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UPOV

TWA/XV/7

ORIGINAL: English

DATE: June 23, 1987

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY
FOR
AGRICULTURAL CROPSFifteenth Session
Dublin, Ireland, June 4 to 6, 1986

REPORT

adopted by the Technical Working Party for Agricultural CropsOpening of the Session

1. The fifteenth session of the Technical Working Party for Agricultural Crops (hereinafter referred to as "the Working Party") was held in Dublin, Ireland, from June 4 to 6, 1986. The list of participants is reproduced in Annex I to this report. Meetings of Subgroups on Lucerne and Common Vetch were also held in Dublin on June 3, 1986.

2. Mr. P. O'Leary, Controller of Plant Breeders' Rights, welcomed participants to Dublin. The session was opened by Mr. J. Guiard, Chairman of the Working Party. The Chairman specially welcomed Mr. J. Szirtes (Hungary) and Dr. Valvassori (EEC) who were attending sessions of the Working Party for the first time.

Adoption of the Agenda

3. The Working Party unanimously adopted the agenda of its fifteenth session, which is reproduced as document TWA/XV/1, after having agreed to discuss items 7 and 8 after item 14 and to discuss the question of the invitation of technical experts from professional organizations in connection with the discussion of item 18.

Important Decisions Taken During the Twenty-first Session of the Technical Committee

4. The Chairman gave a short report on the important decisions taken during the last session of the Technical Committee. The full report of the session is reproduced in document TC/XXI/7.

Summary Report on the Work of the Technical Working Party on Automation and Computer Programs

5. Dr. M.-H. Thiele-Wittig gave a brief report on the fourth session of the Technical Working Party on Automation and Computer Programs. The full report of that session will be reproduced in document TWC/IV/13 Prov.

6. The Working Party had a short discussion on the proposed introduction of the combined over-years (COY) analysis. It recommended that all member States should study this method during the coming three years with respect to grasses and other cross-fertilized species in order to find the right significance level for the decision on distinctness.

Standard Test Guidelines

7. After an initial brief general discussion, the Working Party suspended its consideration of this item to allow time to gain experience with the application of the new layout for Potato and Turnip. Having tried to apply the new layout to Potato and Turnip, the Working Party finally resumed the general discussion and agreed on the following:

(i) In the Table of Contents, the heading of chapter V should read: "Grouping of Varieties."

(ii) Chapter I should contain a standard sentence for all cases where no special information is necessary. This standard sentence could read as follows: "These Test Guidelines apply to all varieties of ... (here the Latin name of the species or genus to which the guidelines apply would follow)."

(iii) In Chapter II, the sentence "Unless the competent authorities make an exception, the seed to be supplied for each examination must originate from the preceding growing season." should be deleted. In paragraph 2 of the same chapter, the words "which may affect the subsequent growth of the plants" should also be deleted.

(iv) Chapters III (Conduct of Tests) and IV (Methods and Observations) should be clearly separated so that in Chapter III information on the layout is given while in Chapter IV information on what should be observed and the way in which it should be observed is indicated. Thus, under Chapter III, information on the minimum duration of the tests, on the minimum number of locations and on the general layout should be grouped together. The last sentence of the present paragraph under Chapter III should be replaced by a separate paragraph reading: "Additional tests for special purposes may be established." In the penultimate sentence of the same paragraph, the words "exactly the same" should be replaced by "similar."

(v) In Chapter IV, the first and third paragraphs should be deleted and paragraph 2 should be inserted in Chapter III.

(vi) In the Test Guidelines, the Working Party proposed to avoid any reference which would only lead to another reference. It therefore proposed to amend Chapter VI of the Test Guidelines completely and at the bottom of the first page of the Table of Characteristics to delete all references to legends. Chapter VI should therefore be amended as follows:

(a) paragraph 1 should contain the first sentence of the former paragraph 1,

(b) paragraph 2 should remain unchanged, but the English might be improved,

(c) in paragraph 3, the legend should read as follows:

"(*) Characteristics which should be used every growing period for the examination of all varieties and should always be included in the description of the variety, except when the state of expression of a preceding characteristic renders this impossible."

"(+) See Explanations on the Table of Characteristics in Chapter VIII."

(vii) The above comments refer to Alternative A mentioned in document TC/XX/8. Alternative B should be amended accordingly.

(viii) There were different opinions within the Working Party on the usefulness of a special chapter on literature and what kind of literature should be included. Several Test Guidelines established by the Working Party would therefore contain no specific literature.

