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UPOV

TC/XIX/3

ORIGINAL: English

DATE: August 11, 1983

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL COMMITTEE

Nineteenth Session
Geneva, October 3 and 4, 1983

MATTERS RESULTING FROM THE
1983 SESSIONS OF THE TECHNICAL WORKING PARTIES
TO BE DEALT WITH BY THE TECHNICAL COMMITTEE

Document prepared by the Office of the Union

1. The present document contains matters resulting from those of the 1983 sessions of the Technical Working Parties which have already taken place, that have to be dealt with by the Technical Committee. They can be roughly grouped as follows:

(i) Matters dealt with by the Technical Working Parties on the instruction of the Technical Committee (see paragraphs 1 to 10).

(ii) Questions presented by the Technical Working Parties to the Technical Committee (see paragraphs 11 to 17).

(iii) Important decisions taken by the Technical Working Parties and communicated to the Technical Committee for information (see paragraphs 18 to 23).

Stabilization of Latin Names of Species by ISTA

2. During its last session, the Technical Committee asked the Technical Working Parties to prepare a list of species for which they would like to have the Latin names stabilized by ISTA (see document TC/XVIII/13 Prov., paragraph 60). The Office of UPOV sent to the members of the Technical Working Parties a questionnaire on this subject. The proposals received by the Office of UPOV have been sent to the Technical Working Parties. They are added to this document as Annex I, without having been translated into the other languages of UPOV.

3. The Technical Working Parties for Agricultural Crops and for Vegetables noted these proposals during their last sessions. The Technical Working Party for Agricultural Crops was satisfied with the present situation which showed that there were no problems for agricultural crops as the main aim of ISTA had so far been the stabilization of species of seed-propagated varieties (see document TWA/XII/10 Prov., paragraph 21). The Technical Working Party for Vegetables was informed by Mr. Schneider (Chairman) that he had already prepared and sent to the ISTA Nomenclature Committee for stabilization a full list of species which had not yet been stabilized and which in at least one of the UPOV member States were eligible for plant variety protection. The Technical Working Party for Vegetables noted this information with approval (see document TWV/XVI/14 Prov., paragraph 17).

List of Reference Books and Documents

4. During its last session, the Technical Committee had asked the Technical Working Parties to prepare a list of reference books and documents which they normally used in connection with the testing of varieties for distinctness, homogeneity and stability (see document TC/XVIII/13 Prov., paragraph 63). The Office of UPOV had sent to the members of the Technical Working Parties a questionnaire on this subject. The replies received to this questionnaire have been sent to the Technical Working Parties. They are added to this document as Annex II, without having been translated into the other languages of UPOV.

5. The Technical Working Parties for Agricultural Crops and for Vegetables noted the information received by the Office of UPOV. The Technical Working Party for Agricultural Crops invited the countries which had not yet answered the circular distributed by the Office of UPOV to do so and give the required information by the end of August (see document TWA/XII/10 Prov., paragraph 22). The Technical Working Party for Vegetables concluded from its discussion on the subject that it might be useful to establish such a list of reference books and documents but that, in order to achieve a better response, it would be preferable for one or two countries to prepare a first list which would then be distributed to the other members of the Working Party, with a request for inclusions. The experts from the United Kingdom and the Netherlands would prepare the first draft of that list (see document TWV/XVI/14 Prov., paragraph 18).

Tolerances for Inbred Plants

6. During its last session, the Technical Committee had asked the Technical Working Parties to establish the admissible tolerances for inbred plants in the individual Test Guidelines when revising them or preparing new Test Guidelines (see document TC/XVIII/13 Prov., paragraph 27). The Office of UPOV circulated to the members of the Technical Working Parties a questionnaire on this subject. The answers received to that questionnaire were assembled in Annex I to document TWA/XII/4 Rev. The Technical Working Parties for Agricultural Crops and for Vegetables based their discussions on that Annex.

7. In the Technical Working Party for Agricultural Crops, none of the member States represented at the session of that Working Party found it necessary to allow an additional tolerance for inbred plants, despite the reference to the General Introduction to Test Guidelines (TG/1/2, paragraph 33), which recommended that "...a tolerance has also to be allowed for inbred plants." The Working Party therefore felt unable to follow the request made by the Technical Committee at its last session and lay down maximum tolerances for inbred plants for the different Test Guidelines adopted (see document TWA/XIII/10 Prov., paragraph 23).

