1984

UPOV No.	NIAB No.	CHARACTERISTICS	STATES OF EXPRESSION	NOTE	WORDING OF EXPRESSION	REMARK
Groupins Characteristics used: (to be repeated in the proper place)						
Characteristics included in the UPOV Test Guidelines						
1	03	Seed: tannin	1 absent/9 present	-		
(*) 2	50	Plant: height	1 very low/3 low/5 medium/ 7 high/9 very high	5	medium	
(*)13	10	Time of flowering (50% of plants with at least one flower)	3 early/5 medium/ 7 late	4	early to medium	
(*)15	22	Wing: melanin spot	1 absent/9 present	9	present	
(*)17	23	Standard: anthocyanin coloration	1 absent/9 present	9	present	
18	24	Standard: extent of anthocyanin coloration	3 slight/5 medium/7 much	2	very slight to slight	
20	41	Pod: attitude	1 erect/3 semi-erect/5 horizontal/7 semi-pendulous/ 9 pendulous	-		
(*)21	42	Pod: length (without beak)	1 very short/3 short/ 5 medium/ 7 long/9 very long	3	short	
25	48	Pod: number of ovules (including seeds)	3 few/5 medium/ 7 many	-		
28	64	Seed: shape of cross section	1 narrow elliptic/2 elliptic/ 3 broad elliptic	1	narrow elliptic	mainly 1
(*)29	63	Seed: 1000 seed weight	1 very small/3 small/5 medium/ 7 large/9 very large	-		562 g
(*)30	65	Seed: color of testa (immediately after harvest)	1 beige/2 green/3 red/4 violet/ 5 black	2	green	
31	66	Seed: black pigmentation of hilum	1 absent/9 present	9	present	
Characteristics not included in the UPOV Test Guidelines:						
	81	Plant: winter hardiness	1 absent/9 present	1	absent	

Similar varieties and differences from these varieties:

Denomination of Varieties:	Differences (only characteristics to be indicated which show sufficient differences to establish distinctness)
Herz Fraya	Troy has narrower leaflets, broader pods, a shorter stem length and a higher seed weight
Pavane	Troy has longer, narrower leaflets and slightly fewer seeds and ovules per pod

Additional Information:

Additional data:
- specific additional information which would be useful for certain species, to be fixed by the Technical Working Parties when establishing the Test Guidelines concerned, e.g. Origin, Breeding History, Photograph, Diagram, Shadowgraph
- information which might be of interest to the certification authorities

Comments:
- Seed dimple (ornamentation) mixed 1 and 9

[Annex III follows]

TC/XXI/3

ANNEX III [Original]

USEFULNESS OF COLOR CHARTS

(Comparison made by Experts from the Netherlands)

USEFULNESS OF COLOUR CHARTS.

The colour of flowers, leaves, fruits, tubers, bulbs and such-like, plays an important role in variety research. Especially by ornamentals the flower colour is an essential part of the determination of different cultivars. Therefore it is necessary to be able to specify and describe a colour. A way for doing this, is comparing vegetable parts with colour charts. Colour assessment occurs by the human eye. The eye captures a colour as three different independent factors: hue, brightness (lightness) and intensity (saturation). These factors are called the three colour attributes. The hue is the attribute of the visual sensation designated by blue, green, yellow, red, purple, etc. The proportion of the reflecting incident light is called brightness. The third attribute, the intensity, is the proportion of pure chromatic colour in the total sensation.

The Horticultural Colour Chart (HCC), the Royal Horticultural Society Colour Chart (RHSCC) and the Munsell Color File (MCF) are often used in practice. These three colour charts has been investigated for their usefulness together with the Japanese/Horticultural Standard Color Chart (JHS). The last chart has been added in connection with the Japanese request to the members of the Union for the protection of new varieties of plants for passing judgement on it.

The RHSCC consists of four fans of white cardboard cards with four matt colours on it. The cards have been numbered from 1 up to 202, the four colours each with A, B, C and D. The cards has been sorted according to the colour groups green-yellow, yellow, yellow-orange, orange, etc.

The HCC system contains 200 whity sheets, each sheet with four matt tints of one coded colour. The colours has been arranged according to the colour circle principle with 64 full hues, to which has been added 60 lighter, 38 darker and 38 greyed hues.

The JHS has four fans, each with whity cardboard cards containing at most ten glossy colours. Each colour has a code and has been grouped according to the Munsell system. In this system the hues of the colour circle are divided into five principal classes: red (R), yellow (Y), green (G), blue (B) and purple (P), with further division into five intermediate classes: yellow-red (YR), green-yellow (GY), blue-green (BG), purple-blue (PB) and red-purple (RP). The brightness of a colour is indicated with value, of which the scale extends from theoretically pure black to a theoretically pure white. With chroma the intensity of a colour is indicated by the strength or degree of departure of a particular hue from a neutral gray of the same value. The scales of chroma depend upon the strength of the individual colour.

In addition to the fans contains the JHS also cards for each hue, reflecting the colours in relation to value and chroma.

the MCF arranges little cardboard sheets with matt colours according the Munsell system.
Also common or systematic colour names could be added to the colour codes. The HCC uses common names, like 'Primrose Yellow' and 'Crimson'. Systematic names are used for the JHS and the MCF. The systematic name consists of a fundamental colour name and a modifier. Fundamental names are mainly hue names, while modifiers express the brightness and the intensity.

