



TWA/33/16

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY
FOR
AGRICULTURAL CROPS**

**Thirty-Third Session
Poznań, Poland, June 28 to July 2, 2004**

REPORT

adopted by the Technical Working Party for Agricultural Crops

Opening of the Session

1. The Technical Working Party for Agricultural Crops (TWA) held its thirty-third session in Poznań, Poland, from June 28 to July 2, 2004. The list of participants is reproduced in Annex I to this report.
2. The TWA was welcomed by Mrs. Julia Borys, Head of the DUS Testing Department, the Research Center for Cultivar Testing (COBORU).
3. The session was opened by Mr. Luis Salaices (Spain), Chairman of the TWA, who welcomed the participants, and in particular new participants to the TWA. It was explained that, following the notification that Mr. Carlos Gómez (Uruguay) would not be able to continue in his post as Chairman of the TWA, the Council, on the recommendation of the Technical Committee (TC), had elected Mr. Salaices to serve as Chairman of the TWA until the end of 2005.

Adoption of the Agenda

4. The TWA adopted the agenda as reproduced in document TWA/33/1 Rev.

Short Reports on Developments in Plant Variety Protection*(a) Reports from members and observers*

5. The expert from the Republic of Korea reported that the Technical Working Party for Vegetables (TWV) had held its thirty-eighth session in Seoul, Republic of Korea, from June 7 to 11, 2004. On June 5, in conjunction with that session, there had been a national workshop on the examination of new varieties of plants. It was also reported that discussions were taking place between China, Japan and the Republic of Korea, concerning cooperation in the North East Asian region. In particular, an exchange of a set of 20 example varieties for rice had been arranged, with the aim of developing a set of example varieties for that region.

6. The expert from New Zealand explained that a reorganization of the plant variety protection office had taken place.

7. The expert from Brazil welcomed the discussion of the draft Test Guidelines for French bean in the TWA, noting that this was an important agricultural crop with an area of production in Brazil of 4.2 million ha in 2003, yielding 3.2 million tons.

8. The TWA heard that Argentina had been recognizing plant breeders' rights (PBR) since 1973, through its Seeds and Phytogenetics Act, which had been regulated by Decree 2183 in 1991. In 1994, Argentina acceded to UPOV according to the 1978 Act of the Convention. In 1981, Argentina issued its first titles of protection for new varieties of plants. For technical reasons, it adopted the "breeder testing" system with the Varieties Registration Department, conducting the National Register of Property of Varieties (created by the National Seed Act), performing the field controls at breeder DUS trials and growing reference collections for oilseed rape, rye, soybean, wheat and some forage crops. The staff of the Varieties Registration Department are organized into crop areas: cereals; forages; forest and ornamental plants; fruit; industrial crops; oilseeds; vegetables; and a small section in charge of statistical design and the control of agricultural value trials. In total, there are 13 staff, including technical experts and administrative support staff. Since 1981, 1,808 titles of protection have been issued and there are currently 1,125 titles in force. Of the titles in force, 80% represent agricultural crops with 35% concerning cereal crops, 24% oilseeds and 21% forage crops. The expert from Argentina reported that, from January 2004, the National Seeds Institute (INASE) had been recreated by Law 25845. INASE was the official institute responsible for applying legislation for seeds and plant breeders' rights (PBR). In 2003, protection was granted for 119 varieties of which 87 were for agricultural crops, 19 for fruit crops, nine for forest trees, three for ornamental plants and one for industrial plants. From January 2004, work had started on the adoption of the 1991 Act of the UPOV Convention, through modification of the chapter of the legislation concerning PBR. This draft law, developed by INASE and the Secretary of Agriculture, was now at the Ministry of Economy for submission to the National Parliament.

9. The expert from Japan reported that a workshop on PVP had been organized for the benefit of representatives from the Prefectures and from companies. He informed the TWA that work had started on extending PBR protection to processed products derived from the harvested material of protected varieties, which was currently not covered by protection. A report was also made on the exchange of seed of example varieties between China, Japan and the Republic of Korea.

10. The expert from Romania provided information on a training program being operated with assistance from Denmark, Ireland and the United Kingdom. The Law in Romania, based on the 1991 Act of the Convention, had been promulgated in 1998. Around 100 applications had been received and around 40 titles granted, mostly for cereal crops.

