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TWV/34/15
ORIGINAL: English
DATE: March 22, 2001

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR VEGETABLES

Thirty-Fourth Session
Angers, France, September 11 to 15, 2000

REPORT

adopted by the Technical Working Party for Vegetables

Opening of the Session

1. The thirty-fourth session of the Technical Working Party for Vegetables (hereinafter referred to as "the Working Party") was held in Brion, France, from September 11 to 15, 2000. The list of participants is reproduced as Annex I to this report.

2. The session was opened by Ms. Julia Borys (Poland), Chairman of the Working Party.

3. On behalf of the host institute, GEVES, Mr. Richard Brand welcomed the participants to Angers and Brion.

Adoption of the Agenda

4. The Working Party adopted the revised agenda of its thirty-fourth session as reproduced in document TWV/34/1 Rev., after having agreed to allocate, in a balanced manner, time for discussion of the draft Test Guidelines and discussions for the New General Introduction and other general concerns, in view of the importance of both tasks for the Working Party.

Short Reports on Special Problems or Difficulties Encountered

5. New organization of the Office: The Office of UPOV reported on new developments within the organization: the new Vice Secretary-General, Dr. Rolf Jördens, took up his duty on July 1, 2000; the new Technical Director, Mr. Peter Button, on September 1, 2000.

6. Application for Protection of Inbred Lines: Experts from France and the Community Plant Variety Protection Office (CPVO) reported increased applications for inbred lines. This development had posed a possible difficulty in the consideration of those inbred lines as varieties of common knowledge for the purpose of the assessment of distinctness. The secrecy over protected inbred lines by the breeders made it difficult for testing authorities to have access to propagating material or other technical information of inbred lines, especially those protected in other countries. The expert from France stressed the need for a framework for systematic exchanges of reference collections of inbred lines among member States, but pointed out that most breeders wished to keep their inbred lines secret as far as possible, which could be a major obstacle for such exchanges.

7. New Legislation: An expert from the African Intellectual Property Organization (OAPI) reported that they were preparing for the implementation of the plant variety protection system with the anticipation that the Bangui Agreement would enter into force in the near future. An expert from Poland reported that the revised Seed Law adhering to the EU Regulation was under discussion in the Parliament.

8. Nomenclature of Plant Genera and Species: An expert from France reported difficulties in classifying a certain group of varieties as either onion (*Allium cepa* L.) or Shallot (*Allium cepa* L; also often considered to be *Allium ascalonicum* L., a separate species from onion). There was a group of onion varieties that produce onion-like bulbs in the first year, but produce shallot-like bulbs with a cluster of several bulbs in the second year, not flowers as usual onion varieties.

9. The expert from Israel suggested that a possible solution would be to handle, in one Test Guidelines document, a set of species which were not easily classified, as for unified Test Guidelines for Citrus. A set of characteristics appropriate for each variety could be chosen from those prepared for various groups of varieties. This approach would minimize the risk of the misjudgment for distinctness caused by the ambiguous classification of different species.

10. This question then shed light on a more general question. The coverage of each Test Guidelines document was defined in Section I by Latin names. However, the classification by Latin names was not always obvious because of the lack of clear definitions of Latin names or the existence of different schools of plant nomenclature. In order to uniformly define the coverage of each Test Guidelines document, a standard reference should be fixed in the UPOV system. The Working Party asked the Office of UPOV to contact ISTA and relevant international organizations governing plant nomenclature, and to propose possible authentic references in its next session.

Reports on the Work in the Technical Committee and other Technical Working Parties

11. The Office of UPOV gave a brief report on major points of discussion in the Technical Committee. It recommended reading the full report of the Technical Committee, which would be available in a due course.

12. An expert from France made a brief presentation on discussions in the Technical Working Party on Automation and Computer Program (TWC).

13. Following the presentation, several experts made comments and posed questions. Some experts expressed doubts on the need to develop multivariate analysis for the assessment of distinctness and raised concerns at any reduction of minimum distance by the introduction of new statistical or molecular methods.

Presentation on the Use of Statistics for Uniformity Assessment

14. An expert from France gave the Working Party a presentation on the use of statistics for uniformity assessment, which was presented by him in the Workshop on Data Handling in Kiev in June. His presentation was well received by participants. The PowerPoint presentation sheets are attached as ANNEX II to this report.

Disease resistance

15. The Working Party discussed disease resistance characteristics several times during the session. The main points of the discussion are summarized as follows:

(a) Harmonization of disease resistance tests: The Working Party reiterated the importance of disease resistance characteristics in vegetable DUS tests, which were also one of the main targets of vegetable breeding. Some experts were concerned that, despite their importance, many disease resistance characteristics were examined only by a limited number of member States. Others emphasized the region-specific nature of disease resistance characteristics. An expert from ASSINSEL expressed his concerns that excessive requirements for the harmonization of disease resistance examinations might pose an unnecessary burden on breeders to maintain the uniformity of their varieties, even with respect to disease resistance characteristics of no interest in their regions. The Working Party agreed to promote further harmonization of disease resistance tests by information exchange and cooperation in disease testing, but to reconfirm that disease resistance characteristics should be non-asterisk characteristics in principle, and to establish that they could be asterisk characteristics only where neither member States nor the appropriate breeder's organizations were opposed to such characteristics. It requested the Office of UPOV to update document TWV/32/4 "Disease Resistance Tests Offered by Member States".

(b) Periodical updates of disease resistance characteristics: Several experts pointed out that, while new disease resistance characteristics were continuously developed in response to the emergence of new disease strains and the development of new technologies, UPOV Test Guidelines had not been updated as frequently. As a result, each member State faced the need to develop testing methods by themselves and international harmonization could not be achieved during the time needed for the completion of the update of UPOV Test Guidelines. Some experts urged a more responsive system for the introduction of new characteristics in

UPOV Test Guidelines in order to update them more frequently. Others encouraged an effective system of exchanging information on new characteristics among TWV experts.

(c) Polygenic disease resistance: An expert from France reported on the development of polygenic disease resistance and proposed that different levels of resistance be accepted as states for polygenic disease resistance characteristics. The Working Party agreed that the different levels of resistance would be accepted only if these could be observed consistently.

Preparation of UPOV Test Guidelines

16. The Working Party discussed the improvement of the preparation process for new or revised UPOV Test Guidelines. In addition to points raised in subparagraph (b) of the preceding paragraph, the following points of consideration were suggested by experts:

(a) Speeding-up the preparation process: Speeding up the preparation process is essential in order to keep UPOV Test Guidelines useful. The current process, taking at least two years, two sessions in the Technical Working Party, a consultation with the professional organizations and a final discussion in the Technical Committee, should be reviewed.

(b) Prioritizing major vegetable species: It was suggested that, with respect to discussion in the Working Party, the revision of many out-of-date Test Guidelines for major vegetable species be prioritized, rather than the preparation of new Test Guidelines for minor species.

(c) Taking account of the worldwide expansion of member States: Test Guidelines themselves were perceived by new member States as among the main benefits of the UPOV system. In view of expanding membership worldwide, UPOV Test Guidelines should start to be prepared for major tropical crops. The involvement of new member States in the preparation process of Test Guidelines also needs to be promoted.

17. The Working Party decided to send the following proposals to the Technical Committee:

(a) Web-site collection of characteristics not included in UPOV Test Guidelines: UPOV should establish a database of characteristics not included in UPOV Test Guidelines, but used at a national level (e.g., new characteristics, regionally important characteristics and non-routine characteristics) at the UPOV Website (“member States only” section) under each individual Test Guidelines document reference with a view to facilitating information exchange and harmonization among member States;

(b) Addition/change/deletion of characteristics without entire revision in UPOV Test Guidelines: In order to facilitate interim updating of UPOV Test Guidelines for important characteristics, the Technical Committee should allow the following process:

(i) Experts of Technical Working Parties may submit a proposal for the addition of new characteristics or deletion or amendment of inappropriate characteristics, for any Test Guidelines document with all the necessary information to the Office of UPOV no later than three months before the session of the Technical Working Party

(ii) The Office of UPOV distributes the proposals to all experts of the Technical Working Party and the professional organizations with a deadline for comment (e.g., one month before the session)

(iii) The Technical Working Party discusses the new characteristics at their sessions unless any major objections are received

(iv) The Technical Committee adopts the new characteristics, if appropriate, and the Office updates the Test Guidelines. In addition, the TC will advise, on the basis of guidance from the Technical Working Party and the Office of UPOV, if the Test Guidelines must be programmed for a full revision as a condition of the change.

18. The Working Party also agreed to seek, where appropriate, the possibility of shortening the number of sessions needed for discussion of draft Test Guidelines at the Working Party level to only one session. If the discussion on draft Test Guidelines are completed in the first session, and if all necessary information were available, the draft Test Guidelines could be sent directly to the Technical Committee in parallel with the professional organizations. If no significant comments were received from the professional organizations, the draft Test Guidelines would be discussed in the Technical Committee for adoption. The Office of UPOV requested leading experts seeking the one-session option to submit Working Papers three months prior to the session of the Working Party so as to enable the Office to prepare the draft Test Guidelines in a final form with translations in the Table of Characteristics.

Use of Types in UPOV Test Guidelines

19. The Working Party discussed the use of agronomic or economic “types”, such as growth type (e.g., spring or winter) and main use (e.g., ornamental or fruit), for the purpose of grouping varieties or applying, at least in part, different sets of characteristics or different ranges of expression in the same Test Guidelines. However, the definitions of the “types” are often not clearly defined. The Working Party noted the potential for incorrect decisions on distinctions in the use of such “types”, which, as a result, automatically distinguish all the varieties of one type from all the varieties of the other types without direct comparison of individual varieties across different types

20. During the discussion on the characteristic “Fruit: type” (pumpkin, zucchini, squash…) which was proposed for grouping in the Working Paper for Squash, this problem was revisited. The use of photographs was suggested for defining different types in that case. Finally, the Working Party decided to require the use of agronomic or economic types in Test Guidelines to be accompanied with the clear written definition of each type preferably by using characteristics. In the case of Squash, written definitions and illustrations or photographs were to be prepared for the ease of the understanding of each fruit type.