Final Discussion on Draft Test Guidelines for Potato (Revision)

8. The Working Party noted that no comments had been received on the draft Test Guidelines for Potato (revision, document TG/23/3(proj.)). It examined document TWA/XV/2, which had been prepared according to the proposed new layout, and made the following important changes in addition to those mentioned in the preceding paragraphs on Standard Test Guidelines:

(i) The Test Guidelines should apply to all varieties of Solanum tuberosum L.

(ii) In Chapter III, the word "field" should be included after the first word. The minimum number of plants should be "60." At the end of the Chapter, the following new paragraph should be added: "Light sprout tests should be carried out as specified in Chapter VIII."

(iii) The second sentence of paragraphs 2 and 3 of Chapter IV should be deleted and the amended paragraphs should be transferred to Chapter III. Paragraph 5 of Chapter IV should be inserted in Chapter VI to replace the legend foreseen for "(1)."

(iv) In Chapter VII, several example varieties were amended in characteristics 4, 5, 6, 7, 9 and 10, and in characteristic 44, the last state was changed to read "elongated."

(v) In Chapter VIII, the experts from the Netherlands will prepare a new drawing for characteristics 18 to 32.

(vi) In Chapter IX, reference will be made to the Descriptor on Potato prepared by the IBPGR.

Final Discussion on Draft Test Guidelines for Turnip, Turnip Rape (Revision)

9. The Working Party noted the comments received on the draft Test Guidelines for Turnip, Turnip Rape (document TG/37/4(proj.)) as reproduced in documents TWV/XIX/15 and TWV/XIX/26, and the document's new layout reproduced in document TWV/XIX/8, as well as the results of the discussions held during the last session of the Technical Working Party for Vegetables and reported to the meeting by Mr. M. Tabata. It finally made the following changes in the latter document:

(i) The document would apply to "Brassica rapa L. emend. Metzg."

(ii) The minimum quantity of seed to be supplied by the applicant in one or several samples should be 500 g. The last part of that paragraph should be replaced by the following:

"The first sample shall be designated as the definitive or reference sample of the variety."

"The minimum requirements for germination capacity, moisture content and purity should not be less than the marketing standard for certified seed accepted in the country. Especially for storage, which requires a higher standard, the applicant should state the actual germination capacity which should be as high as possible and indicated on the label."

(iii) In Chapter III, in the sentence indicating the number of plants for each test, the words "kind of" should be placed before the word "test." After that sentence, another sentence should be inserted reading: "When more than one seed submission is made, in the second year of sowing a comparison should be undertaken between the initial sample and a second sample from the other seed submission."

(iv) Paragraph 4 of Chapter IV should be inserted in Chapter VI under the legend and after the word "Turnip," the words "and Turnip Rape" should be added in that paragraph.

(v) Changes made in the Table of Characteristics:

Characteristics

23, 25 to add the following in brackets: "disregarding cork layer" and to delete the state "black"

37, 38, 50, 51 to add the words "year of sowing for" after the word "in"

(vi) The experts from the Netherlands will indicate the literature from which the drawings on page 26 were copied. The Office of the Union will then ask for permission to reproduce the drawings in the UPOV Test Guidelines.

(vii) The Working Party did not accept the introduction of the new characteristic on glucosinolate proposed by the professional organizations. As the definition of the borderline was not yet fixed, no standardized procedure existed so far and it was not yet clear how this type of characteristic could be handled.

(viii) The Working Party asked the Technical Committee to include in the revision of the General Introduction to Test Guidelines the following sentence proposed for inclusion in the above-mentioned document: "The first sample shall be designated as the definitive or reference sample of the variety." In addition, it proposed that all general information included in several Test Guidelines should be transferred to the General Introduction to the Test Guidelines to avoid repetition in the separate documents.

Discussion on Working Papers on Test Guidelines for Lucerne (Revision)

10. The Working Party noted that, on June 3, a Subgroup on Lucerne had met to discuss the working paper for revised Test Guidelines for Lucerne (document TWA/XV/4). As a result of the discussions, a new working paper will be established for presentation to the professional organizations for comments. However, before sending the document to the professional organizations, it would be circulated to the members of the Working Party who would be given four weeks to submit any objections they might have to the presentation. Experts were also invited to submit comments on the new document to the expert from France by March 1, 1987.

11. In connection with the discussions on the working paper on Test Guidelines for Lucerne, the Working Party noted that, depending on the type of lucerne, the climatic conditions could change the order of certain example varieties with regard to certain characteristics. It therefore agreed to discuss the interaction between varieties and the place of testing at a future session. It also asked the Technical Committee to approve the proposal of the subgroup to change the characteristic on the resistance to *Verticillium albo-atrum* into "Susceptibility to ..." reversing the order of the states of expression and with the new states ranging from very low (1) to very high (9), a very resistant variety thus becoming a very low (susceptible) variety.