11. The TWA heard from the expert from Kenya that over 600 applications for protection had been received, with 121 titles granted, mostly for ornamental plants, but also for barley, French bean and sugarcane. Most titles related to foreign applications. The introduction of the PBR system had resulted in an increase in the number of applications and an increase in the entry of foreign varieties, such as in the case of rose, where 64 new varieties had become available.

12. The representative of the Community Plant Variety Office (CPVO) reported that around 2,500 applications had been received in 2003, of which 25% represented agricultural crops. Titles had been granted to varieties representing around 900 species. Following the enlargement of the European Union, the first steps had been taken towards integrating the examination offices from the new member States into the DUS testing work. The TWA was also informed that the CPVO had re-launched its website, with new search tools now being provided for variety application and grant information. The gazette was now also available on-line. The TWA noted that further information concerning the collaboration between the CPVO and UPOV in the development of their respective databases would be reported under the relevant agenda item.

13. The representative of the European Community (EC) explained that the process for the accession of the European Union (EU) to UPOV was progressing. He recalled that, as of May 1, 2004, the EU had been enlarged to 25 States, with the titles of protection granted by the CPVO becoming valid in all those States. Some of the new members had taken up the option of a three-year derogation from the seeds marketing regulations, concerning the marketing of varieties of agricultural and vegetable crops. However, the marketing of varieties covered by the derogation would be restricted to the countries concerned. The TWA heard that criteria for the suitability of variety denominations had been agreed by the Standing Committee on seeds and propagating material, on June 25. On March 31, 2004, the EU had ratified the ITPGRFA and together with the ratification of 11 of its member States, this had triggered the coming into force of that treaty on June 29, 2004.

14. The expert from Denmark informed the TWA that a decision had been taken to reduce DUS testing activities on grasses. In future, DUS testing in Denmark would be restricted to *Lolium perenne* and red fescue.

15. The expert from Albania reported on the development of PBR legislation in Albania and its progress towards accession to UPOV.

16. The TWA heard from the expert from Austria that that country would become bound by the 1991 Act of the Convention as of July 1, 2004.

(b) Reports on developments within UPOV

17. The TWA received an oral report from the Office of the Union on the latest developments within UPOV.

Molecular Techniques*(a) Report on developments*

18. The Office of the Union introduced document TWA/33/2.

19. The TWA agreed with the recommendation of the Technical Committee, that the annex to document TWA/33/2 would be a suitable summary of the current UPOV position. However, it proposed that the situation might be further clarified by the addition of the following paragraph 3.4 to read as follows:

“3.4 Summary of current UPOV position

“In conclusion, the current UPOV position is that, subject to fulfillment of the assumptions set out in relation to the proposals, approaches under Options 1(a) and 2 may be pursued. The current UPOV position is that approaches under option 3 have not been agreed.”

The TWA recommended that the Administrative and Legal Committee (CAJ) be invited to consider this addition when reviewing the document at its fiftieth session to be held in Geneva on October 18 and 19, 2004.

(b) Ad hoc Crop Subgroups and the Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular (BMT)

20. Mr. Michael Camlin (United Kingdom) reminded the TWA that he had taken on the chairmanship of the *Ad Hoc* Subgroup on Molecular Techniques (Crop Subgroup) for Wheat on a temporary basis and proposed that the chairmanship should be resolved. At the proposal of Mr. Camlin, the TWA agreed to propose to the TC that Mr. Robert Cooke (United Kingdom) be appointed as the Chairman of the Crop Subgroup for Wheat. It further agreed that Mr. Cooke take up that role for the second session of the Crop Subgroup for Wheat, which would be held later that day.

21. The TWA received an oral report from Mr. Robert Cooke (United Kingdom), Chairman of the Crop Subgroup for Wheat, which had met on June 28, 2004. The subgroup had received a presentation made by the Chairman, which explored the possibility of an option 2 approach for wheat using the “PREDIP” software. He noted that this work would continue. Document BMT Guidelines (proj.2) had also been discussed in the Crop Subgroup for Wheat and various recommendations made for improving the document.

22. Mrs. Beate Rücker (Germany), Chairperson of the Crop Subgroup for Potato, reported on the meeting of the subgroup which had taken place immediately following the Crop Subgroup for Wheat, on June 28, 2004. Five presentations had been made on the use of various molecular techniques in relation to official and commercial purposes. She noted that work was planned to continue in those areas, with the aim of improving methodologies and constructing databases.