Required Amount of Plant Material to be Submitted, Plant Number in the Field and Sample Size in UPOV Test Guidelines

21. An expert from the Netherlands explained document TWV/34/11, which proposed a systematic approach for determining the required amount of plant material on the basis of a formula to produce the required number of plants in the field.

22. Several experts referred to the need to take into account additional amounts required for reference collection and post-control tests. However, the Chairman noted that the average life span for vegetable seed in storage was not very long and that the renewal of seeds was usually essential. The Working Party confirmed that the proposal and UPOV Test Guidelines were just recommendations for the required amounts at a national level. However, the systematic framework presented in the proposal could be the basis for each country to determine the required numbers in accordance with additional needs prevailing for their circumstances.

23. In general, the Working Party found the proposal very reasonable and useful. The proposal would restrict the amount of plant material to that really needed and, in addition, address the question frequently received from applicants as to why so much plant material should be submitted. The Working Party decided to follow the proposal in principle for preparation of UPOV Test Guidelines and to send the document to other Technical Working Parties for their reference.

24. The Working Party decided to specify the required seed number rather than, or in addition to the required seed weight in vegetable Test Guidelines where this was more appropriate.

General Introduction

Schedule for the preparation of the New General Introduction and Associated Documents

25. The Office of UPOV explained the procedure for the finalizing of the New General Introduction and the preparation of the associated documents.

26. The following comments were made by participants:

(a) The overview of the latest progress of the preparation for associated documents needed to be prepared with indications of their current status, for example, “existing or preparation is already completed,” “under preparation” and “not yet prepared”

(b) In order to specify the latest version of associated documents in effect, the revision of an associated document would need the indication on the cover page of the document: e.g. “Document … has been replaced by this document” and to provide a summary of this in the next table of associated documents.

Process for Establishing Distinctness and Management of Reference Collection

27. French model: An expert from France introduced document TWA/29/8. The Working Party observed that the system presented was a model. The expert from Germany stated that a suitable system could vary among different categories of plants and among countries.

According to the national legal and administrative system, each country needed systems to judge distinctness, uniformity and stability with a minimal risk of misjudgment and at an acceptable cost.

28. Information provided by applicants: The Working Party discussed the usefulness of information provided by applicants in Technical Questionnaires. It confirmed that grouping (or prescreening) and search for similar varieties in the process of establishing distinctness would be done with the help of all available information, the origin of the variety, similar varieties and the applicant's observation of a number of characteristics. However, several experts stressed the importance of evaluating the reliability of such information. In particular, reliability and consistency should be required for grouping characteristics (as criteria). Possible environmental effects on grouping characteristics should be taken into account before their use. An expert also gave a warning on the risk of a computer-based searching system and stressed the importance of total judgement of crop experts with all given information.

29. Status of Technical Questionnaire: One expert asked whether wrong information provided by applicants in the Technical Questionnaire could be the ground for refusal of the application. For example, if a variety description provided by an applicant for a candidate variety does not match the variety description resulting from DUS trial, should the application be rejected? Several experts questioned the legal basis for rejecting the application. However, it was concluded that it would be highly dependent on individual cases and national legislation. In general, the Working Party shared the view that the wrong information in the Technical Questionnaire alone should not result in the automatic rejection of the application.

30. Schematic diagram for the process: The Office of UPOV presented a schematic diagram for the process for establishing distinctness: starting from varieties of common knowledge, consideration of the reference collection, narrowing down comparative varieties for a candidate variety and then conducting a comparative growing trial. The diagram, as revised in discussion, is attached as ANNEX III to this report.

31. The management of reference collection: The Working Party briefly reviewed the draft document for TGP/4(A). Because of the lack of time, substantial discussion was not held.

Varieties of Common Knowledge

32. The Working Party reviewed the draft document for TGP/3. The Office of UPOV explained that the proposed criteria for varieties of common knowledge are not exhaustive and might not cover all varieties of common knowledge.

33. Several experts pointed out that the draft did not make a clear reference to the main political concern: how to judge whether a landrace in a local community or plant material in a gene bank is part of varieties of common knowledge. The Office undertook to propose the inclusion of a text which would clarify the criteria applied to landraces and ecotypes. This subject would be discussed in the forty-second session of the Administrative and Legal Committee. Experts were requested to submit any further comments on the draft to the chairman of the Working Party.

34. An expert from Israel urged UPOV to establish an international database of variety descriptions in UPOV. He explained the practical reality that testing experts cannot have

access to variety information of all varieties of common knowledge, especially variety descriptions protected or stored in other countries, or written in foreign languages.

Example Varieties

35. Following a presentation made by an expert from France on document TWA/29/20, the Working Party had a general discussion on example varieties.

36. Different sets of example varieties: The Working Party reaffirmed, in view of the expanding UPOV membership, the need to establish additional sets of example varieties in UPOV Test Guidelines for major regions with different climates. However, it also warned of the risk that example varieties independently prepared in different locations might not always produce the same expression, especially in the case of quantitative and some pseudo-qualitative characteristics. Attempts for establishing concordance among different sets, such as ring tests, were discussed. However, several experts expressed their doubts on requiring such expensive tests and their concerns that they might delay the completion of the preparation of Test Guidelines.

37. Role of example varieties: On one hand, many experts shared the view that the role of example varieties would be further limited in UPOV Test Guidelines. A set of example varieties can only be applied in a region with the same climate. On the other hand, an expert from ASSINSEL encouraged UPOV to prepare several sets of example varieties because example varieties are very useful for breeders. He also stressed the need to update example varieties because many example varieties in UPOV Test Guidelines were less readily available.

38. New approach for example varieties in UPOV Test Guidelines: The Working Party agreed to submit the following suggestions to the Technical Committee for its consideration:

(a) Additional sets of example varieties and updated lists of example varieties should be added to UPOV Test Guidelines (possibly as Annexes) or be placed on the UPOV Website according to the notification from member States.

(b) The testing location which established the set of example varieties in the Table of Characteristics should be clearly indicated in UPOV Test Guidelines.

(c) Considering the limited availability of example varieties, not only drawings, but also photographs should be accepted in UPOV Test Guidelines for promoting the harmonized interpretation of characteristics.

39. Reliability of variety description: In this connection, several examples were reported that different states of characteristics had been observed in different testing locations for the same variety, for example, earliness of soybean varieties. The Working Party noted that characteristics susceptible to daylight or temperature should be treated with special care. It implies that only variety descriptions for reliable and less environmentally influenced characteristics (= grouping characteristics) should be used in the process of establishing distinctness using variety descriptions.

Criteria for Different Categories of Characteristics

40. During the course of discussions on draft Test Guidelines, the Working Party noted some divergence of opinion on the criteria and objectives of grouping characteristics, asterisk and non-asterisk characteristics and characteristics to be included in the Technical Questionnaire.

41. For example, some experts insisted that those characteristics that were nationally important and useful for grouping, but might be influenced by environment, such as “Time of Harvest Maturity”, could be included as grouping characteristics in UPOV Test Guidelines. Others believed that only grouping characteristics should be used to distinguish varieties from variety descriptions produced at different testing locations. Therefore, characteristics which show consistent expression at different testing locations and which have a relatively small risk of being observed differently by different testing experts should be chosen for grouping characteristics in UPOV Test Guidelines.

42. The Working Party concluded that clearer criteria for different categories of characteristics would be needed in the New General Introduction and the relevant TGP document (TGP/7).

Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular

43. The Working Group noted the progress of the work in the Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular (BMT) and the proposal of the BMT, approved by the Technical Committee, to establish *Ad hoc* Crop Subgroups on Molecular Techniques for each of the five selected species including tomato.

44. The Working Group agreed to nominate Mr. Richard Brand (France) as Chairman of the Subgroup for Tomato.

Discussion on Substantial Changes Made in the Editorial Committee Concerning the Draft Test Guidelines

45. The Working Party noted that, before adoption in the last session of the Technical Committee, the Editorial Committee had proposed several substantial changes to the draft Test Guidelines for Industrial Chicory (TG/172/2(proj.)) and for Witloof Chicory (TG/173/2(proj.)), and that the Technical Committee decided to adopt these Test Guidelines with the proposed changes on the condition that the Working Party agreed to them. Accordingly, the Working Party discussed the changes proposed by the Editorial Committee.

Industrial Chicory

46. The Working Party agreed to the following changes proposed in the Editorial Committee:

(a) Table of Characteristics:

Characteristics

1 A new characteristic “ploidy” with states “diploid (2),” “triploid (3)” and tetraploid (4) to be added before characteristic 1 and to be also added to the Technical Questionnaire)

7 the Notes “3, 5 and 7” to be replaced by “1, 2 and 3”

15 the states to be replaced by “flat (1),” “slightly rounded (2),” “clearly rounded (3)” and “conical (4)”

47. The Working Party, however, saw problems on the following revised explanation on Characteristic 16 “Inulin content” prepared by an expert from the Netherlands in accordance with a suggestion of the Editorial Committee:

> “After harvest, the roots are thoroughly cleaned by washing and all impurities removed. The net root sample weight is then recorded. Pulp of the root material is obtained and homogenized. From this homogenized pulp the ‘juice’ is filtered off. This juice is analyzed using a refractometer and the value recorded. This value, however, is not true inulin content.
>
> The exact correlation between this measured refractometer value and the content of fructose polymers (inulin) needs to be established for each testing method.
>
> The assessment of the inulin content in individual roots is technically possible, but may have the same features as other characteristics in outbreeding species. A sufficiently large number of determinations must be performed for the candidate and the references. These will produce a range of variation within varieties. As long as the variation within a candidate fits to the standard set by the existing varieties, the uniformity standard is deemed to be fulfilled”

48. The problems were (1) that in practice the inulin content might need to be observed by bulk sampling methodology and (2) that the method of analyzing inulin content was protected by patent. The Working Party decided to resend the explanation with appropriate revisions to the Technical Committee and to ask the Technical Committee for general advice on the bulk-sampling problem.