Discussion on Working Papers on Test Guidelines for Common Vetch (Revision)

12. The Working Party noted that the new working paper on revised Test Guidelines for Common Vetch (document TWA/XV/3) had been discussed by subgroups partly before and partly in connection with the current session. The Working Party agreed to present the new version to the professional organizations for comments and to treat it in the same way as the working paper on Test Guidelines for Lucerne, giving the experts of the Working Party the possibility of raising objections should they so wish. Comments on the new draft should be sent to the experts from Spain before the end of the year.

Discussion on Working Papers on Test Guidelines for Triticale

13. The Working Party noted document TWA/XV/5, but did not have time to discuss it in detail. It agreed to set up a Subgroup to discuss the establishing of Test Guidelines for Triticale, as well as the revision of the Test Guidelines for *Triticum durum*. The new Test Guidelines for Triticale should also contain a definition of the difference between Wheat and Triticale and should take into account the discussions held in other bodies, for example, the IBPGR and the EEC. The expert from France offered to prepare a more complete document for distribution to the experts of the Working Party via the Office of the Union. A Subgroup would then meet in February or March 1987, the exact date to be communicated to the experts of the Working Party by the Chairman before the end of September 1986.

Revision of the Test Guidelines for Triticum durum

14. The experts from Spain agreed to prepare a working paper for the revision of the Test Guidelines for Triticum durum for circulation to the members of the Working Party before the end of September 1986. The document would then be discussed by the Subgroup which would meet to discuss the preparation of Test Guidelines for Triticale.

Electrophoresis Test on Wheat

15. The Working Party noted document TWA/XV/6, giving the results of the second year of the UPOV collaborative study on the electrophoresis test on wheat. It noted that the results confirmed what had already emerged from the first year of testing, namely, that there was no narrow correlation between characteristics obtained by the application of electrophoresis and the morphological characteristics of the variety. The Working Party also noted that each method used showed other differences between varieties and that some differences which had been included in the test intentionally were not detected by some methods while they were detected by others. Therefore, at present, it was not possible to use characteristics obtained by the application of electrophoresis for a decision on distinctness for the purpose of granting plant variety rights, unless a well-defined method was established and applied within UPOV.

16. Some of the differences in the results of last year's study were not only due to the different methods used, but also to different interpretations of results obtained by the electrophoretic methods. It was therefore agreed that each member State would supply information on the method used and on its interpretation. The results of the test on electrophoresis also showed that certain clear variants intentionally introduced into the study were found neither by laboratory tests nor by the field test with the traditional characteristics. This was slightly disappointing, and the Working Party discussed whether these results made it necessary to have a further study on the traditional characteristics with an exchange of plant material. The Working Party decided that for the time being, however, it would not undertake such a study, but would take more time to examine and analyse the data of the two years of testing and if possible also conclude tests with a second grain of the first year, if this had not already been done. Only further study and a statistical evaluation of the results would enable the Working Party to decide whether such a study on the characteristics of the UPOV Test Guidelines would be necessary.

17. With respect to the electrophoretic methods themselves, the Working Party agreed to make a new study of certain methods. This should however be based on ten samples of wheat flour instead of grains in order to eliminate as far as possible any other source of variation and it should therefore not include morphological characteristics. All member States will be invited to participate in the trial and the United Kingdom experts will prepare a letter explaining the aims and meaning of the study. Its aim would be to find a simple electrophoretic method as a basis for the decision on distinctness for the granting of plant variety rights. It should be a method that is repeatable, rapid and fool-proof and not lead to different results when slightly changed. It should be a rapid method, it should not be too expensive not show too much heterogeneity in existing varieties, and it should be limited to the measuring of the storage protein and not the enzymes. For the time being, methods using starch gel and electro-focusing should be excluded from the

study. Since ISTA might propose a method during its forthcoming Congress, this ISTA method should also be included in the study as the basic method.