23. Mr. Luis Salaices (Spain), Chairman of the Crop Subgroup for Sugarcane, reported on the meeting of the subgroup which had taken place immediately following the Crop Subgroup for Potato, on June 28, 2004. Two papers had been presented: the first contained draft

guidelines for harmonizing protocols on the development of molecular markers which had been reflected in the development of the draft BMT Guidelines; and the second presented a progress report on the ring-test.

24. The TWA agreed that the work on molecular techniques in maize, oilseed rape, potato, soybean, sugarcane and wheat should be kept under review and future meetings considered as required.

25. At the proposal of the expert from Denmark, the TWA agreed to propose to the TC and the BMT that a crop subgroup be established for ryegrass, noting that laboratories in Denmark and the United Kingdom were working on that crop. It was agreed that Mr. Michael Camlin (United Kingdom) should be proposed as Chairman. Mr. Camlin noted that ryegrass, being a cross-pollinated species, would pose particular difficulties, but remarked on the need for tools to help in the management of reference collections and the potential for an option 2 approach.

TGP Documents

26. The Office of the Union introduced document TC/40/5 Add. The TWA noted that the TWC had proposed that TGP/11.1 “The examination of stability and verification” be reintroduced and that the TWV had proposed that the TWA should consider TGP/12.1.1 “Disease resistance” in conjunction with TGP/12.1.3 “Insect resistance”.

27. In order for documents TGP/4 and TGP/9 to be adopted in 2006, the TWA considered that the CAJ should be requested to consider drafts of those documents in October 2005, after having taken into account comments from the TC at its forty-first session in April 2005.

TGP/4 Draft 1: Management of Variety Collections

28. Document TGP/4 Draft 1 was introduced by Mr. Joël Guiard (France).

29. The TWA agreed to recommend the following amendments:

- 1.2 To include information on other ways in which risk may be reduced including: publication of varieties against which the candidate varieties are compared and the use of panels of experts (e.g. scientists, breeders etc.).
- 1.3.1.3 To include the need to consider, in particular, countries where plants of the species, not always in the form of varieties, is widely traded. To make a reference to authorities which have agreements on cooperation in examination.
- 1.3.2 To be presented as a section explaining situations in which certain varieties of common knowledge can be excluded from a direct comparison.

- 1.3.3 To make reference to other legal mechanisms (e.g. legislation implementing the CBD may require a material transfer agreement) which may affect the availability of plant material. To avoid the use of the term “access” which has a specific meaning in other treaties, or to ensure it has the same meaning.
- 1.3.3.2/3 To create a separate section to address this issue. To modify 1.3.3.3 to reflect the normal practice.
- Section 2 To consider amending the title of section 2 to the “Management of variety collections” to reflect the title of TGP/4.
- 2.1(i) To delete “access to” and to elaborate the approach of cooperation in the maintenance of variety collections in section 2.3.
- 2.1.1.2 / 2.1.1.3 To reduce the amount of detail in these sections and provide a more general overview.
- 2.1.1.3.4 To read “A reference collection in the case of hybrid varieties: the basic criteria are the same as for any other type of variety. However, where distinctness is based on the components and the formula of the hybrid, the reference collection must include the varieties used as components (generally inbred lines).” The remainder of the paragraph to be deleted.
- 2.2 To be incorporated within section 2.1, rather than as a specific section for tree and perennial species.

30. It was agreed that further comments on document TGP/4 Draft 1 could be sent to the Office by the end of August 2004.

TGP/9 Draft 1 and TGP/9 Draft 1 Add.: Examining Distinctness

31. The TWA considered documents TGP/9 Draft 1 and TGP/9 Draft 1 Add., introduced by the Office of the Union and Mrs. Beate Rucker (Germany) respectively, and made the following recommendations regarding document TGP/9 Draft 1:

- General The Office to work with Mrs. Rucker to incorporate relevant aspects of TGP/9 Draft 1 Add. and to improve the overall flow of document TGP/9. New section to be introduced to explain where statistics are, and are not, required.
- 2.1.1.1 To delete “by the applicant”.
- 2.1.3.2 To amend “TG/1/3” to “TG/3/11”. Wheat example and table to be amended to reflect the fact that not all the characteristics are qualitative and clear groupings are not possible using non-qualitative characteristics.
- 2.2 To provide an explanation of the general principles of phenotypic distance, rather than those specifically related to the GAIA system. To move the explanation and methods concerning the GAIA system in section 2.2 to section 5 “Methods for the assessment of distinctness”.
- 2.2.4.2 To provide information on DUST and other relevant methods.