Witloof Chicory

49. The Working Party agreed to the following changes proposed by the Editorial Committee:

(a) Table of Characteristics:

5 To read “Foliage: attitude”

8 and 9 to have Notes 1 and 9 deleted

12, 14 and 15 to have Note 9 deleted

19 to be moved before characteristic 16

33 to read “Head: creamish hue of midrib” with states of “absent (1)” and “present (9)”

34 to read “Head: color of the outside of leaf blade”

50. In response to the suggestion of the Editorial Committee to delete characteristic 1 “seed color” because of the use of the state “white or black”, which was inconsistent with the uniformity criterion, the Working Party decided to observe this characteristic on seeds harvested from growing trials, instead of the seeds submitted for examination, and to put it at the end with states “white (1)” and “black (2)”. This change will ensure that the genotype of the variety is examined rather than the genotype of the parental lines in the case of hybrids.

Final Discussion of Draft Test Guidelines[1]

Test Guidelines for Curly Kale, Swede/Rutabaga and Turnip

51. A subgroup for Curly Kale, Swede/Rutabaga and Turnip was held in parallel with the main session of the Working Party. The results were then reported and discussed by the Working Party. In light of the similarity of these three species, the Working Party decided to harmonize these three Test Guidelines as far as possible.

52. The Working Party harmonized the following contents among the three Test Guidelines:

(a) The minimum quantity of seed to be supplied by the applicant (Section II): 50 g
(b) The number of plants in each test (Section III): 60 plants
(c) The number of plants observed (Section IV): 40 plants

Curly Kale (Revision)

53. The Working Party reviewed document TG/90/4(proj.) and made the following substantial changes to it:

(a) Methods and Observations: The second paragraph should read as follows:

“2. For the assessment of uniformity of single-cross hybrid varieties, a population standard of 1% with an acceptance probability of at least 95% should be applied. In the case of a population size of 60 plants, the maximum number of off-types allowed would be 2.”

The word “foliage” in the third paragraph should be replaced by “leaves”

(b) Grouping of Varieties: Characteristic 14 “Leaf blade: density of curling” should be deleted from grouping characteristics.

[1] Only substantial changes are reported in this document. Editorial changes, grammar, translation or spelling errors are not reported here, but will be provided by the Office of the Union on request.

(c) Table of Characteristics:

Characteristics

2 To read “Plant: diameter” and to have the states “narrow” and “broad” replaced by “small” and “large” respectively

3 To read “Plant: shape (fully developed plants)”, to receive an additional state “inverted pyramid” for Note 1, and to have the previous Notes 1 to 4 re-numbered 2 to 5

4 To have Notes 1, 2, 3 replaced by 1, 3, 5

5(a) To have a new characteristic “Leaf: intensity of anthocyanin coloration” with states “weak (3)”, “medium (5)” and “strong (7)”

6 To have Note 1 revised as “only petiole, midrib and veins” and to receive two example varieties “Cottagers” and “Redbor” for Notes 1 and 2 respectively

8 To have the state “blue” replaced by “bluish”

15 To have “transverse section” replaced by “cross section”

17 To have “Only for varieties without laminate tissues along midrib” added

(d) Explanations on the Table of Characteristics:

Ad. 10 To be deleted

Ad. 14 Photographs for each state to be introduced in the light of difficulty in preparing comprehensive drawings explaining features of each state

54. The Working Party discussed the proposal from an expert from Italy concerning the extension of the coverage of the Test Guidelines to Tree Kales (e.g., variety “Nero di Toscana). It decided that the inclusion of other vegetable Kales would be discussed further by experts concerned.

Swede/Rutabaga (Revision)

55. The Working Party reviewed document TG/89/4(proj.) and made the following substantial changes:

(a) Methods and Observations: The standard paragraph concerning the assessment of uniformity for open-pollinated varieties was added as new paragraph 2. In the old paragraph 2 (to be re-numbered 3), the word “grown” was replaced by “developed.”

(b) Table of Characteristics:

Characteristics

3 To read “Leaf: type” with states “entire (1)” and “lobed (2)”

4 To read “Leaf: number of major lobes”

4, 5, 6 To have these characteristics applied only to lobed varieties

7 To have the parenthesis deleted because the inclusion of petiole in leaf is obvious

9, 10, 11, 13 To be deleted

20 To have the states replaced by “transverse elliptic (1),” “circular (2),” “obovate (3),” “square (4)” and “oblong (5)”

24 To have the states replaced by “absent or partial (1)” and “solid (2)”

Turnip (Revision)

56. The Working Party reviewed document TG/37/8(proj.) and made the following main changes to it:

(a) Table of Characteristics: All brackets on example varieties to be deleted

Characteristics

5 To read “Leaf: type” with states “entire (1)” and “lobed (2)”

6 To read “Lobed-leaf varieties only: Leaf: number of lobes”

7 To read “Entire-leaf varieties only: Leaf: incisions of blade base”

12, 33-42 To be deleted

20 To read “Root: intensity of coloration of skin above soil”

25 To read “Root: shape in longitudinal section”, to have “broad elliptic” replaced by “square” and to have the order of Notes 4 and 5 and Notes 7 and 8 reversed

27 To have the word “width” replaced by “diameter” and the states “narrow” and “broad” replaced by “small” and “large” respectively

31 To have the state “round” replaced by “rounded”

(b) Explanations on the Table of Characteristics:

Ad.5 To have the drawings revised by the expert from the United Kingdom

Fennel

57. The Working Party reviewed document TG/183/1(proj.) and made the following main changes to it:

(a) Material Required: The minimum quantity of seed to be changed to “35 g or 4000 seeds”

(b) Methods and Observations: The following paragraph and the standard paragraph for the assessment of uniformity of open pollinated varieties to be added:

> “For the assessment of uniformity of single-cross hybrid varieties, a population standard of 2 % with an acceptance probability of at least 95% should be applied. In the case of a population size of 60 plants, the maximum number of off-types allowed would be 3.”

(c) Table of Characteristics:

Characteristics

3 To be applied only for non medical/aromatic varieties and to have the example variety “Heracles” deleted hereinafter

7 To read “Foliage: intensity of green color” and to receive example varieties, “Poutino” (for Note 1), “Rondo” (for Note 7) and “Amigo” (for Note 9)

8 To have the state “long” replaced with “tall”

9, 11, 13, 27, 29, 32 To be deleted

14 To have “Plant:” inserted at the beginning and to have the example varieties for Note deleted

15 To have “low” and “high” replaced by “short” and “tall” respectively

16 To have the example variety “Kompolti törpe” deleted

20 To have the state “green” replaced with “greenish”

22 To receive an example variety “Altos” for state (3)

23 To have wording “of sheaths” added at the end

30 To receive an asterisk and to be added to Section 5 of Technical Questionnaire

31(a) To have a new characteristic “Only medicinal / aromatic varieties: Time of harvest maturity” with states “early (3)”, “medium (5)” and “late (7)”

(d) Explanations on the Table of Characteristics

Ad. 26 An explanation to be prepared by experts from the Netherlands

58. Experts from the Netherlands will provide additional example varieties.

Garlic

59. The Working Party reviewed document TG/162/2(proj.) and made the following substantial changes to it:

(a) Material Required: The minimum quantity of plant material was reduced to 50 bulbs in accordance with the proposed formula for calculating the necessary quantity from the necessary number of plants in each test.

(b) Conduct of Tests: The total number of plants was reduced to 100 plants.

(c) Table of Characteristics:

Characteristics

1 To read “Foliage: density”

7 To have the order of states reversed

15 To have the states renamed “transverse narrow elliptic (1),” “transverse broad elliptic (2)” and “circular (3)”

20 To have the asterisk deleted

21 To have the states “yellowish” and “reddish” replaced by “yellowish white (2)” and “reddish white (3)” respectively

26 To have the states “regular” and “irregular” combined into one state called “non-radical (2)”

30 To have the states “light” and “dark” replaced by “weak” and “strong” respectively

31 To read “Clove: anthocyanin stripes on scale”

33 To have the parenthesis deleted

(d) Explanations on the Table of Characteristics

Ad. 2 The drawings to be improved by experts from France

Ad.12 The part of measurement to be indicated in the drawing for Ad. 13

Ad.34 To read as follows:

“After harvest, bulbs are stored in a room at an optimum temperature (15-18 °C) and humidity(…..%) without being split into cloves. The end of dormancy is evaluated by observing the percentage of sprouted or naturally dried bulbs.”