8. In the Technical Working Party for Vegetables, it was noted that only three member States had answered the above-mentioned circular. During the last session, further oral information was given: the experts from the United Kingdom informed the Working Party that for their country about 12% of inbred plants would be tolerable. The experts from France informed the Working Party that no difference would be made between off-types and inbred plants. The tolerance rate for hybrids was 50% higher than that laid down by UPOV in the General Introduction to the Test Guidelines for mainly self-pollinated varieties. During the discussion, it eventually emerged that it was not possible for the majority of member States to follow the request of the Technical Committee to fix a maximum number of inbred plants tolerated for each of the species for which Test Guidelines had been adopted. The majority of the member States were also unable to agree that the main criterion for fixing the tolerance for inbred plants should--as laid down in the General Introduction to the Test Guidelines (see document TG/1/2, paragraph 33)--be that the percentage of inbred plants should not be so high as to interfere with the trials (see document TWV/XVI/14 Prov., paragraph 16).

Important Characteristics and Criteria for Inclusion in the Test Guidelines

9. During its last session, the Technical Committee reminded the Technical Working Parties of the following criteria which had to be applied to each characteristic, at least when preparing new Test Guidelines or when revising existing Test Guidelines (see document TC/XVII/13 Prov., paragraphs 39 and 40):

"(i) whether the characteristic could be considered an important characteristic and whether varieties that could be identified by that characteristic could be expected to have a sufficient minimum distance from other varieties to justify the grant of plant variety protection,

"(ii) whether varieties could be expected to be homogeneous in the characteristic concerned and

"(iii) whether harmonized and standardized methods existed to observe that characteristic."

The Office of UPOV had sent to the members of the Technical Working Parties a circular, asking whether the above-mentioned criteria could be applied to all characteristics in the existing UPOV Test Guidelines.

10. The Technical Working Party for Vegetables noted the information received by the Office of UPOV in reply to the questionnaire. It was widely agreed that this circular had requested too much information and that therefore many countries had not replied to it at all. It was moreover considered too early to make such a study. As it had become apparent that at present many member States did not yet even use the UPOV Test Guidelines for testing, the Working Party stressed that the first aim should be to reach a stage where all member States really used the UPOV Test Guidelines adopted so far, and only then would it be worth while to ask for more. In addition, the Working Party agreed that when Test Guidelines were revised or new ones prepared, these criteria would have to be considered (see document TWV/XVI/14 Prov., paragraph 19).

11. During the discussions on deletions or inclusions in the Table of Characteristics for Test Guidelines for Potato, the Technical Working Party for Agricultural Crops started a general discussion on the relevant criteria. The majority of the members of the Working Party eventually agreed that if a characteristic fulfilled all criteria for the testing of distinctness, homogeneity and stability and if it was considered to be decisive for the granting of plant variety protection in at least one member State, it should be included in the Table of Characteristics of a given Test Guidelines document at the time of its preparation or revision. Some member States expressed their view, however, that this criterion was too broad and might lead to an inflation of characteristics in the Test Guidelines. They wondered whether it could be further limited by saying that all characteristics should be included if used in at least two member States or if resulting in a very clear differentiation, which was more or less the case for qualitative characteristics, and if easily observed. The inclusion of too many characteristics in the Table of Characteristics might also demand too large a burden of testing work for the Offices and impose on the breeder homogeneity for too large a number of characteristics. The Working Party therefore finally agreed as a compromise that all characteristics fulfilling all other criteria would be included in the Table of Characteristics if they were used for the granting of plant variety protection in at least one member State after having been thoroughly scrutinized. The Working Party asked the Technical Committee to give its views on these criteria and on whether they could be applied in common within all Technical Working Parties (see document TWA/XII/10 Prov., paragraph 15).

Proposal to Change the UPOV Criteria for Distinctness and Homogeneity for Measured Quantitative Characteristics

12. The Technical Working Party on Automation and Computer Programs held a lengthy discussion on various possibilities for the analysis of test results for distinctness of measured quantitative characteristics, namely

(i) the application of the UPOV criteria of differences which occur with 1% probability of error, for example, on the basis of the method of the least significant differences in two or two out of three growing seasons;

(ii) the application of the t-score;

(iii) the application of a combined over-years analysis and

(iv) the application of the multi-variate analysis.

It came to the conclusion that the combined over-years analysis seemed to be the most satisfactory, would lead to better discrimination and would diminish the risk of establishing differences which did not exist. It therefore recommended the Technical Committee to study the possibility of the UPOV criteria needing revision. Until then, however, the UPOV criteria should be maintained (see document TWC/I/4 Prov., paragraphs 13 and 15).

13. The Technical Working Party on Automation and Computer Programs also discussed at length the UPOV criteria for establishing homogeneity requiring, for measured characteristics, a variance not exceeding 1.6 times the average of the variance of the varieties used for comparison. It finally agreed to study at home the criterion mentioned by Dr. Weatherup in his report, namely the mean standard deviation of the controls + $t_{2\%}$ x the standard deviation of control standard deviations, and to study the consequences of UPOV changing its criteria to the above-mentioned ones (see document TWC/I/4 Prov., paragraph 17).