- Section 3 To provide an explanation of why different types of trial organization are used, e.g. replicated plots, spaced plants, etc. To clarify that more than one growing cycle is not always necessary, by using the wording from TGP/7: Annex 1: TG Template: 4.1.2.
- 3.1.2.1 In reference to the General Introduction (5.3.3.1.1) to delete reference to TGP/9.
- 3.1.2.4 Second sentence to read “In this case, the condition of independence of growing cycles is also considered to be satisfied.
- 3.2.1.2 To be deleted.
- 3.2.1.4 To replace reference to “year” with “growing cycle”.
- Section 3.2.2 To provide an introduction explaining why more than one location might be appropriate. To provide guidance regarding statistical aspects of the use of multiple locations.
- 3.2.2.1(d) To provide guidance regarding the question asked.
- Section 4 To be moved before section 3. To contain a section explaining the use of “VS”, “VG”, etc., to be provided by Mrs. Rucker. Title to be changed to “Factors in the choice of method for the assessment of distinctness”.
- 4.2 To reword title to “Types of variety according to the features of propagation”.
- 4.2.1.2 To move to section 5 “Methods for the assessment of distinctness”.
- 4.2.3 To add “and pseudo-qualitative” after “quantitative” in first sentence.
- 4.2.4.1 to 4.2.5 To move to section 5 “Methods for the assessment of distinctness”.
- 4.2.5 To be used to develop an Additional Standard Wording option for inclusion in the next version of TGP/7 “Development of Test Guidelines”. In the meantime, standard wording to be developed and incorporated into the electronic template to be provided to drafters of Test Guidelines.
- Section 5 Specific details concerning methods to be presented as an annex to the document.
- 5.2.3 To be moved after 5.3, since it can be used independently of whether the overall approach is by visual assessment of measurements.
- 5.3 To be modified to include other methods for the assessment of distinctness using measurements. Detailed information about COYD to be moved to TGP/8.

32. It was agreed that further comments on document TGP/9 Draft 1 could be sent to the Office by the end of August 2004.

TGP/10 Examining Uniformity

33. The TWA considered document TGP/10.2 Draft 3, TGP/10.3.1 Draft 3 and TGP/10.3.2 Draft 3 presented by the Office of the Union and made the following recommendations:

TGP/10.2 Draft 3: Assessing Uniformity According to the Features of Propagation

- 10.2.2 The TWA noted that there are situations when the assumptions for COYU were not fulfilled, such as small reference collections, in the case of new species or when uniformity is assessed in one growing cycle and COYU was not applicable. The TWA requested the TWC to include alternative methods to COYU for those situations.

TGP/10.3.1 Draft 3: Statistical Methods: COYU

The TWA requested the TWC to consider including the requirement of normal distribution of the variable as a prerequisite for use of COYU, and to pay particular attention to skewed distributions.

TGP/10.3.2 Draft 3: Statistical Methods: Off-Types

An expert from Germany considered that when results from two locations were put together it was necessary for the differences in the number of off-types to be due to sampling effects and not to environmental effects. In the latter case, it was not possible to combine the results.

The TWA also agreed to include an example for a stepwise process within a single growing cycle.

34. It was agreed that further comments on documents TGP/10.2 Draft 3, TGP/10.3.1 Draft 3 and TGP/10.3.2 Draft 3 could be sent to the Office by the end of August 2004.

TGP/12.1.2 Draft 2: Characteristics Expressed in Response to External Factors: Chemical Response

35. Document TGP/12.1.2 Draft 2 was introduced by Mr. Tanvir Hossain (Australia). The TWA agreed that the document should start with the section on herbicide tolerance. With regard to the section on plant growth regulators, it was concluded that this should be abbreviated and it should be emphasized that plant growth regulators should not be used in the examination of DUS. In particular, the second and third sentences of section 3.1 should be modified in that respect.

TGP/7/1 (Provisional): Development of Test Guidelines

36. The TWA received a presentation from the Office on the development of the electronic TG template and how this could be used in the drafting of Test Guidelines.

UPOV Information Databases

37. The TWA considered document TWA/33/3 and heard a report from Mr. Kees van Ettehoven (Netherlands), Chairman of the Technical Working Party for Vegetables (TWV), concerning the recommendation from the TWV for codes for *Brassica* and *Beta*. The TWA agreed with the proposal of the TWV concerning these codes, as set out in paragraph 18 of document TWA/33/3.