(e) Technical Questionnaire: Section 7: a new subsection 7.3 to be added as follows:

"7.3 Type

Long-day type	Autumn	[ ]
	Spring	[ ]
Short-day type		[ ]"

Globe Artichoke

60. The Working Party reviewed document TG/184/1(proj.) and made the following substantial changes to it:

(a) Table of Characteristics:

Characteristics

2 To have "lateral(s)" replaced by "lateral shoot(s)" thereinafter

4 To read "Main stem: distance between central flower head and youngest well-developed leaf"

7 To be moved to after characteristic 9

10 To have the parenthesis (including terminal lobe) deleted

12 To have the word "largest" replaced by "longest"

19 To have "light" and "dark" replaced by "weak" and "strong" respectively

20 To have "tomentose" replaced by "hairiness"

26, 35 To have "elliptic" and "transverse elliptic" replaced by "broad elliptic" and "transverse broad elliptic"

30, 31 To be moved to after characteristic 47

33 To have "narrow" replaced by "small"

37 Example varieties to be prepared

40 To have Notes 1 and 3 replaced by "broader than long" and "longer than broad" respectively

43 To read "Outer bract: color (external side)"

51 To read "Plant: tendency to produce lateral shoots at base"

(b) Explanations on the Table of Characteristics:

Ad. 1,3,4 Drawings to be improved

Ad. 37, 38, 39 Exact figures to be provided as a reference

Tomato (Revision)

61. The Working Party reviewed document TG/44/8(proj.) and made the following main changes to it:

(a) Material Required: To have the minimum quantity of plant material revised as follows:

"(a) vegetatively propagated varieties: 25 plants for varieties grown in the glasshouse, or 50 plants for varieties grown outdoors, per growing season
(b) seed propagated varieties: 10g or 2500 seeds"

(b) Table of Characteristics:

Characteristics

2 To have Note 2 "semi-determinate" deleted

4.1 and 4.2 To be deleted

5 To have the asterisk deleted because the characteristic might be significantly influenced by the environment

8,9 Example varieties for each of the growth types, i.e., determinate and indeterminate, to be added with the indication of the growth type

16 To have "leaflets" replaced by "petiole of leaf"

17, 31, 33 To have the asterisks deleted

22 To read "Only varieties with abscission layers: Peduncle: length (from abscission layer to calyx)"

25 To have the expressions replaced by "transverse elliptic (1)," "transverse broad elliptic (2)," "circular (3)," "rectangular (4)," "cylindrical (5)," "oblong elliptic (6)" and "heart-shaped (7)," "obovate (8)," "ovate (9)" and "pear-shaped (10)"

34 To read "Fruit: number of locules (within a plant)"

39 To have "brown" replaced by "brownish"

48 To read "Resistance to *Verticillum dahliae*"

49.1, 49.2 To read "Race 0 (x1)" and "Race 1 (x2)" respectively

57 To read "Resistance to *Pseudomonas solanacearum* – race 1"

58 To have a new example variety “Anastasia” added to Note 9

(c) Explanations on the Table of Characteristics:

Ad.2 Experts from Spain and France to improve the draft explanation in document TWV/34/7

Ad.5, 19, 43 To have the explanations in document TWV/34/7 added

Ad.6 Experts from Spain to improve the first of two options presented in document TWV/34/7

Ad.11, 28, 31, 59, 60 Experts from the Netherlands to prepare explanations

Ad.16 Experts from the Netherlands to prepare drawings

Ad. 25 Experts from the Netherlands to prepare a drawing for the state “oblong elliptic”

Ad.42 Experts from Spain to prepare an explanation

Ad. 61 To receive an explanation

Discussion on Working Papers on Test Guidelines[2]

Horse Radish

62. The Working Party reviewed document TWV/34/8 and made the following main changes:

(a) Material Required: The minimum quantity of plant material should be reduced to 80 rootstocks per growing cycle.

(b) Conduct of Tests: Paragraph 1 should be revised as the standard paragraph. In paragraph 3, the number of plants in each test should be reduced to 60 plants.

(c) Table of Characteristics: All parenthesis on example varieties should be removed.

Characteristics

1 To have the state “converse heart shape” replaced by “ovate”

3 To have the words “(at the widest point)” deleted

4 To have the words “length/width ratio” replaced by “ratio length/width”

5 To have the words “intensity of” deleted

10 To read “Leaf blade: serration”

[2] Only substantial changes are reported in this document. Editorial changes, grammar, translation or spelling errors are not reported here, but will be provided by the Office of the Union on request.

11 To have Note 2 deleted

11(a) To have a new characteristic “Leaf: intensity of green color of midrib” with states “light (3),” “medium (5)” and “dark (7)”

12-14 To have the heading replaced by “petiole”

13 To have the states “small” and “large” replaced by “narrow” and “broad” respectively

17 To read “Rhizome: shape in longitudinal section” with states “narrow oblong (1)”, “narrow obtriangular (2)” and “obtriangular (3)”

18 To have the word “curvature” in states replaced by “curved”

19 To have the word “at the widest point” deleted

21 To have “small” and “large” replaced by “low” and “high” respectively

22 To have “fine” replaced by “smooth”

23 To be deleted

24 To have “inner” replaced by “internal”

25 To read “Rhizome: brownish coloration of flesh”

26 To read “Rhizome: density of side roots”

27 To read “Rhizome: density of foot roots”

26, 27 To have the states “weak” and “strong” replaced by “sparse (3)” and “dense (7)” respectively

28 To have the states replaced by “one (1)”, “two (2)” and “three or more (3)”

29 To have the state “high” replaced by “tall”

(d) Explanations on the Table of Characteristics

Ad. 16 Drawings to be prepared by experts from Hungary

Ad. 20 Explanations to be prepared by experts from Hungary

Ad. 28 To have only the Hungarian method kept as the standard method

(e) Literatures: Experts from Germany to provide literatures written in English

Thyme

63. The Working Party reviewed document TWV/34/6 and made the following main changes to it:

(a) Table of Characteristics:

Characteristics

4 To read “Foliage: density”

5 To read “Stem: distribution of leaves” and to be placed after characteristic 7

8 To read “Stem: position of flowering part” and to have the word “concentrated” deleted from Note 1

11 To have the state “deltoid” replaced by “rhombic”

21 To have the asterisk deleted and to have the two states “very short” and “very long” deleted

23 To have the asterisk deleted

21-24 To have the name of the organ “Flower” replaced by “Style” and to be modified as appropriate

24 To read “Style: position of most intensely colored zone”

(b) Explanations on the Table of Characteristics

Ad. 26 An explanation to be prepared by experts from France.

Squash/Vegetable Marrow

64. The Working Party reviewed document TWV/34/12, but discussed only characteristics 1 to 30 in chapter VII because it made changes on the classification of fruit types which was used as a basis of the organization of characteristics after characteristic 30. The main changes were made by the Working Party as follows:

(a) Table of Characteristics:

Characteristics

[Unless otherwise indicated, old characteristics were replaced by proposed new characteristics.]

1b To read “Seedling: shape in cross section” with states “concave (1),” “straight (2)” and “convex (3)”

4 To be applied only for branching varieties

4(a), (b) New characteristics “Stem: length of internodes” and “Semi- and trailing varieties only: Stem: diameter” to be deleted

6(a) [Stem: color] To have the states replaced by “completely green (1)” and “partially green and partially yellow (2)”

9 To read “Leaf blade: incisions”

12 To retain the old characteristic, reading “Leaf blade: relative area covered by marbling” and to have the two new characteristics “number of silver patches” and “size of silver patches” removed

17 To read “Petiole: prickles” with states “absent (1)” and “present (9)”

25 To retain the old characteristic

30 To have the states integrated into the following classification:

- Pumpkin (pumpkin, miniature pumpkin)
- Scallop
- Acorn
- Necking
- Zucchini (vegetable marrow, cocozelle, zucchini)
- De Nice à fruit rond
- Delicata
- Spaghetti Squash
- Ölkürbis
- Others

(a) Explanations on the Table of Characteristics:

Ad. 9 Drawings to be prepared

Ad.25 An explanation to be prepared by experts from France

65. Experts from the Netherlands will prepare a revised Working Paper, on the basis of the new classification of fruit types, which includes keys for classifying varieties into fruit types (the definition of fruit types) and photographs of each fruit type.

Status of Test Guidelines

66. The Working Party agreed that the draft Test Guidelines for Curly Kale (Revision), Fennel, Garlic, Globe Artichoke, Horse Radish, Swede (Revision), Tomato (Revision), Thyme and Turnip (Revision) should be sent to the professional organizations for comments. The draft Test Guidelines except those for Thyme will also be submitted to the Technical Committee for final adoption subject to no major comments from the professional organizations

67. The Working Party agreed to discuss a revised Working Paper on the Test Guidelines for Squash again during its next session.

Preparation of Test Guidelines for the Next Session

68. The Working Party regretted devoting such a large part of the session to discussion on the draft Test Guidelines that were of interest only for a limited number of experts and had not been well discussed by such concerned experts prior to the session. Accordingly, it agreed to strictly apply the following principles from the next session:

(a) Discussion on draft Test Guidelines should be exhausted in subgroups by correspondence between interested experts prior to discussion at the session of the Working Party

(b) Drafts should only be submitted to the session either for final discussion or discussion on problems which could not be resolved by correspondence

(c) If the Test Guidelines are of interest for only a limited number of participants, it is recommended that a subgroup meeting is organized during the session and to complete discussion on it. The results of the discussion in the subgroup will then be reported and discussed at the plenary.

69. The Working Party therefore agreed, as was the case last year, to organize subgroups by correspondence. The names of leading experts and interested experts are listed in Annex IV. Other experts not having participated in the session were invited to inform the leading expert if they were interested in participating in the preparation of a document for a given species.

70. The proposed schedule for the preparation of documents agreed for the next session is shown in Annex V[3].

71. The Working Party requested the Office of the Union to distribute a circular indicating the organization and schedule of the subgroups to experts of the Working Party.

Future Program, Date and Place of Next Session

72. At the invitation of the expert from Italy, the Working Party agreed to hold its thirty-fifth session at Salerno, Italy, from June 25 to 29, 2001. The Working Party agreed to discuss the following items at that session:

(a) Short report on special problems or difficulties encountered in vegetables

(b) Updating of lists of resistance tests offered by member States and of species on which technical knowledge has been acquired

(c) Report on the last session of the Technical Committee and recommendations resulting from that session

[3] Please note that, due to the delay of distributing this report, the whole schedule has been shifted by two months from those discussed in the session.