Harmonization of the Technical Notes in Test Guidelines prepared by Various Technical Working Parties

14. In connection with the working paper on revised Test Guidelines for Turnip, the Technical Working Party for Vegetables wondered why paragraphs 1 to 3 of the Technical Notes were drafted in a manner different from the wording used by itself. It would propose to the Technical Committee that it try to achieve harmonized wording for the Technical Notes in the Test Guidelines established by various Technical Working Parties (see document TWV/XVI/14 Prov., paragraph 9). (So far the biggest difference was between Test Guidelines drafted by the Technical Working Party for Agricultural Crops and those drafted by the other Technical Working Parties.)

Homogeneity in True Seed Potato Varieties

15. The Chairman of the Technical Working Party for Agricultural Crops reported on correspondence with Mr. Whitmore (New Zealand) on the question of homogeneity in true seed potato varieties. During its last session, the Technical Committee had agreed to a proposal by the Technical Working Party for Ornamental Plants and Forest Trees, reproduced in paragraph 9 of document TC/XVIII/6 Add., "..... that the same homogeneity requirements had to be applied to both groups of varieties (vegetatively propagated varieties and varieties of the same species produced by seed)." The experts from New Zealand considered this to be an unrealistic demand and proposed instead that the homogeneity of the variety should always be compared with that of comparable varieties, meaning varieties propagated in the same manner. For true seed potato varieties, this would mean that they would have to be handled as cross-fertilized crops. The experts from New Zealand thought that the risk of another breeder taking clones from a true seed propagated potato variety and propagating them as another variety would have to be borne by the breeder alone. The Working Party thought that the question of the authority granting plant breeders' rights having to protect the breeder against others taking clones of the protected variety in order to create new vegetatively propagated varieties would have to be solved by the Technical Committee. The Technical Committee was asked to give its views on this question (see document TWA/XII/10 Prov., paragraph 34).

Characteristics With a Wide Global Range of States of Expression but a Very Narrow National or Regional Range

16. Characteristic 16 of the draft Test Guidelines for Soya Bean ("Plant: time of beginning of flowering"), confronted the Technical Working Party for Agricultural Crops with the problem that, if the whole range of states of expression of varieties existing worldwide were included in one characteristic, all European varieties would cover only a small part of that range. It finally found a solution by providing that, at national level, a further subdivision of this characteristic could be made by stating the earliness compared with the example variety indicated for a given state of expression in terms of days earlier or later than that example variety. In that connection it was said that, at national level, each State could prepare a different

description which would be valid only for the country concerned, while for an exchange of variety descriptions on an international basis the UPOV Test Guidelines would of course have to be followed. The Working Party thought that the solution found for this problem should be reported to the Technical Committee in order that its views on the question might be obtained (see document TWA/XII/10 Prov., paragraph 6(ii)).

Problems Arising as a Result of Some Countries not Testing Resistance Against Certain Diseases

17. In connection with the discussions in the Technical Working Party for Vegetables on the comparison of pea variety descriptions, a problem regarding disease resistance characteristics was mentioned. If, in a given country, those characteristics were not tested and variety descriptions were silent on the matter, other countries which did undertake tests for resistance would be confronted with certain problems where a breeder applied for the protection of a new variety for which he claimed resistance to diseases as distinguishing characteristics. The experts from France considered this a serious problem which would require discussion in the Technical Committee (see document TWV/XVI/14 Prov., paragraph 14).

Homogeneity in Varieties of Broad Bean and Field Bean

18. Certain experts of the Technical Working Party for Vegetables had expressed the view that homogeneity of certain characteristics of varieties of broad beans was slightly different from that of field beans. The Technical Working Party for Vegetables therefore stressed that every effort had to be made to avoid the eventuality of a variety that had been refused protection as a broad bean for lack of homogeneity being accepted and granted rights as a field bean variety (see document TWV/XVI/14 Prov., paragraph 8). The Technical Working Party for Agricultural Crops took the same stand. The same homogeneity requirements should be fulfilled irrespective of whether a variety was a broad bean or a field bean. Special cases, as for example the color of the hilum (characteristic 31), should be borne in mind, however, since in some countries different colors in one and the same variety were acceptable if their percentage remained stable. The Working Party stressed that a uniform view should be sought in respect of homogeneity (see document TWA/XII/10 Prov., paragraph 17(iii)).