38. With regard to the checking of the UPOV codes presented in Annex III of document TWA/33/3, the TWA agreed that the checking of the codes should be undertaken by the relevant “using authorities” indicated in Annex III of that document. To aid the experts in the checking of these codes, the Office agreed to provide an Excel spreadsheet containing all UPOV codes in which the codes to be checked by each expert would be highlighted.

Project to Consider the Publication of Variety Descriptions

39. The TWA considered documents TWA/33/4 and TWA 33/4 Add., introduced by the Office, and received a presentation, reproduced as Annex II to this document, on progress in the model study on barley from the coordinator, Mr. Gerhard Deneken (Denmark), and a presentation, reproduced as Annex III to this document, on progress in the model study on potato from the coordinator, Mr. Henk Bonthuis (Netherlands).

40. The TWA welcomed the tables developed by the TWC for the presentation and analysis of the data produced in the model studies and considered that these would provide a good overview of the level of variation in variety descriptions.

41. With regard to the model study on potato, Mr. Bonthuis summarized that some qualitative characteristics were stable (e.g. skin and flower color), but that several quantitative characteristics were, in general, not stable across environments. Some quantitative characteristics were more stable than others. He observed that stability appeared to increase in regional subsets and that morphological characteristics were more stable in the original breeding environment, although further work was needed to test that hypothesis. With regard to the project on the publication of variety descriptions, he considered that it would be necessary to examine the main effects behind the variation and ways in which genotype x environment (GxE) interaction could be excluded or minimized and to look at the potential for thresholds and correction factors to be developed.

42. The expert from Australia noted that there was a high level of variation for lightsprout characteristics when considering that the characteristics were examined in controlled conditions. The experts from Germany, Netherlands and New Zealand indicated that there were significant differences between observers for these characteristics. In addition, it was noted that the conditions were not completely standardized between testing centers. The expert from Australia considered that there was a risk in using foreign descriptions for potato varieties and that it had been decided in Australia that it was necessary to conduct all the DUS examinations for potato in Australia. An expert from the CPVO considered that lightsprout characteristics were very important and emphasized the need for harmonization in description for these characteristics, suggesting that there was a need for improvement in the harmonization in observation. An expert from the United Kingdom suggested that it would be interesting to analyze the results for the grouping characteristics. An expert from France considered that it would be worthwhile to look at ways to reduce “observer effects” by using

better explanations of characteristics in the Test Guidelines, with particular attention to be given to asterisked characteristics. The expert from Germany noted that this would not eliminate the GxE effects. Furthermore, the composition of variety collections was still likely to influence the ranges used to describe characteristics. Another expert from France suggested that the analysis of the potato descriptions should be considered in all the model studies.

43. The TWA agreed that discussions had indicated that, as a first step, the emphasis should be on how the description of varieties could be improved and the possibilities for developing regional sets of example varieties. Thereafter, as a second step, it could be useful to look at using the GAIA software to compare variety descriptions.

Variety Denomination Classes

44. The TWA considered document TWA/33/5. It agreed that the *Ad hoc* Working Group on Variety Denominations (WG-VD) should be asked to reconsider the inclusion of different genera in mixtures as a basis for creating a class. On that basis, it considered that clover would need to be included in class 4. Furthermore, the TWA noted that labels for mixtures presented the species together with the variety denomination and that there should be little risk of confusion. This would mean reconsideration of the proposals by the WG-VD concerning classes 4 and 7. However, it did consider that the possibility of inter-generic hybrids was an appropriate criteria for creating classes of multiple genera.

45. With regard to class 1, the TWA agreed with the WG-VD proposal, although the expert from Germany expressed some reservations. The expert from Brazil proposed that class 2 should be extended to include other genera for which inter-generic hybrids could be formed and agreed to provide information on this possibility to the WG-VD. The TWA agreed with the proposals in Annex III of document TWA/33/5 with regard to classes 3, 5, 6, 8, 9, 21, 22, 28, 29, 30, 33, 34 and agreed with the proposals made by the TWV concerning classes 10, 11, 23, 24, 31 and 35 and proposals G and H. With regard to proposal B it proposed that the WG-VD should await the comments of ISF.

46. The TWA agreed that further comments submitted to the Office by August 16, 2004, would be brought to the attention of the WG-VD.