Colours of the RHSCC, the HCC, the JHS and the MCF has been assessed with the help of the following material: gerbera's ligulate florets inside and outside, freesia's perianth slips inside, lilies perianth inside, and ice and butter lettuce leaves inside. The observations have been taken place indoors by daylight avoiding direct sunlight. The colour of a vegetable part and the colour chart has been compared against a white background by means of a black passe-partout. The different colours have been valued by means of the points system: 1=very bad, 2=bad, 3=moderate, 4=good and 5=very good. A two-tailed t-test with a probability of 5 % has been used for testing significant differences between valuation means of the colour charts over the total number of observations, by colour group and by type of vegetable part. There also has been looked at significance between colour groups or type of vegetable parts and a colour chart.
By the valuation has been started from the RHSCC colour arrangement with exposing the following groups: yellow-green, yellow, yellow-orange, orange, orange-red, red, red-purple, purple, violet and white.

In table 1 mentioned below the results have been summarized. The order of the valuation means of the colour charts has been indicated, taking into account the significant differences betweens the means. If the means are not significant, the order numbers have been averaged. The best mean has rank 1, the worst rank 4.
For the in this study used ornamentals the HCC proves to be the best, except for the colour group white. This group is missing in this system. The colour groups yellow-orange, orange and violet give just a very good result in the HCC. The RHSCC takes an obviously second place. The colours from the groups yellow-green and yellow of this colour chart are equivalent to those of the HCC. The score of the groups violet and white is relatively bad and have the JHS and the MCF level. Although the JHS produces the worst results over the total number of observations, by valuation of the different colour groups it is less expressed. Seven of the ten groups have the same rank as those of the MCF. The examined colours

Table 1: Overall conclusion of the four colour chart valuations.
Column A represents the order between the colour charts, 1 for the first rank up to 4 for the last rank. If the means are not significant, the order numbers have been averaged. Column B represents the means within a colour chart better or worse than the overall mean.

	RHSCC		HCC		JHS		MCF	
	A	B	A	B	A	B	A	B
Overall	2		1		4		3	
I. yellow-green	1½		1½		4		3	+
II. yellow	1½	+	1½		4		3	+
III. yellow-orange	2		1	+	3½		3½	
IV. orange	2		1	+	4		3	
V. orange-red	2		1		3½		3½	-
VI. red	2		1		3½		3½	
VII. red-purple	2		1		3½		3½	
VIII. purple	2		1		3½		3½	
IX. violet	3	-	1	+	3		3	
X. white	2	-	4	-	2		2	
Gerbera's ligulate florets inside	2		1		3½		3½	
Gerbera's ligulate florets outside	1½	+	1½		4		3	
Freesia's perianth slips inside	2		1		3½		3½	
Lilies perianth inside	1½		1½		4	-	3	

A= order; B= better (+) or worse (-) than the overall.

valued both for the JHS and the MCF worse than for the RHSCC and the HCC. Especially the colours of the orange-red group in the MCf satisfy very badly. Colours with a high intensity hardly occur. The yellow-green and yellow groups score better then the overall valuation of this colour chart.
The JHS has no extremes for any colour group. If the investigated vegetable parts are taken as startingpoint, the HCC is also the best, but the difference with the secondly placed RHSCC seems less than with the colour group as startingpoint. The JHS scores just somewhat less than the MCF. Above all the valuation for the lilies perianth inside is low. The RHSCC gives a relatively good result for the gerbera's ligulate florets outside. The large colour portion from the yellow group causes it most likely.
Only two colours of each chart system are considered for the 5 examined ice and 21 butter lettuce cultivars. They belong to the yellow-green group. Nevertheless the eye perceives more colours. In all four colour charts the colours are mostly an approximation of the lettuce cultivar colour. The different colours between lettuce cultivars find the best expression in the experimental field. Taking of a single leave for determining the colour nullifies a part of the colour expression. If refinement of a colour chart is not desired or is impossible, valuation of colours through reference cultivars, such as is already put in practice, seems the obvious way. Last mentioned method is most appropiate, if the colour is dependent on environment factors.

The design of the colour charts is not always handy. Both the large paper sheets of the HCC and the little cardboard cards of the MCF are badly to handle. The colour sequence get lost quickly, hindering the finding of the appropriate colour. The chance of loosing colours is larger than by the RHSCC and the JHS, where the colours have been collected in fans. These fans take care of keeping the colour system well-ordered, maintaining the colours in sequence, not getting lost and easy to find by spreading the fan. The survey cards for each hue, which have been added to the JHS, simplify the looking for the with the plant material corresponding colour particularly in aid of the beginning user. Farther the limitations of the different colours can be estimated with those cards.

In the study in question only a limited number of species have been investigated, by which about 10 % of the in the colour charts occurring colours have been under discussion, while the colour valuation has been done by one observer. The value of such an inquiry could be enhanced considerably if done by more persons simultaneously. Besides it is desirable to examine different coloured plants than used now. It is to be thought of the colour groups blue, green, blue-green, brown, etc. and of very dark colours. Where the plant material concerned it is to take into account of possible environment factors, plant age and the like, which can affect the colour. It also seems better to avoid daylight variations during the observations.

Wageningen, June, 1985 (translation of the revised version of May, 1985), Anja van der Neut.

[End of Annex III and of document]