Qualitative Characteristics in Which a Variety Expression Differs According to Different Latitudes

19. The Technical Working Party for Agricultural Crops wished to bring again to the attention of the Technical Committee the problems faced with respect to a qualitative characteristic for which the expression differed according to the various latitudes at which a variety was grown. This was especially the case for the characteristic 2 of the draft Test Guidelines for Soya Bean ("Plant: growth type") with the states of expression "determinate (1), semi-determinate (2), indeterminate (3)" (see document TWA/XII/10 Prov., paragraph 6).

Maintaining by the National Authorities of Excellent Example Varieties Which are no Longer Used by the Trade

20. On the occasion of the replacing of some example varieties in the working paper on revised Test Guidelines for Potato, a general discussion arose in the Technical Working Party for Agricultural Crops on the criteria which would make it necessary to change an example variety and replace it by another. It was finally agreed that, where a very good example variety existed in the Table of Characteristics, the only criterion for keeping it would be its availability. If it were difficult to find another variety exactly replacing it, the authority should envisage, depending on the species concerned, maintaining that variety itself if no breeder or maintainer were willing to do so as it was no longer on a national list (see document TWA/XII/10 Prov., paragraph 14).

Close Contacts Between the Technical Working Party on Automation and Computer Programs and Other Technical Working Parties

21. During the past year, the Subgroup on Cocksfoot, Meadow Fescue, Tall Fescue and Timothy of the Technical Working Party for Agricultural Crops held lengthy discussions on data recording and interpretation in grasses, discussing the test procedure, the randomization of tests, the standardization of observations in order to exclude the year's influence, the different methods used for non-parametric statistical analysis, the correlation between single-spaced plants and row-plots, the comparison of different statistical tests, the homogeneity criteria for cross-fertilized crops which are measured and the observation of homogeneity in row-plots. Following the establishment of the new Technical Working Party on Automation and Computer Programs, the Subgroup did not continue its discussions this year, but left them to the other Technical Working Party. However, it mentioned its concern for close contact between the statisticians and the experts in variety testing to ensure results applicable by all the parties concerned (see document TWA/XII/10 Prov., paragraph 20).

Observation of Color on Waxy Leaves

22. In connection with the discussions on the Test Guidelines for Leek, the Technical Working Party for Vegetables agreed that whenever it observed a color on a waxy leaf, the observation would have to be made without removing the wax beforehand. This would apply to the observation of the color as well as its intensity (see document TWV/XVI/14 Prov., paragraph 7).

Electrophoresis Test on Wheat

23. Dr. Fuchs (Federal Republic of Germany) and Mr. Seaton (United Kingdom) reported on the plans for a bilateral test of various methods of electrophoresis to be made by the United Kingdom and the Federal Republic of Germany, but in which further countries were free to participate. A survey at the meeting showed that Spain, the Netherlands, France and possibly also Sweden would like to participate in the test. Six wheat varieties would be selected and 30 ears of each of the six varieties would be distributed to each of the participating countries, which would then test them in the field with respect to a selected number of characteristics from the UPOV Test Guidelines and using various electrophoresis methods. It was planned to start the test with the sowing of earrows in autumn 1983. Ears were to be chosen to enable the results according to the UPOV Test Guidelines to be compared in each case with those from the application of electrophoretic methods which are based on seeds or plants from the same ear (see document TWA/XII/10 Prov., paragraph 33).

24. The Technical Committee is invited:

(i) to note the information given in paragraphs 1 to 10 and in Annexes I and II and to take the necessary decisions,

(ii) to answer the questions presented to it by the Technical Working Parties as mentioned in paragraphs 11 to 17, and

(iii) to note the information given in paragraphs 18 to 23 and to take the necessary decisions.

[Annexes follow]

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ANNEX I/ANNEXE I/ANLAGE I

LIST OF LATIN NAMES OF SPECIES TO BE STABILIZED BY ISTA/
 LISTE DE NOMS LATINS D'ESPECES A STABILISER PAR L'ISTA/
 LISTE DER VON DER ISTA ZU STABILISIERENDEN LATEINISCHEN ARTENNAMEN

Information received from the member States on Latin names of species for which the relevant Technical Working Parties have encountered or foresee problems and which they therefore wish to see stabilized by ISTA.

TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS

DE: -

FR: -

NZ: Brassica spp.

SE: As far as species protected in Sweden are concerned I cannot find any problems. The Swedish National Plant Variety Board has recently checked this. Principally I think UPOV should follow the Latin Names stabilized by ISTA.

UK: The main area in which problems are likely to be encountered is that of inter-generic and inter-specific hybrids. Current examples concern wheat x rye (x Triticosecale Wittmak) and fescue x ryegrass hybrids (Festubolium).