Procedures for Testing the Characteristics of Wheat

18. The Chairman introduced the summary of answers to a questionnaire on the procedures for testing the characteristics of wheat, which is reproduced in Annex II to this report. For more detailed information on the questions, reference is made to circular U 1107. While the summary showed several differences between member States in applying testing procedures and especially the large heterogeneity with respect to the reference collections in the different member States, it also showed a considerable degree of common procedures and philosophy. It was therefore thought that it was not yet the appropriate time to start revising the Test Guidelines for Wheat. The results of the questionnaire could, however, provide valuable information for the Subgroup on Triticale and *Triticum durum* during their discussions on the establishment of Test Guidelines for Triticale and revised Test Guidelines for *Triticum durum*. Should the Working Party decide at a later stage to revise the Test Guidelines for Wheat, this should be done in a Subgroup on the basis of a similar questionnaire to be established beforehand so as to detect problems and differences in detail. The same procedure should also be applied when revising Test Guidelines for other species.

Hybrid Varieties in Wheat

19. The Working Party noted some preliminary information given by the Chairman on the question of hybrid varieties in wheat. The main problem at present was the sterilization of the female lines and thus the presence of selfed female plants among the hybrid variety causing problems of insufficient homogeneity. The Working Party will keep an eye on developments in this respect, but did not feel it was necessary to continue discussion on this subject at its forthcoming session unless some important new information or results become available.

List of Resistant Genes in Barley and Wheat

20. Mrs. J. Rasmussen (Denmark) introduced updated information on the list of powdery mildew resistance sources and genes in spring barley varieties. At the request of the Working Party, she will complete the list by an additional table and an introduction in order to prepare a separate draft with a view to proposing to the Technical Committee that it should be distributed as a source of information for scientists in universities and other institutes or the breeder at the national level.

Methods for the Testing of Distinctness, Homogeneity and Stability of Varieties of Rape

21. Dr. G. Fuchs (Federal Republic of Germany) introduced a summary of the answers to a questionnaire (circular U 1106) reproduced in amended form in Annex III to this report. One of the main problems in rape breeding was the low rate of cross-pollination (only 30%), which resulted in varieties where two-thirds of the plants derived from the selfing of the individual lines. The main problem was therefore one of homogeneity and breeders might have to

consider requesting protection of the components and not the combined variety. The Working Party noted that at present views with respect to homogeneity testing were slightly different in the various member States. Some member States would require a strict level of homogeneity, while others would only require relative homogeneity. The Working Party asked the member States testing rape to establish lists of characteristics which they would use in addition to the characteristics mentioned in the UPOV Test Guidelines. It also noted the information given, but decided that it was too early to revise the existing Test Guidelines for Rape. It would have to await the development in rape breeding and especially the new types of varieties which would develop.

List of Reference Books and Documents

22. The Working Party noted document TC/XXI/4 containing a draft list of reference books and documents. It asked its members to check the list and to inform the Office of the Union before the end of September 1986 of any corrections or additions to be included therein.

Homogeneity of Hilum Color in Broad Bean and Field Bean

23. The Working Party noted the results of the discussions held during the last session of the Technical Working Party for Vegetables with respect to the question of hilum color in broad bean and field bean. The Technical Working Party for Vegetables had recommended to the Technical Committee that it should reconsider its decision of last year with respect to that characteristic and request homogeneity in the hilum color. The Technical Working Party for Agricultural Crops asked the Technical Committee to await the outcome of its discussion on the concept of distinctness and homogeneity with respect to discontinuous characteristics of not truly self-pollinated varieties and of cross-pollinated varieties before rediscussing the subject.

Concept of Distinctness and Homogeneity with Respect to Discontinuous Characteristics of not Truly Self-pollinated Varieties and of Cross-pollinated Varieties

24. Mr. R. Duyvendak (Netherlands) gave a preliminary explanation of the possible ways of treating the three different types of varieties, namely self-fertilized varieties, cross-fertilized varieties and varieties which were in-between these two types. Before the end of September 1986, Mr. Duyvendak will prepare a working paper on the subject for distribution to the members of the Working Party asking for comments to be sent to him before the end of the year. He will then prepare a summary of the comments by the end of February 1987 for distribution and discussion during the Working Party's subsequent session.

Revision of the UPOV Model for a Report on Technical Examination

25. Discussions were based on documents TC/XXI/6, TC/XXI/7, paragraphs 43 to 45 and a short report given by Dr. Thiele-Wittig on the results of the relevant discussions held by the Technical Working Parties on Automation and Computer Programs and for Vegetables. The Working Party agreed to almost all of the proposals made by the Technical Working Party on Automation and Computer Programs reproduced in Annex IV to this report with the exception of the following:

(i) The grouping characteristics at the front of the Table of Characteristics should be deleted as they are repeated in the Table itself.

(ii) The Working Party did not take a decision on whether all characteristics should be included in the List of Characteristics or only those which had been observed. Some member States were in favor of all characteristics, others were only in favor of those observed.