(d) New General Introduction to the Assessment of Distinctness, Uniformity and Stability in New Varieties of Plants

(i) Main document
(ii) Associated documents (TGP documents)

(e) Final Discussions of the draft Test Guidelines

(i) Thyme

(f) Discussion of Working Papers on Test Guidelines

(i) Basil (working paper to be prepared by experts from France)
(ii) Broad Bean (Revision) (TG/8/4, TWV/34/9, TWV/34/10, revised working paper to be prepared by experts from the United Kingdom)
(iii) Celeriac (Revision) (TG/74/3, TWV/34/2, TWV/34/5, revised working paper to be prepared by experts from Germany)
(iv) Celery (Revision) (TG/82/3, working paper to be prepared by experts from the United Kingdom)
(v) Chinese Cabbage (Revision) (TG/105/3, working paper to be prepared by experts from Japan in cooperation with experts from Germany)
(vi) Chives (working paper to be prepared by experts from Czech Republic)
(vii) Egg Plant (TG/117/3, working paper to be prepared by experts from the Netherlands)
(viii) Kohlrabi (Revision) (TG/65/3, TWV/34/3, revised working paper to be prepared by Germany)
(ix) Husk Tomato (working paper to be prepared by experts from Mexico)
(x) Lentil (TWV/33/13, revised working paper to be prepared by experts from France)
(xi) Lettuce (Revision) (TG/13/7, working paper to be prepared by experts from the Netherlands)
(xii) Melon (Revision) (TG/104/4+Add., working paper to be prepared by experts from Spain)
(xiii) Rosemary (TWV/34/14, revised working paper to be prepared by experts from Israel)
(xiv) Squash, Vegetable Marrow (TG/119/3, TWV/34/12, revised working paper to be prepared by experts from the Netherlands)

73. The Working Party received offers from Israel, Japan and Mexico to host its future sessions.

Other

74. The Working Party noted that Mrs. Elisabeth Kristof (Hungary) would retire at the end of year 2000. It paid tribute to her contribution to the Working Party, especially during her chairmanship, and wished her a happy retirement.

Visits

75. On Wednesday, September 13, the Working Party visited the National Seed Testing Station (SNES) in Angers and was given a tour of the station with explanations of their activities for seed testing and certification, sample management, physical analysis, seed physiology and germination quality analysis and pathology analysis.

76. This was followed by a visit to the variety testing field at the Brion station. Mr. François Boulineau, Head of the Station, gave an overview of activities at the station. The station undertakes DUS trials for vegetable, field pea and some ornamental species, post-control (stability) trials, management of reference and standard material and methodological studies. The post-control trials are conducted every 5 years using samples conserved in the collection and samples available in the market. During the visit to the field, he provided several interesting examples of lettuce varieties that had proved not stable in the post-control trial and cauliflower varieties that had showed different levels of uniformity under different testing climates.

77. In the afternoon of September 13, the Working Party visited the Community Plant Variety Office (CPVO) in Angers and received a presentation from Mr. Bart Kiewiet, President of the CPVO, providing an overview of the CPVP system, followed by presentations from Messrs. Dirk Theobald and Sergio Semon on technical examination and current problems for vegetables in the CPVO system.

78. On Thursday, September 14, the Working Party visited the seed processing plant and research station of Vilmorin at Angers. It received explanations on breeding activities for vegetable species.

79. This report has been adopted by correspondence.

[Annex I follows]

ANNEX I

LIST OF PARTICIPANTS

I. MEMBER STATES

CZECH REPUBLIC

Radmila SAFARIKOVÁ (Mrs.), ÚKZÚZ, Plant Variety Testing Division, Hroznova 2, Brno 65606
(tel.: +420-5-4354 8221, fax: +420-5-4321 2440, e-mail: safariko@ooz.zeus.cz)

FRANCE

François BOULINEAU, GEVES, Groupe d'Etude et de Controle des Varietes et des Semences, Domaine de la Boisseliere, 49250 BRION (tel.: +33 (0) 2 4157 2322, fax: +33 (0) 2 4157 4619, e-mail: francois.boulineau@geves.fr)

Richard BRAND, GEVES, BP 1, Les Vignères 84300
(tel +33-490786663, fax +33-490780161, email: richard.brand@geves.fr)

Valerie CADOT (Mrs.), Groupe d'Etude et de Controle des Varietes et des Semences, Domaine de la Boisseliere, 49250 BRION (tel.: +33 (0) 2 4157 2322, fax: +33 (0) 2 4157 4619, e-mail: valerie.cadot@geves.fr)

Sylvain GREGOIRE, GEVES, La Minière, 78285 Guyancourt Cedex
(tel. +33-1-30 83 36 00, fax +33-1-30 83 35 39, e-mail: sylvain.gregoire@geves.fr)

Joël GUIARD, GEVES, La Minière, 78285 Guyancourt Cedex
(tel.: +33-1-30 83 35 80, fax: +33-1-30 83 36 29, e-mail: joel.guiard@geves.fr)

GERMANY

Elmar PFÜLB, BSA, Bundessortenamt, Prüfstelle Rethmar, Hauptstr. 1, 31319 Sehnde (tel.: +49-5138-60860, fax: +49-5138-608670, e-mail: elmar.pfuelb@bundessortenamt.de)

HUNGARY

Elisabeth KRISTOF (Mrs.), National Institute for Agricultural Quality Control, Keleti-k-u 24, 1024 Budapest
(tel +36-1-2125620 fax +36-1-2125800)

ISRAEL

Baruch BAR-TEL, Plant Breeders' Rights Testing Unit, Agricultural Research Organization, P.O. Box 6, Bet Dagan 50250 (tel/fax +972-3-9683669, email. ilpbr_tu@netvision.net.il)

ITALY

Maurizio BIANCHI, Ente Nazionale delle Sementi Elette, S. S. 18 km. 77.700 84091 Battipaglia (SA) (tel. +39-828-305484, fax. +39-828-302382)

JAPAN

Keiji TANAKA, Seeds & Seedlings Division, MAFF, 1-2-1 Kasumiguseki, Chiyoda-ku, Tokyo 100-8950
(tel +81-3-3591 0524 fax +81-3-3502 6572, email: keiji_tanaka@nm.maff.go.jp)

KENYA

Evans SIKINYI, Kenya Plant Health Inspectorate Service (KEPHIS), Waiyaki Way, P.O. Box 49592, Nairobi
(tel. +254-2-441804, fax +254-2-448940, e-mail: kephis@nbnet.co.ke)

MEXICO

Roberto Angel CRUZ GARZA, Lope de Vega 125 2do. Piso, Chapultepec Morales, 11570 Mexico, D.F. (tel +52-5203 9427 fax +52-5250 6483, e-mail: ugst@tavrus1.chapingo.mx)

NETHERLANDS

Nico van MARREWIJK, Plant Research International, P.O. Box 16, 6700 AA Wageningen (tel.: +31-317-476880, fax: +31-317-418094, e-mail: n.p.a.vanmarrewijk@plant.wag-ur.nl)

Kees van ETTEKOVEN, Naktuinbouw, P.O. Box 27, 2370 AA Roelofarendsveen (tel.: +31-71-332 61 28, fax: +31-71-3326363, e-mail: c.v.ettekoven@naktuinbouw.nl)

Marian A. van LEEUWEN (Ms.), Naktuinbouw, P.O. Box 27, 2370 AA Roelofarendsveen (tel.: +31-71-332 61 26, fax: +31-71-3316363, e-mail: m.v.leeuwen@naktuinbouw.nl)

POLAND

Julia BORYS (Ms.), The Research Centre for Cultivar Testing, 63-022 Stupia Wielka
(tel +48-61-285 23 41 fax +48-61-285 35 58, e-mail: coboru@bpnet.pl)

Elzbieta SZEDLBAUER (Ms.), The Experimental Station for Cultivar Testing, 63-022 Stupia Wielka
(tel +48-61-285 23 41 fax +48-61-285 35 58, e-mail: coboru@bpnet.pl)

SPAIN

David CALVACHE, Ministerio de Agricultura, Calle Joaquin Ballester 39, 46009 Valencia (tel +34-96-3881086 fax +34-96-3881003, e-mail:oevvval@teleline.es)

UNITED KINGDOM

Niall GREEN, Scottish Agricultural Science Agency, East Craigs, 82 Craigs Road, Edinburgh EN12 8NJ (tel +44-131-2448853 fax +44-131-2448939, e-mail: Niall.Green@sasa. gov.uk)

II. NON-MEMBER STATES

REPUBLIC OF KOREA

Choun Keun PARK, Junior Officer, Asan Branch Office, National Seed Management Office, Ministry of Agriculture and Forestry 27-1 Kundunck-ri, Sunjang-myun, Asan Chungnam, 336-890 (tel +82-41-541 6646 fax +82-41-541 6698, e-mail: pcko@seed.go.kr)
[Intern at the Office of UPOV from September 8, 2000, to February 7, 2001, tel. +41-22-338-8562, fax. +41-22-733-0336, e-mail: chounkeun.park@wipo.int]

ROMANIA

Adriana PARASCHIV (Mrs.), State Office for Inventions and Trademarks, 5, Ion Ghica Street, Sector 3, PO Box 52, 70018 Bucharest (tel.: +40 (1) 315 56 98, fax +40 (1) 312 38 19 e-mail: Adriana.Paraschiv@osim.ro)

Miraghis ELISABETA (Mrs.), State Office for Inventions and Trademarks, 5, Ion Ghica Street, Sector 3, PO Box 52, 70018 Bucharest (tel.: +40 (1) 315 56 98, fax+40 (1) 312 38 19, e-mail: elisabeta.mirghis@osim.ro)