(During its twelfth session, the Working Party expressed its satisfaction with the present situation)

TECHNICAL WORKING PARTY FOR FRUIT CROPS

NL: All complete species names of fruit crop species which are eligible for protection in one or more of the UPOV member States and which are not stabilized already by ISTA. (See document C/XV/6).

NZ: Prunus dulcis (Mill.) D.A. Webb - almond

UK: So far as I can ascertain in the fruits eligible for testing in the United Kingdom, we have not had difficulty in nomenclature.

ZA: None

(The Working Party will meet from September 21 to 23, 1983, to study the above information)

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

DE: Begonia-Elatior-Hybridi (C/XV/6) p. 10, no.1
 Chrysanthemum-Indicum-Hybridi (C/XV/6) p.14, no.10
 Dianthus-Carophyllus-Hybridi (C/XV/6) p. 17, no.24
 Erica carnea L. (= E. herbacea L.) (C/XV/6) p. 18, no.23
 Rhipsalidopsis Britt et Rose (u. Epiphyllopsis Berger) (C/XV/6)
 p. 18, no.18; u. p. 36, no.4
 Schlumbergera Lem. (u. Zygocactus K. Schlum.) (C/XV/6) p. 38,
 no. 1; u. p. 43, no.2

NL: All complete species names of ornamental species which are eligible for protection in one or more of the UPOV member States and which are not stabilized already by ISTA. (See document C/XV/6).

NZ: None

UK: Chrysanthemum morifolium Ramat, now to be known as Dendranthema morifolium (Ramat) Tzvelev - or is it?

(The Working Party will meet from September 27 to 29, 1983, to study the above information)

TECHNICAL WORKING PARTY FOR VEGETABLES

DE: -

NL: All complete species names of ornamental species which are eligible for protection in one or more of the UPOV member States and which are not stabilized already by ISTA (see document C/XV/6).

NZ: None

SE: Nothing to add.

(During its sixteenth session, the Working Party noted with approval the mailing of a selected list to ISTA)

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

ANNEX II/ANNEXE II/ANLAGE II

LIST OF REFERENCE BOOKS AND OTHER DOCUMENTS USEFUL IN
 CONNECTION WITH THE TESTING OF VARIETIES/
 LISTE D'OUVRAGES DE REFERENCE ET D'AUTRES DOCUMENTS
 UTILES POUR L'EXAMEN DES VARIETES/
 LISTE DER STANDARDWERKE UND ANDERER DOKUMENTE,
 DIE IN VERBINDUNG MIT DER PRÜFUNG VON SORTEN VON WERT SIND

Information received on the main reference books and documents used by the member States during testing.

TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS

- General: DE: Milatz, R., 1970: "Kriterien der Getreidearten einschliesslich Mais und ihre Bewertung zur Sortenidentifizierung" Verband Deutscher Pflanzenzüchter e.V., Bonn.
- DE: Siebert, K., 1975: "Kriterien der Futterpflanzen einschliesslich Rasengräser und ihre Bewertung zur Sortenidentifizierung" Bundesverband Deutscher Pflanzenzüchter e.V., Bonn.
- DE: Stegemann, H., V. Loeschke, 1976: "Index Europäischer Kartoffelsorten" Mitteilungen aus der Biologischen Bundesanstalt für Land- und Forstwirtschaft, Berlin-Dahlem.
- FR: International Seed Testing Association (ISTA) 1976.
- FR: International Rules for Seed Testing 1976.
- FR: Seed Science and Technology, Vol. 4, No. 1, Annex 1976 and amendments made at the 18th ISTA Congress in Madrid 1977 and the 19th ISTA Congress in Vienna 1980.
- FR: Catalogues Officiels et fiches descriptives publiés annuellement par les différents pays ou organismes internationaux.
- FR: Statistical methods, 5th edition, Snedecor and COCKRAN, the Iowa State University Press, Ames, Iowa, USA.
- FR: Méthodes statistiques à l'usage des médecins et des biologistes, D. Schwartz, 3ème édition 1963, éd. Flammarion.
- SE: International Seed Testing Association (ISTA) 1976. International Rules for Seed Testing 1976. Seed Science and Technology, Vol.4, No.1.
- SE: Ulvinen, O. et al 1973. Testing for Genuineness of Cultivar. International Seed Testing Association 1973.
- SE: Baekgaard, H.C. et al 1964. Varietal Purity Examination. Proceedings of the International Seed Testing Association, Vol.29, No.4