New Items for the Technical Working Party on Automation and Computer Programs

26. The Working Party had no new items to propose to the Technical Working Party on Automation and Computer Programs.

Status of Test Guidelines

27. The Working Party agreed that the draft Test Guidelines for Potato (revision) and for Turnip, Turnip Rape (revision) should be sent to the Editorial Committee and the Technical Committee for final adoption. For the draft Test Guidelines for Turnip, Turnip Rape, permission to use certain drawings has to be obtained from the copyright owner before publication.

28. The Working Party agreed that the draft Test Guidelines for Lucerne (revision) and for Common Vetch (revision) should be sent to the professional organizations for comments if no objections are raised to the new version circulated to members of the Working Party beforehand.

Future Program, Date and Place of Next Session

29. The Working Party agreed to hold its next session at the headquarters of UPOV in Geneva, Switzerland, from June 23 to 25, 1987. The meeting would close on June 25 at 1 p.m. The Working Party had already noted the invitation to hold its seventeenth session in 1988 in France. During its sixteenth session, the Working Party plans to discuss the following items:

(i) Final discussion on draft Test Guidelines for:

- Common Vetch (revision)
- Lucerne (revision)

(ii) Discussion on working papers on Test Guidelines for:

- Triticum durum (revision) (TG/3/1, by the end of September 1986, ES to prepare a working paper for the subgroup which meets in February or March 1987)
- Triticale (By the end of September 1986, FR to prepare a new working paper for the subgroup which meets in February or March 1987)
- Kentucky Blue Grass (report of the subgroup)
- Sorghum (FR to prepare a working paper by the end of the year)
- Peas (report of the subgroup)

(iii) Electrophoresis test on wheat (GB to prepare a report on the new study and member States to furnish further information and details on the test)

(iv) Additional matters resulting from the twenty-second session of the Technical Committee

(v) Standard Test Guidelines (TC/XXI/8 and decisions of the Technical Committee)

(vi) Concept of distinctness and homogeneity with respect to discontinuous characteristics of not truly self-pollinated varieties (NL to prepare a paper by the end of September 1986).

Participation of Technical Experts from Professional Organizations in Sessions of the Working Party or its Subgroup

30. In connection with the planning of its program, the Working Party stressed the need to work on Test Guidelines more in Subgroups in the future and to restrict discussions in the Working Party itself to more general items. Where certain species were handled by more than one Technical Working Party, as for example in the case of Turnip, Turnip Rape, the experts of the two Working Parties should work together in a joint Subgroup and the document should only be discussed in the Working Party itself if the Subgroup established a working paper. The Working Party asked the Technical Committee to approve that idea and to recommend it also to the other Technical Working Parties.

31. Having decided that the real work on the establishing of Test Guidelines should take place in Subgroups, the Working Party discussed the possibility of inviting technical experts from professional organizations or other institutes to participate in the work of the Subgroups. It finally considered this to be an appropriate measure and asked the Technical Committee to approve its decision. The next occasion to which technical experts would be invited would therefore be the meeting of the Subgroup on Triticale and Triticum durum. The invitation of technical experts from professional organizations or other institutes to meetings of Subgroups would, however, not make superfluous their invitation to sessions of the Working Party as decided by the Technical Committee. Therefore for those species which are to be discussed at the forthcoming session of the Working Party and for which working papers are established beforehand, technical experts from professional organizations should be invited.

32. The invitation of technical experts from professional organizations to sessions of the Technical Working Parties or Subgroup meetings raised the question of the confidentiality of the documents. While some experts thought that all documents should be treated as confidential, others were of the opinion that it would be impossible to ask the technical experts for real contributions if they were forbidden to discuss the documents with their colleagues before the session. Documents of the Technical Working Parties or the Subgroups should therefore in general not be confidential. They should nevertheless have limited distribution and it should be made clear that they do not represent UPOV's opinion, but mainly the opinion of the experts or the subgroups which established them.

Visits

33. On the afternoon of the second day of the session, the Working Party visited the trial fields of the Ministry of Agriculture at Backweston Farm near Dublin.