III. OBSERVER ORGANIZATION

COMMUNITY PLANT VARIETY OFFICE

Sergio SEMON, Office Communautaire des variétés végétales, B.P. 2141, 49021, Angers Cedex 02, France
(tel. +33-2-41 25 64 00, fax: +33-2-41 25 64 10, e-mail: semon@cpvo.eu.int)

INTERNATIONAL ASSOCIATION OF PLANT BREEDERS FOR THE PROTECTION OF PLANT VARIETIES (ASSINSEL)

Thomas KRAMER, Nude 54D, 6702 DN Wageningen, Netherlands
(tel.: +31-317-450 218, fax: +31-317-450 217, e-mail: tkramer@svseeds.nl)

J.W. KOOLSTRA, Rijk Zwaan B.V., P.O.Box 40, 2678 ZG De Lier, Netherlands
(tel.: +31-174-532 300, fax: +31-174-513 730, e-mail: k.koolstra@rijkzwaan.nl)

AFRICAN INTELLECTUAL PROPERTY ORGANIZATION (OAPI)

Wéré Régine GAZARO (Mrs.), Ingénieur examinateur en chimie, OAPI, B.P. 887, Yaounde, Cameroon
(tel. +237-20 39 11 / 20 29 90, fax +237-20 18 44, e-mail: regine.gazaro@oapi.wipo.net)

IV. OFFICER

Ms. Julia Borys, Chairperson

V. OFFICE OF UPOV

Peter BUTTON, Technical Director, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland (tel.: +41-22 338 9152, fax: +41-22 733 0336, e-mail: button.upov@wipo.int, Web Site: http: //www.upov.int)

Sumito YASUOKA, Consultant, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland (tel.: +41 22 338 9030, fax: +41 22 733 0336, e-mail: yasuoka.upov@wipo.int)

[Annex II follows]

ANNEX II

Slide 1

TWV Brion
September 2000

UPOV Statistical methods
for Uniformity tests

Sylvain GREGOIRE (France)

Slide 2

Testing Uniformity

- "The variety shall be deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in its relevant characteristics."

Slide 3

That means the absolute level of uniformity required for

- *vegetatively propagated ,*
- *truly self-pollinated,*
- *mainly self-pollinated,*
- *inbred lines of cross-pollinated,*
- *cross-pollinated,*
- *mainly cross-pollinated,*
- *synthetic ,*
- *hybrid,*

varieties is bound to be different.

Slide 4

Two main methods

- where it is assumed that

it exist variation from plant to plant within a variety

Uniformity is checked against the **uniformity level of existing varieties** of the same group

(ex synthetic variety of Lucerne) allogamous crops

TC/33/7

- where it is assumed that

all plants of a given variety should be very much alike

the detection of **off-types** is recommended

(ex hybrid lines) autogamous crops

TC/34/5

Slide 5

variation from plant to plant within a variety
=>
homogeneity relative to reference COYU

very much alike
=>
Detection of off-types

Choice can be by crop

Slide 6

variation from plant to plant within a variety
=>
homogeneity relative to reference COYU

Populations

F1 hybrids

very much alike
=>
Detection of off-types

Choice can be by crop and reproduction system

Slide 7

Checking relative uniformity (COYU)

Slide 8

Relative uniformity (COYU)

Cross-pollinated varieties, mainly cross-pollinated varieties and synthetic varieties generally exhibit wider variations within the variety than vegetatively propagated or self-pollinated varieties, and it is sometimes difficult to determine off-types.

Therefore no fixed tolerance can be set, but relative tolerance limits are used by comparison with comparable varieties already known.

That means that the candidate variety should not be significantly less uniform than the comparable varieties.

Slide 9

Principe of the method

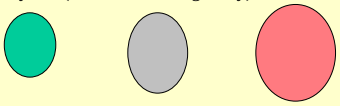
- For 2 or 3 years observe plants in order to compute an intra-varietal homogeneity for each variety
- compare the homogeneity of the candidate to the tolerated homogeneity (COY computation)
- « accept », « continue » or « refuse» for this character.

Slide 10

Principe of the method

Heterogeneity of reference varieties

After 2 years (candidate heterogeneity)



Less equal or little greater — greater — much greater

Ok — see another year — problem

The greater the ellipse, the greater the heterogeneity

Slide 11

Way to proceed

Observe 20 to 60 plants per variety in trials ,same characters, same measures ,same data for D and U

- after 2 years compute COY and decide: (accept, continue, reject)
- for some candidates make a third year of test, and use the 3 years data to compute COYU

Slide 12

Read of the decision limits

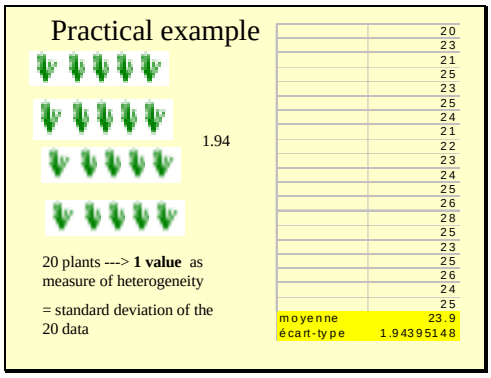
MEAN OF REFERENCE	17.32	1.337

UNIFORMITY CRITERION		PROB. LEVEL
2-YEAR REJECTION	1.688	0.001
2-YEAR ACCEPTANCE	1.599	0.010

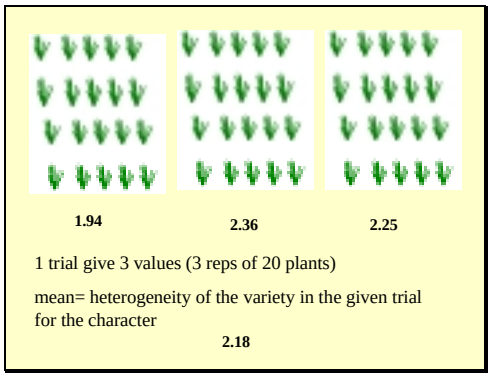
Heterogeneity of reference varieties 1.337.

- Candidates with heterogeneity < 1.599 can be accepted after 2 years
- candidates with heterogeneity between 1.599 and 1.688 go for a third year
- candidates with heterogeneity > 1.688 can be rejected after 2 years

Slide 13



Slide 14



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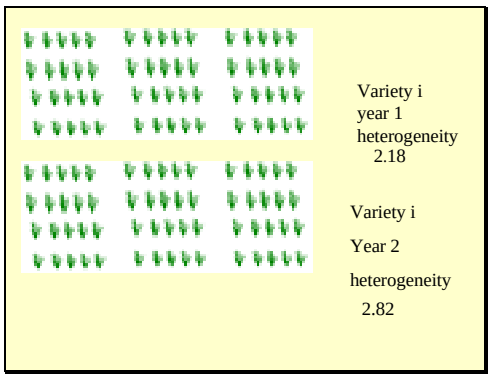

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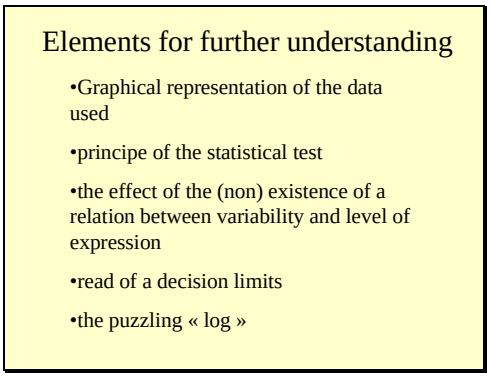

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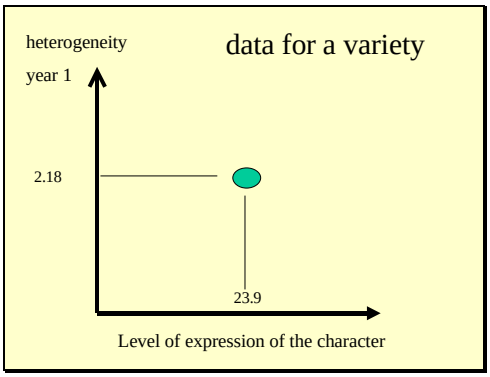

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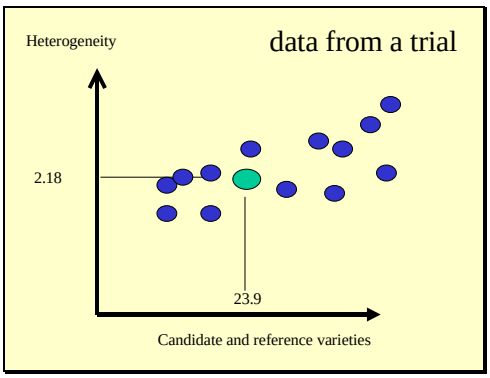

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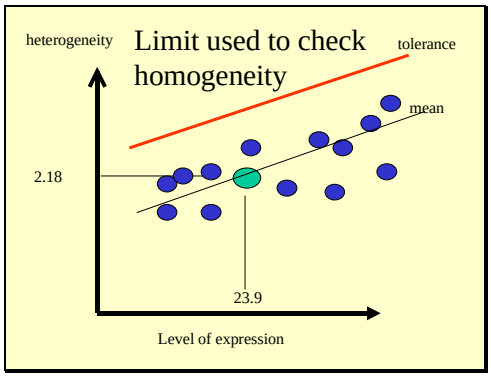
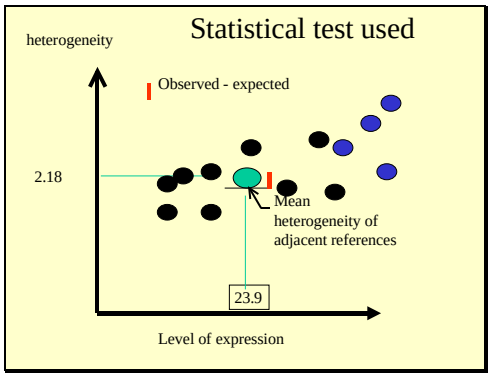


Slide 20



Slide 21

2 years 2 values observed-expected

3 years 3 values observed-expected

Hypothesis for the test **(**observed-expected) =0

Slide 22

Influence of (non) relationship level of expression<--> homogeneity

For a candidate, reference homogeneity is computed from reference varieties which have a similar level of expression of the character.

	small	medium	large	over all
	early	intermediate	late	
	tall	intermediate	small	
	…	…	…	
homogeneity independant of level of expression				
variance of reference	6	6	6	6
previous method limit	10	10	10	10
present method limit	10	10	10	10
dependancy between level and homogeneity				
variance of reference	3.5	5.5	9	6
previous method limit	10	10	10	10
persent method limit	7.5	9.5	13	10

« previous » refers to UPOV method before COYU

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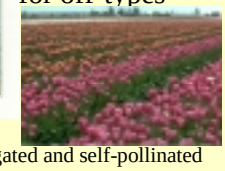
Checking for off-types



For vegetatively propagated and self-pollinated varieties and for inbred lines of cross-pollinated varieties,

the assessment of uniformity is based on the system of off-types.