Technical Working Party for Agricultural Crops - continued

- General: SE: On the whole the ISTA publication "Seed Science and Technology" as well as "Advances in research and technology of seed" may be followed in the work and used as standard references. Very useful are also the publications of OECD concerning the OECD schemes for varietal certification of seed. The ISTA has published them in a special issue 1971: OECD Standards Schemes and Guides Relating to Varietal Certification of Seed. Proceedings of the International Seed Testing Association, Vol.36, No.3. This gives a good overlook, but quite a part of what is published in this has been overworked since 1971 and can be obtained from OECD, Paris.
- UK: Anderson, G. (1980): Seed Sci. & Technol 8.415.486, Bibliography on testing for varietal purity.
- UK: Grasses. C.E. Hubbard, 1968, Penguin Books
- Barley NZ: Aufhammer, G., Bergal, P. & Horne, F.R., 1958 : "Barley Varieties EBC", Elsevier; Amsterdam, London, New York.
- NZ: Fitzsimmons, R.W. & Wrigley, C.W., 1979 : "Australian Barleys. Identification of varieties, grain defects and foreign seeds", Victorian Printing, CSIRO.
- NZ: Hervey-Murray, C.G., 1980 : "The Identification of Cereal Varieties". A preliminary course of instruction in the study of the morphological structures used in varietal descriptions. RHM Arable Services Ltd., University Press, Cambridge.
- NZ: Malcolm, J.P., 1949 : "Classification of Barley Varieties in New Zealand", N.Z. Journal Science and Technology A., Vol. 30, pp 305-328
- NZ: Wiebe, G.A. & Reid, D.A., 1961 : "Classification of Barley Varieties Grown in the United States and Canada in 1959", Tech. Bulletin No. 1224, US Department of Agriculture.
- NZ: NIAB, 1971 : "Detailed Descriptions of Varieties of Wheat, Barley and Oats".
- UK: Procedure for the assessment of Distinctness, Uniformity and Stability in varieties of wheat, barley and oats (Revised 1983 - PVRO, MAFF, White House Lane, Cambridge, England).
- UK: Identification et Classification des variétés d'Orge Cultivées en France (deuxième édition), M. Simon (1972), Editions SEI CNRA. Route de St. Cyr, Versailles (France)
- UK: Barley and Malt, A.H. Cook, 1962, Academic Press New York and London
- Cereals FR: Les Blés tendres cultivés en France - Pierre Jonard - I.N.R.A. 1951
- FR: Les Variétés d'avoine cultivées en France - C. Moule - I.N.R.A. 1964.
- FR: Identification et classification des variétés d'orge cultivées en France - M. Simon - I.N.R.A. SEI 1972.
- FR: Essai d'identification des orges cultivées en France - P. Bergal et L. Friedberg - Imprimerie Nationale 1940.

Technical Working Party for Agricultural Crops - continued

- Cereals
- FR: Les Avoines cultivées en France - Renée Friedberg - Imprimerie Nationale 1942.
- FR: Identification of Cereal Varieties - Cg Hervey - Murray - University Press, Cambridge, United Kingdom
- FR: Kriterien der Getreidearten einschliesslich Mais und ihre Bewertung zur Sortenidentifizierung - Dr. R. Milatz, Verband Deutscher Pflanzenzüchter e.V., Bonn - 1970.
- FR: Les Lodicules et leur utilisation dans la systématique du genre hordeum - P. Bergal - Masson & Cie. 1949.
- FR: Oat Identification and Classification - Technical Bulletin No. 1100, April 1955 - USDA Washington, D.C.
- FR: Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, Agricultural Research Service USDA.
- Linseed
- FR: Les variétés de Lin par F. Plonka et leurs principales maladies cryptogamiques par C. Anselme, INRA, 1956. Edition René P. Cloas.
- Maize
- FR: Encyclopédie pratique du Maïs A.G.P.M. 1981.
- FR: Croissance et développement chez le Maïs : Aspects pratiques A.G.P.M.-I.T.C.F. Avril 1980.
- Oats
- NZ: NIAB, 1971 : Detailed Descriptions of Varieties of Wheat, Barley and Oats.
- NZ: Ulvinen, O., Voss, A., Backgaard, H.C. and Terning, P.E., Testing for genuineness of cultivar. 96 pp.
- UK: Les Variétés d'Avoine Cultivées en France. C. Morle, 1974. INRA 149. Rue de Grenelle, Paris.
- UK: Procedure for the assessment of Distinctness, Uniformity and Stability in varieties of wheat, barley and oats (Revised 1983 - PVRO, MAFF, White House Lane, Cambridge, England).
- Peas
- FR: Les variétés de Pois cultivés en France par Raymond Fourront, INRA 1956.
- NZ: Sneddon, J.L. and Squibbs, F.L., 1958 : Classification of Garden Pea Varieties, J. Nat. Inst. Agric. Bot., 8, 378-422.
- NZ: Sneddon, J.L., 1970 : Identification of garden pea varieties (I) Grouping arrangement, and use of continuous characters, J. Nat. Inst. Agric. Bot. 12, 1-16.
- NZ: Wade, B.L., 1943 : A Key to Pea Varieties. USDA circular No. 676.
- Wheat
- NZ: Ferns, G.K., Fitzsimmons, R.W., Martin, R.H., Simmonds, D.H. & Wrigley, C.W., 1975 : Australian Wheat Varieties. Identification according to growth, head and grain characteristics, CSIRO Wheat Research Unit, North Ryde 1 SBN 0643 001433. 126 pp.
- NZ: McEwan, J.M., 1959 : The Wheat Varieties of New Zealand, NZ Dpt. of Scientific and Industrial Research, Bulletin No. 131.