40. This report was adopted by the Working Party at its sixteenth session.

[Four annexes follow]

LIST OF PARTICIPANTS AT THE FIFTEENTH SESSION
OF THE TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS,
DUBLIN, IRELAND, JUNE 4 TO 6, 1986

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[Annex II follows]

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	D	DK	F	HUNG	IRL	NL	S	UK	E	IL
REFERENCE COLLECTION										
- only the national list	X			X		X	X	X plus other		X
- national list + EEC list					X partly		only UPOV examples varieties	varieties sold in UK	X partly + old spanish varieties	
- national list + EEC list OCDE list		X	X							
Reference collection observed each year	yes	no, it depends on the groups	yes	yes	yes	no	no	no	yes	no
HOMOGENEITY										
- in which year, you observe ear-row	3rd year	1st year	1st year	1st year	1st year	1st Year	1st year	1st year	1st year	1st year
- harvest if ears in official tests in ear-rows	no	yes, one plant in each different ear-row	yes, all plants in each different ear-rows	no	yes, only non- clear different ear-rows	no	yes, one plant of each non-clear different ear-row	yes, in each different ear- row	no	yes, if not clear
in drilled plots	no	no	yes, only for description	no	no	no	yes, deviating plants	yes, at least 150 ears	no	no
- Do you consider as different the following kinds of off types :										
- mutant plant	no, in case of speltoid	no	if the full number doesn't exceed 1 % including other off-types	no	no	yes	yes, except speltoids	yes	yes	yes
- natural hybrid plant	it depends	no		no	no	yes	yes	yes	yes	yes
- aneuploid plant		no		no	no	yes	-	yes	yes	yes
Harvest of normal ear-rows	no	no	yes	no	no	no	no	yes	yes	no
CHARACTERISTICS										
- all UPOV characteristics	no	yes	yes	yes	yes	no	yes	yes	no	yes
- how many you don't observe	5 for lack of differentiation 7 for lack of uniformity					2 not useful 1 too much work			1 for lack of uniformity	
- additional characteristics	2	no	19	2	no	no	no	60	21	possible
- do you consider as useful to in- clude all of them in UPOV guide- lines for wheat	no		no, only 3 of them	no					only 11	no
- do you consider as useful to amend some characteristics in TG/3/8 for										
. the way of observing	no	no	no	no	no	no	no	no	no	no
. the scale	yes	no	yes	no	no	no	yes	yes	yes	no
. the wording	yes	no	no	no	no	yes	no	no	no	no
. the stage	yes	no	no	no	no	no	no	no	no	no
- do you use electrophoresis	no	no	yes	no	no	yes	no	yes	yes	no
for distinctness			no	no	no	no	no	no	no	-
for identification			yes	no	no	yes	yes	yes	yes	-
- do you diseases reaction as DUS characteristics	no	yes, mildew and nematodes	no	no	no	yes, yellow rust	yes, mildew	yes, mildew, yellow and brown ruts	no	yes, yellow, stem and leaf rust
- do you use agronomic charac- teristics for distinctness	no	no	no	no	no	no	no	no	no	no

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	D	DK	F	HUNG	IRL	NL	S	UK	E	IL
STANDARDS FOR DECISION										
DISTINCTNESS										
- computer system	yes	yes	yes	no	yes	no	no	no	yes	no
- minimum distances	2 classes in UPOV scales	yes	no	-	yes	no	yes	no	yes	yes
- statistical test for quantitative characteristic	no	no	no	S D 1%	no	no	no	no	yes	no
- all the characteristic with the same importance	yes	no	no	yes	no	yes on a legal point of view	no	yes	no	no
- do you accept to take in account a new characteristic suggested by the breeder	no	yes	yes	yes	yes	no	yes	yes	no	yes
UNIFORMITY										
- Standard in the ear-rows	3 in 100	3 per year	3 in 100(or 130)	3 in 100	3 in 100	3 in 100	3 in 100	4 in 150 each year and 6 in 300 over 2 years	3 in 100	1 in 50
- in drilled plot	7 in 3000, 5 in 2000	-	5 in 2000	5 in 2000	5 in 2000	5 in 2000	5 in 2000	2 %	2,5 %	2%
- do you accept for ear-row										
a second submission	yes	no	no	yes	yes	no	yes	no	yes	yes
a third submission	no	no	no	yes	yes	no	yes	no	yes	no
- for seeds										
a second submission	yes	no	yes	yes	yes	no	yes	no	yes	yes
a third submission	no	no	yes	yes	yes	no	yes	no	yes	no
- can you take a final decision at the end of the first year	no for ears, yes for seeds if 3 X the threshold	no	yes	no	yes	yes	yes	yes	yes	no
- do you consider for a given characteristic the same minimum distance to declare a plant as an off-type and two varieties as distinct	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
- if you use electrophoresis, do you ask for uniformity	-	-	yes but it is not a rule	-	-	-	-	-	-	-
STABILITY										
- do you have special rules to declare a progeny as non-uniform	-	no	yes	no	no	-	no	yes	-	yes
- in case of comparison of seed submissions do you consider the first as the only true standard	yes	yes	-	yes	-	yes	yes	yes	-	yes

.../...