Slide 24

Principe of the method

- 1) define precisely what an off-type is
- 2) define the pecentage(s) of off-types which can be allowed
- 3) find an appropriate sample scheme and a decision rule
- 4) use the above elements in routine tests

Slide 25

Way to proceed

- 1) define precisely what an off-type is
  - for each character a definition/knowledge must exist
  - a definition taking into account all characters must exist
  - this definition is a difficult part of the job, as well as harmonization of it 's implementation

Slide 26

- 2) define the pecentage(s) of off-types which can be allowed
  - as a general rule 1% is proposed as the maximum percentage of off-types, the corresponding acceptance probability being 95%.
  - The UPOV experts can choose appropriate values and write them in each of the guide-lines

Slide 27

- 3) find an appropriate sample scheme and a decision rule
  - Guide line of the crop and TC/34/5 are at disposal
  - define Population Standard PS= 1%
  - define Acceptance Probability AP=95%

you already have; or you choose a sample scheme :

60 plants examined

***you see the decision rule to apply* :**

0-2 off-types is OK,

3 off-types or more indicate a non homogeneous variety

Slide 28

- 4) use the above elements in routine tests
  - train people to the detection of off-types (must be specialists of the crop)
  - identify the off-types in the field and take note
  - evaluate the number of off-types and which off-types they are
  - take expert decision from
    - data,
    - decision rule,
    - expertise.

Slide 29

Practical read from TC/34/5

- Take TC/34/5 table and figure 10
- % off-types tolearated PS=1% AP 95%
- n= number of plants observed,
- k= max number of off-types

- 6 plants 1 off-type
- 20 plants 1 off-type
- 60 plants 2 off-types

n from	to	k
1	5	0
6	35	1
36	82	2
83	137	3
138	198	4
…	…	…

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Off-types for expert visit

Slide 31

Slide 32

Definition of an off-type in a practical case:

An off-type is a plant which differs clearly from the other plants of the variety according to the definition of an off-type

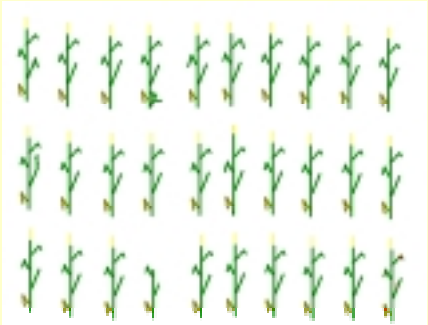
In this example the characters chosen to check for off-type detection are exclusively those observed from the following drawing

• the height of the plant,

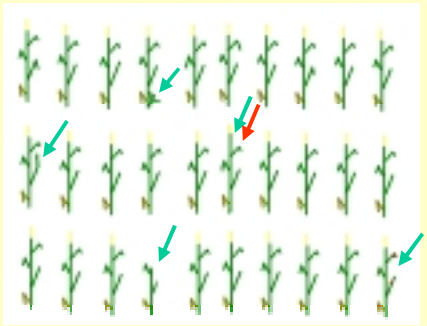
• the number of inflorescences (in yellow on the drawing),

• the number of leaves

Slide 33



Slide 34

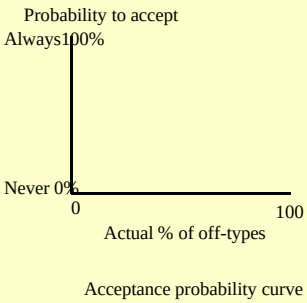


Slide 35

Elements for further understanding

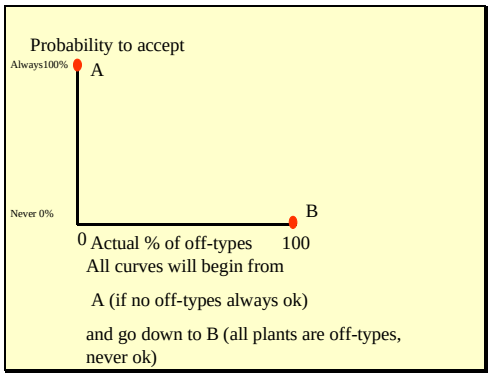
- The choice of the sample size and the decision rule when checking a level of quality.
- The acceptance probability curves are a way to visualize the efficiency of the test

Slide 36

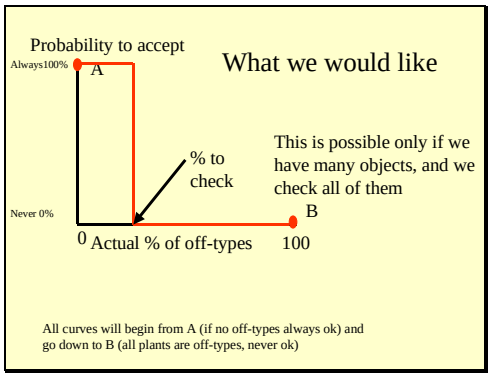


Acceptance probability curve

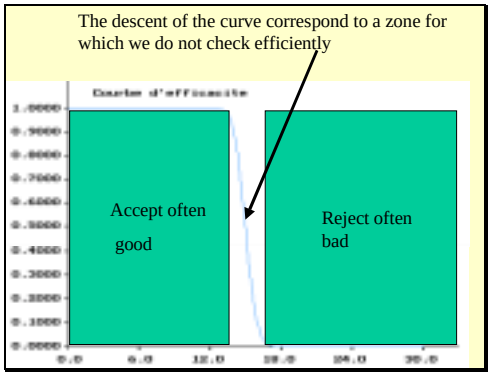
Slide 37



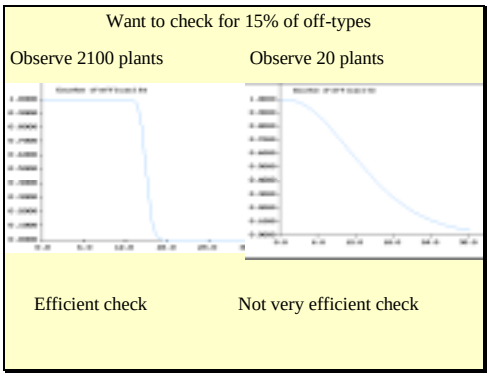
Slide 38



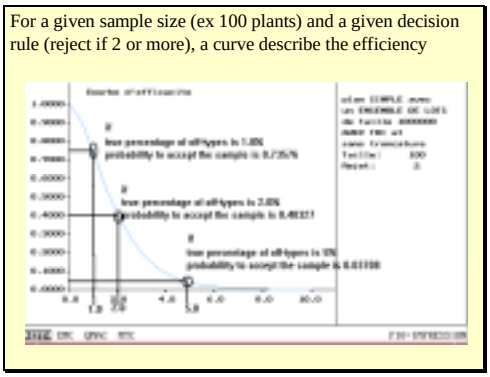
Slide 39



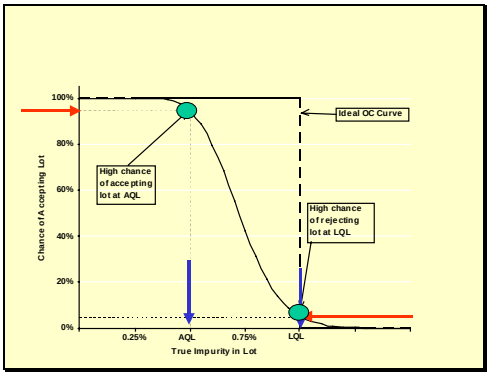
Slide 40



Slide 41



Slide 42



Slide 43

To choose an ad-hoc test, determine first the goal to acheive

- AQL = good quality level to accept often
- LQL= poor quality level to reject often
- alpha = how often« good level » is rejected
  1-alpha = how often « good level » is accepted
- beta = how often « poor level » is accepted
  1-beta = how often « poor level » is rejected

Slide 44

How to find a good compromise

- Define quality levels and associated probabilities with partners
- look if appropriate tests are available
- if yes apply
- if no, either try other combinations, or use tests which are not appropriate, but are possible in practice, knowing their limits

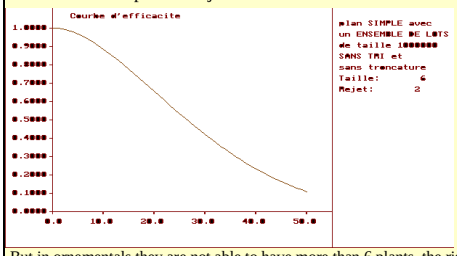
Slide 45

The more plants
the more precise and efficient

- With the same good level of quality (1%) accepted at least 95 times out of 100
  – 6 plants accept up to 1 off-type
  allow varieties with 50% of off-types to pass
  – 60 plants accept up to 2 off-types
  allow varieties with 10% of off-types to pass
  – 300 plants accept up to 6 off-types
  allow varieties with 3.5% of off-types to pass