Technical Working Party for Agricultural Crops - continued

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| Wheat | NZ: | NIAB, 1971. Detailed Descriptions of Varieties of Wheat, Barley and Oats. |
| | NZ: | Ulvinen, O., Voss, A. Backgaard, H.C. and Terning, P.E., Testing for genuineness of cultivar. 96 pp. |
| | UK: | Procedure for the assessment of Distinctness, Uniformity and Stability in varieties of wheat, barley and oats (Revised 1983 - PVRO, MAFF, White House Lane, Cambridge, England). |
| | UK: | Contrôle et Identification de la pureté variétale des Blés tendre cultivées en France. M. Simon (1960) INRA, France |
| Potatoes | NZ: | Burton, W.G., 1966 : The Potato, H. Veenman & Zonen, Wageningen. |
| | NZ: | Hector, J.M., 1936 : Introduction to the Botany of Field Crops, Vol. 2, Non-Cereals, Central News Agency Ltd., Johannesburg. |
| | NZ: | Salaman, R.N., 1926 : Potato Varieties, Cambridge University Press, London. |

(During its twelfth session, the Working Party asked for further information to be added to the above list)

TECHNICAL WORKING PARTY FOR FRUIT CROPS

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| General: | NL: | No testing of fruit crops is carried out in the Netherlands. |
| | UK: | W.T. Stearn, Botanical Latin. |
| | UK: | Clapham Tutin Warburg, Flora of the British Isles, Cambridge University Press. |
| Apple | NZ: | Smith, Muriel W.G., 1971 : "National Apple Register of the United Kingdom." Ministry of Agriculture, Fisheries & Food, London. |
| Avocado | ZA: | Popenoe, W., 1920, Manual of Tropical and Subtropical Fruits (reprint edition), pub. Hafner Press. Californian Avocado Society's Yearbooks, Vols. 1-63, pub. unknown. |
| Citrus | ZA: | Reuther, W., Webber, H.J. and Batchelor, L.D., The Citrus Industry 1976, Vols. I, II, III, pub. University of California, Division of Agricultural Sciences. |
| Mango: | ZA: | Popenoe, W., 1920, Manual of Tropical and Subtropical Fruits (reprint edition), pub. Hafner Press. |
| | ZA: | Gangolly, S.R.; Singh, R., Katyal, S.L. and Singh, D.; 1957: The Mango, pub. Sree Sarawaty Press Ltd. |

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

- General: DE: Botanical Latin, William T. Stearn, 1973, David & Charles, Newton Abbott.
- DE: Gartenbauliche Pflanzenzüchtung, 1979, Hermann Kuckuck, Verlag Paul Parey, Berlin und Hamburg.
- DE: Handbuch der Laubgehölze, Bd I - II, 1976, Gerd Krüssmann, Verlag Paul Parey, Berlin und Hamburg.
- DE: Rhododendron und immergrüne Laubgehölze, 1979, Johann Berg und Lothar Heft, Verlag Eugen Ulmer, Stuttgart.
- DE: Azaleen, Eriken, Kamelien, 1982, Hellmut Vogel, Verlag Paul Parey, Berlin und Hamburg.
- DE: Morphologie der Blüten und der Blütenstände, 1981, Focko Weberling, Verlag Eugen Ulmer, Stuttgart.
- NL: William T. Stearn, Botanical Latin, Ed. David & Charles, Newton Abbott, 1973.
- NL: The UPOV Guidelines.
- NL: Horticultural Colour Chart.
- NL: RHS Colour Chart.
- UK: Botanical Latin, William T. Stearn, 2nd Edition, 1973. David & Charles, Newton Abbott & London. (This is our primary source for definitions, with illustrations, of botanical terms).
- UK: An Introduction to Plant Taxonomy, George H.M. Lawrence, 1955, Macmillan, New York. (Good illustrated glossary of botanical terms, follows Stearn closely but a much smaller book - useful for taking to meetings).
- UK: Flora North America, FNA Report 65, March 1973. A Guide for Contributors to Flora North America (FNA). Department of Botany, Smithsonian Institution, Washington DC 20560.
- UK: Flora North America, FNA Report 66, March 1973. A Guide for Contributors to Flora North America, Part II. An outline glossary of terms for morphological and habitat description. Department of Botany, Smithsonian Institution, Washington DC 20560.
- UK: (Botanical Latin, Introduction to Plant Taxonomy, and Flora North America together provide a full but un-illustrated glossary of botanical terms and comprehensive lists of morphological characteristics which may be useful for diagnostic purposes).
- UK: Systematics Association Committee for Descriptive Biological Terminology II. Terminology of simple symmetrical plane shapes (Chart I). Taxon, 11(5) 145-156, 1962.
- UK: French-English Horticultural Dictionary, D. O'D Bourke, 1974. Commonwealth Agricultural Bureaux, Farnham Royal, Slough, England.