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	D	DK	F	HUNG	IRL	NL	S	UK	E	IL
MATERIAL IN TEST (average on 3 years)										
- Candidate varieties in 1 st year	62	5	77	4 in 84 and 4 in 85	1	10	2	42	24	
in 2 rd year	29	4	50	0 in 84 and 4 in 85	1	6	2	22	17	1
in 3 rd year	16	-	(12)	-	0	-	-	-	5	
- Reference collection	52	170	552	8 in 84 and 24 in 85	17	28	35	138	172	15
- Do you observe more and more problems of distinctness	yes	no	yes	no	no	no	no	no	no	no
due to ...	the increasing number of applications		the increasing number of appli- cations, narrow genetic basis							
- Do you observe more and more problems of uniformity	no	no	yes	yes	no	no	no	no	no	yes
due to ...			aneuploid, out- pollination	out-pollination						out-polli- nation

[Annex III follows]

Technical Working Party for Agricultural Crops

15th Session Dublin, June 4 to 6, 1986

Methods for the testing of distinctness, homogeneity and stability of varieties of

R a p e

Summary of the answers to the questionnaire sent out by UPOV circular U 1106-08.1.

Answers were received from Sweden (SE), France (FR), Netherlands (NL), United Kingdom (GB), Ireland (IE), South Africa (ZA), Denmark (DK) and Germany (DE). ZA reported that during the past 10 - 20 years no applications were received and therefore the questionnaire could not be completed.

1. Types of varieties (according to doc TWA XIV/12)
 - 1.1 The collections consist mainly of conventional varieties, except in FR. (see table 1)
 - 1.2 New types of varieties are partly expected from haploid breeding; FR expects F1 hybrids with ms.
 - 1.3 None of the countries restricts applications to a certain type of varieties.
2. DUS Testing
 - 2.1 The test material is seed sent in by the applicant; in part of the countries this is the seed sent in for the first year, in the other countries it is the seed sent in every year. FR additionally uses seed harvested in first year's trial.

The seed generation is either not defined or mainly Basic Seed and higher generations. (see table 2)
 - 2.2 The test lay-out at one or two sites comprises single spaced plants in four countries. All countries provide row plots, the size and plant density of which varies in wide ranges. (see table 3)
 - 2.3 The characteristics observed are basically those of the UPOV-guideline TG/36/3 plus up to 19 other characteristics. (see table 4)
 - 2.4 The judgement of distinctness, homogeneity and stability is in most countries as usual for more or less crossfertilized crops. FR requires distinctness at two sites; for homogeneity (and stability) progenies are tested with fixed tolerances. GB and IE use a combination of relative homogeneity and fixed tolerances.

In the variety descriptions mostly no indication about the variety type is included. (see table 5)

Table 1 Varieties present

	Traditional varieties		Line varieties		Synthet. varieties	
	ref. coll.	candidates	ref. coll.	candidates	ref. coll.	candidates
SE	11 *13	11 8	-	-	-	-
FR	67	-	20	7	-	1
NL	25	5	9	4	-	-
GB	31	30	5	12	-	-
IE	15	2	-	-	-	-
DK	15 *17	35 31	1 0	5 2	- -	- -
DE	55 *22	84 29	2 -	2 -	1 -	6 -

* = spring varieties

Table 2 Test material

	generation	origin
SE	no regulations	seed sent in every year
FR	line var.: Basic Seed + Certif. Seed synth.var.: Basic Seed + Certif. Seed if no indication on structure otherwise components and Certif. Seed	seed sent in 1st year plus seed harvested in 1st year plus Certif. Seed sent in every year
NL	not defined	seed sent in 1st year
GB	not known	seed sent in every year
IRL	Breeder's Seed/Basic Seed	seed sent in 1st year
DK	Breeding material plus Prebasic seed	seed sent in every year
DE	seed corresponding to Certif. Seed plus components where applicable	seed sent in 1st year

Table 3 Test lay-out

	test sites	single	row plots			progenies	
		spaced plants	no. per site	size per plot m ²	plants per plot	no.	tested in year
SE	1	-	3	6,5	1000-2000	-	-
FR	2	2 x 120 1 x 70 (for selfing)	2	12,5	750	40	2
NL	2 *	-	2	10 resp. 15	?	-	-
UK	1	2 x 100	2	10	100	-	-
IE	1	2 x 100	2	50	1000	-	-
DK	1	-	2	15	1500	-	-
DE	2	2 x 25	2	6	500	-	-