Slide 46

This rule is used for PS 1% AP 95% it is very unefficient, the risk to accept bad objects is enormous



But in ornementals they are not able to have more than 6 plants, the risk to have off-types for vegetatively propagated material is low (unless mutations for instance)

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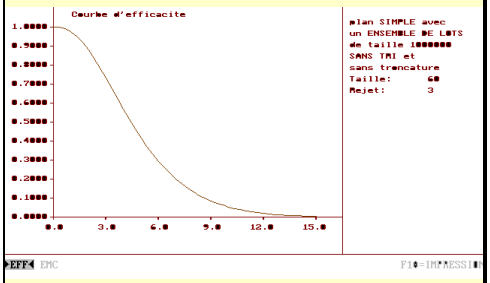
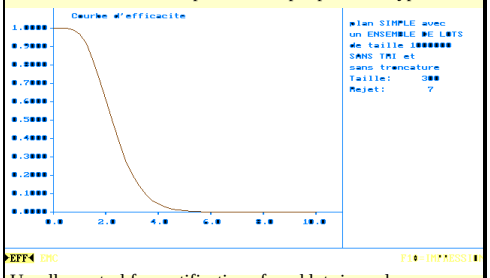
PS=1% AP=95% 60 plants accept 0 to 2 off-types



Slide 48

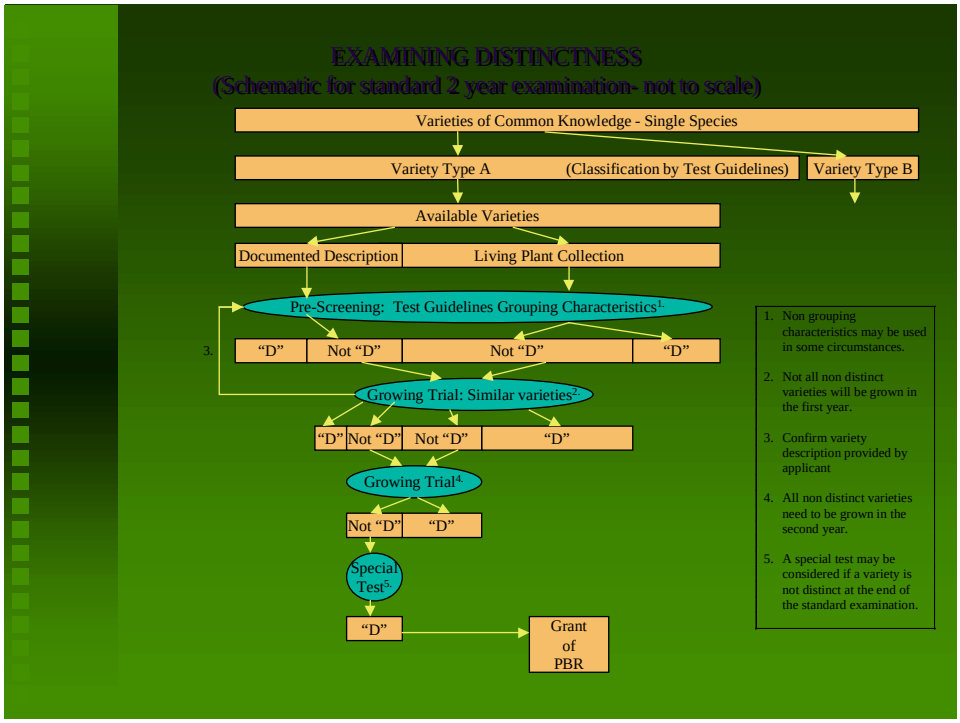
PS 1% AP 95% 300 plants accept up to 6 off-types



Usually control for certification of seed lots is made on more plants than in UPOV studies, and take AQL and LQL into account

[Annex III follows]

ANNEX III



[Annex IV follows]

ANNEX IV

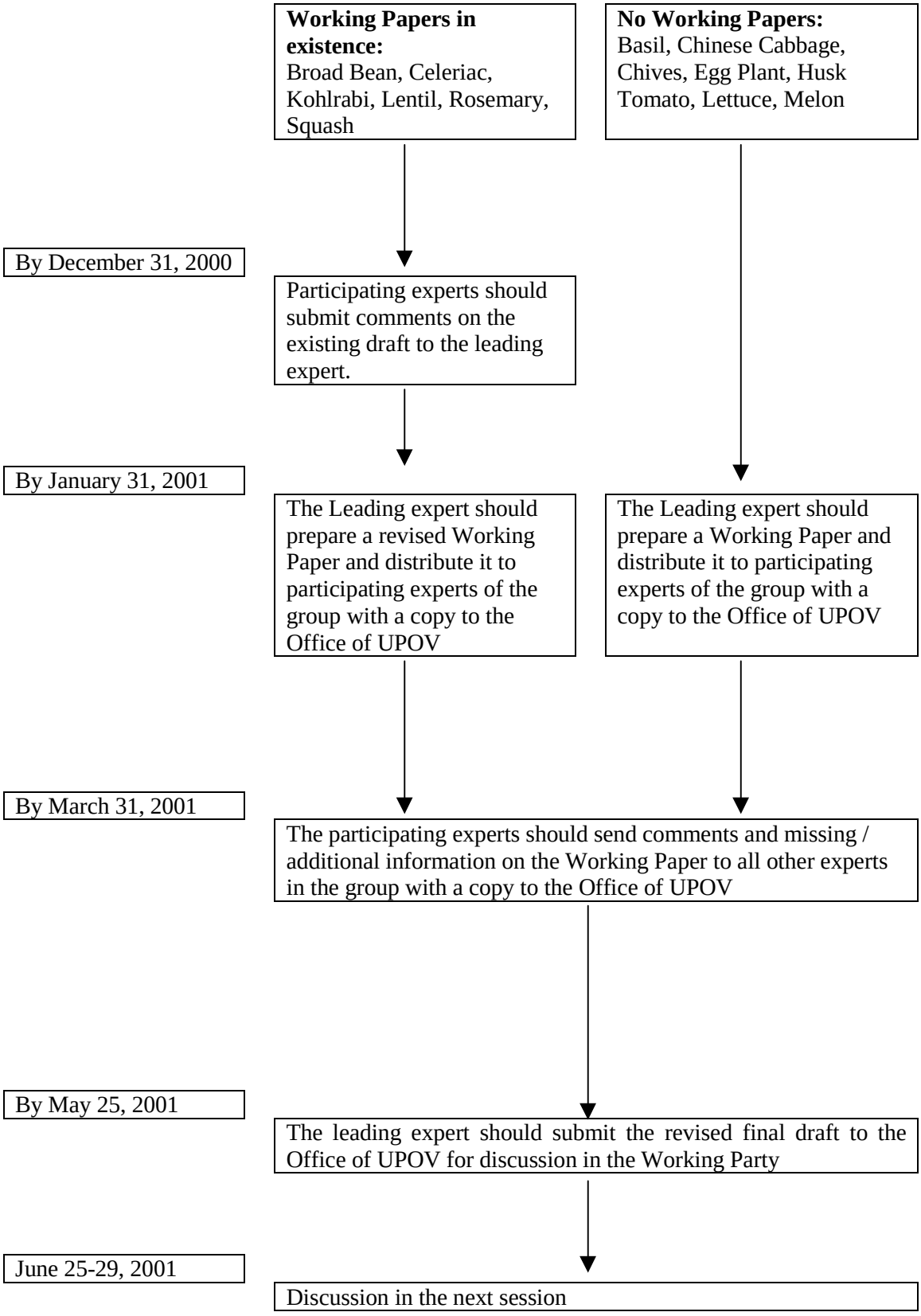
LIST OF SUBGROUPS BY CORRESPONDANCES FOR THE PREPARATION OF TEST GUIDELINES

Species	Existing Working Papers	Leading expert (for addresses see Annex I)	Participating experts (countries) (for name of experts see Annex I)
Basil		Mr. Brand, FR	DE, HU, NL (v. E.) , PL
Broad Bean	TWV/34/10	Mr. Green, GB	DE, FR, NL (v. M. +v. E.) , PL, (TWA: CZ, DE, ES, FR)
Celeriac	TWV/34/5	Mr. Pfülb, DE	ES, FR, GB, NL (v. M. + v. E.) ,PL
Celery	(TG/82/3)	Mr. Green, GB	
Chinese Cabbage	(TG/105/3)	Mr. Tanaka, JP and Mr. Pfülb, DE	DE, JP, KR, NL (v. M. + v. E.)
Chives		Mrs. Safariková, CZ	DE, FR, GB, NL, PL
Egg Plant	(TG/117/3)	Mr. van Ettekoven, NL	CN, ES, FR, IL, IT, JP, KE, MX, NL
Husk Tomato		Mr. Cruz Garza, MX	FR, PL
Kohlrabi	TWV/34/3	Mr. Pfülb, DE	CZ, FR, NL (v. E.)
Lentil	TWV/33/13	Mr. Brand, FR	ES, HU, IN, PL
Lettuce	(TG/13/7)	Mr. van Marrewijk, NL	All
Melon	(TG/104/4+Add.)	Mr. Calvache, ES	All (except for DE)
Rosemary	TWV/34/14	Mr. Bar-Tel, IL	DE
Squash, Vegetable Marrow	TWV/34/12	Mr. van Ettekoven, NL	ES, FR, IL, MX,.NL (v. M.), US

[Annex V follows]

ANNEX V

Schedule of the preparation of draft Test Guidelines for the next session



[End of Annex V and of document]