Technical Working Party for Ornamental Plants and Forest Trees (continued)

- General: UK: (N.B. I have restricted this list to the type of reference book which was the subject of the original enquiry. If required we can produce a further list of variety registers, monographs, etc. on particular plants).
- Rose NZ: "Modern Roses 8 - The International Check-list of Roses" compiled by the International Registration Authority for Roses, the American Rose Society and the McFarland Company. McFarland Company, Harrisburg, Pennsylvania 1980.

TECHNICAL WORKING PARTY FOR VEGETABLES

- General: DE: Kappert, H. und W. Rudorf: Handbuch der Pflanzenzüchtung, Band 6: Züchtung von Gemüse, Obst, Reben und Futterpflanzen. Parey-Verlag Berlin und Hamburg 1962.
- DE: Kampe, K., Basse, H., Glaschke, B. und F. Schreiber: Gemüsesorten I. Teil. Parey-Verlag, Berlin und Hamburg 1955.
- DE: Kampe, K., Basse, H., Glaschke, B. und F. Schreiber: Gemüsesorten II. Teil. Parey-Verlag, Berlin und Hamburg 1956.
- DE: Hahn, P.: Blatt- und Stielgemüse. Arten- und Sortenkunde. Arbeiten des Sortenamtes für Nutzpflanzen, Band 7, Deutscher Bauernverlag, Berlin 1955.
- DE: Hahn, P. und W. Schmidt: Kohl- und Wurzelgemüse. Arten- und Sortenkunde. Arbeiten des Sortenamtes für Nutzpflanzen, Band 2. Deutscher Bauernverlag, Berlin 1951.
- DE: Kraus, W.: Frucht- und Zwiebelgemüse. Arten- und Sortenkunde. Arbeiten des Sortenamtes für Nutzpflanzen, Band 6, Deutscher Bauernverlag, Berlin 1954.
- DE: Rodenburg, C.M.: Salatsorten. Eine internationale Monographie. Instituut voor de Veredeling van Tuinbouwgewassen, Wageningen 1960.
- DE: Cousin, R.: Le Pois. INRA, Annales de l'Amélioration des Plantes. Paris 1974.
- NL: William T. Stearn--Botanical Latin--Ed. David & Charles, Newton Abbot, 1973.
- NL: The UPOV Test Guidelines
- NL: RHS Colour Chart
- SE: Ulvinen, O., Voss, Å., Baekgaard, H.C., Terning, P.-E. 1973. Testing for Genuineness of Cultivar. ISTA, Ås-N.L.H., Norway, pp 91-112
- SE: Kjellberg, L., 1973. Sortundersökningar av tomat enligt UPOV. Swedish University of Agricultural Sciences, Research Information Centre. Alnarp Trädgård 162.
- SE: Christensen, I., 1980. Sallatssorternas morfologi enligt UPOV. Swedish University of Agricultural Sciences, Research Information Centre. Alnarp Trädgård 190.

Technical Working Party for Vegetables (continued)

- General: SE: Erlandsson, G., 1980. Sortstudier i blomkål enligt UPOV. Swedish University of Agricultural Sciences, Research Information Centre. Alnarp Trädgård 193.
- SE: Rydén, J., 1982. Studier av sortkaraktärer i purjo. Swedish University of Agriculture Sciences, Research Information Centre. Alnarp Trädgård 224.

(During its sixteenth session, the Working Party decided to supplement this list on the basis of a draft to be prepared jointly by experts from the Netherlands and the United Kingdom)

[End of Annex II and of document/
Fin de l'annexe II et du document/
Ende der Anlage II und des Dokuments]