* from 1986 on test in DE

Table 4 Characteristics observed

characteristics	SE	FR	NL	GB	IE	DK	DE
in general those of TG/36/3	x				x	x	
1. Seed: erucic acid		x	x				x
2. Seed cotyledons: maximum width		x					x
3. Leaf: indentation of margin		x		x			
4. Leaf: development of lobes		x	x	x			x
5. Leaf blade: color		x	x	x			x
6. Stem: length		x	x	x			x
7. Time of flowering		x	x	x			x
8. Petal: color		x	x	x			x
9. Anther: dotting		x	x	x			
10. Silique: length of beak		x	x	x			x
11. Alternativity (cold requirement)			x	x			x
<u>further characteristics</u>						1)	
12. Glucosinolate content		x					x
13. Cotyledon length							x
14. Plant height at bud stage							x
15. Presence of anthocyanin in the plant				x	x		
16. Plant: branching				x			
17. Stem: thickness							x
18. Stem: number of internodes							x
19. Hairiness of margin of first true leaf			x				
20. Leaf: length				x			x
21. Leaf: width				x			x
22. Length of petiole			x	x			x
23. Leaf: shape			x				
24. Plant: height at time of flowering							x
25. Petal: length			x	x			
26. Petal: width			x	x			
27. Petal: ratio length/width				x			
28. Silique: length			x	x			
29. Silique: length without beak							x
30. Silique: thickness				x			x
31. Silique: habit				x			
32. Silique: number of seeds				x			
33. Pedicel: length				x			
34. Seed: weight of 1000 grains							x
35. Tendency to flowering in summer sowing							x

1) 19 characteristics observed (not specified which ones)

Table 5 Judgement

	Distinctness criteria	Homogeneity tolerance	Stability	Description
SE	as usual	relative homog.	as usual	% of anther dotting and deviating flower color may be given
FR	difference must be observed in 2 sites and 2 years	4 in 40 progenies 6 % in Cert.Seed 1st year 4 % in Cert.Seed 2nd year	on progenies and different Cert.Seed submissions	no special indic.
NL	as usual (for visually observed quant.char. sign-test)	relative homog.	on prebasic and Basic seed	no special indic.
GB	2 x LSD 5 %	3 % major offtypes; relative homog. in general	as usual	no special indic.
IE	as usual	relative homog. but normal tolerance 4 in 50	as usual	no special indic.
DK	as usual	relative homog.	as usual	no special indic.
DE	as usual	relative homog.	as usual	indication of type and description of components as far as relevant for certification

[Annex IV follows]

TWA/XV/7

ANNEX IV

Extract from the Draft Report on the Fourth Session of the
Technical Working Party on Automation and Computer Programs

30. Dr. Fuchs (Federal Republic of Germany) introduced document TC/XXI/6, which contained proposals for the revision of the UPOV Model for a Report on Technical Examination. The Working Party also noted paragraphs 43 to 45 of document TC/XXI/7, giving a summary of the discussions held on that subject during the last session of the Technical Committee. In paragraph 45, the Technical Committee had asked the Technical Working Parties to comment on the draft.

31. Having examined the above-mentioned documents, the Working Party finally agreed to recommend the following to the Technical Committee:

(i) At the top of the table of characteristics, information on the following should be requested:

- species (latin and common name)
- breeder's reference
- variety denomination
- application number
- reference number assigned by the testing authority
- testing authority
- testing place
- period of testing (19.. to 19..)
- date of preparation of the documents
- UPOV Test Guidelines (document no. and date)
- space for national Test Guidelines (date)
- applicant

It would have to be decided whether items that are not fixed (applicant, application number of requesting authority) should be placed on a different sheet or at the very top of the form.

(ii) In the Table of Characteristics of Annex II to document TC/XXI/6, the following should be amended:

- There should be a small column for brief remarks or for a reference to longer remarks to be contained in a footnote.
- National numbers of characteristics should be placed in a separate column and do not need to be specially marked.
- Additional national characteristics should not be placed after the UPOV characteristics, but in the natural sequence, as the main use of the form would still be for national purposes.
- States should not have a box which could simply be marked
- The asterisks from the UPOV Test Guidelines should be repeated in the form.

- The grouping characteristics should also have their characteristic number if it exists.
- Characteristics not observed should not be mentioned.
- Most experts thought that characteristics not applicable should nevertheless be mentioned.

Some experts warned against overloading the form with too much information.

[End of Annex IV and of document]