Project for Exchanging Seed of Selected Varieties Between Interested Countries

47. The TWA considered document TWA/33/9 and agreed to invite a further report for the next session of the TWA.

48. Mr. Philip Rhodes (New Zealand) made an oral report of the project on White Clover. Some results had been obtained from seed provided by New Zealand, South Africa and the United Kingdom. With regard to quantitative characteristics, there was a reasonable level of agreement between New Zealand and the United Kingdom in descriptions for varieties with states of expression towards the small and large ends of the scale, but less agreement for varieties with states of expression in the middle of the ranges. He also reported that where varieties were described in New Zealand, using seed provided by New Zealand and the United Kingdom, there was, in general, agreement in descriptions. However, in some cases there were significant differences.

Development of Regional Sets of Example Varieties for the Test Guidelines for Rice

49. The TWA considered document TWA/33/14 and received an oral report from Mr. Keun-Jin Choi (Republic of Korea). Mr. Choi explained that the field test in the Republic of Korea had been planted in May 2004. The trial was at the tillering stage and only one characteristic – anthocyanin coloration at the base of the seedling - which was not a Test Guidelines characteristic, had been recorded. The Office reported that IRRI/INGER was working with countries in South East Asia to develop a set of example varieties for the South East Asian region.

Image Analysis

50. The TWA considered documents TWC/22/9-TWA/33/7 and TWA/33/10, which were presented by an expert from the United Kingdom and the Office, respectively.

51. The TWA recalled that document TG/1/3 (the “General Introduction”) stated that:

“4.6.3.1 A combined characteristic is a simple combination of a small number of characteristics. Provided the combination is biologically meaningful, characteristics that are assessed separately may subsequently be combined, for example the ratio of length to width, to produce such a combined characteristic. Combined characteristics must be examined for distinctness, uniformity and stability to the same extent as other characteristics. In some cases, these combined characteristics are examined by means of techniques, such as Image Analysis. In these cases, the methods for appropriate examination of DUS are specified in document TGP/12, ‘Special Characteristics’.”

and emphasized that the need to examine uniformity and stability of combined characteristics. The expert from the United Kingdom explained that, in relation to document TWC/22/9-TWA/33/7, the uniformity of varieties with respect to all characteristics, including combined characteristics, was examined.

52. An expert from France noted that it was important to differentiate between the introduction of new characteristics and the use of different methods to examine existing Test Guidelines characteristics, the former being the area of most concern. An expert from Germany explained that, in Germany, image analysis was, in general, used to examine existing characteristics and raised concerns that new derived characteristics may lack the necessary level of independence from other characteristics. Another expert from France noted that consideration of uniformity was crucial and expressed concern at creating the possibility of selecting varieties from within existing protected varieties, which could undermine the value of protection. The expert from the United Kingdom noted that in both document TWC/22/9-TWA/33/7 and document TWA/33/10, the primary objective of image analysis was to examine existing characteristics more efficiently. The Office noted that the consideration of new characteristics was an important role of the Technical Working Parties and observed that the development of characteristics which were not considered for Test Guidelines could undermine harmonization in DUS testing.

53. With regard to document TWA/33/10, the expert from Germany expressed concern at the development of characteristics which involved the multiplication of measurements, as indicated in table 1 of that document. The TWA considered that an explanation of this would be useful.

Discussion on Draft Test Guidelines (Subgroups)*Amaranth (document TG/AMARANT(proj.3))*

54. Upon the request from the expert from Mexico, discussions were moderated by an expert from the Office of the Union. The subgroup agreed the following changes to document TG/AMARANT(proj.3):

1. *Subject of these Guidelines*

To read: “1.1 These Test Guidelines apply to all varieties of *Amaranthus* L. excluding ornamental types.”

3. *Method of Examination*

3.3.3 To delete “B: row plot”

5. *Grouping Characteristics*

To have the following grouping characteristics

- (a) Seedling: anthocyanin pigmentation of hypocotyl (characteristic 3)
- (b) Plant: growth type (characteristic 10)
- (c) Leaf: anthocyanin pigmentation on petiole (characteristic 17)
- (d) Leaf: presence of patch (characteristic 21)
- (e) Inflorescence: type (characteristic 33)
- (f) Seed type (characteristic 43)

7. *Table of Characteristics*

Char.No.	Type of expression	Method of assessment	Comment
1			To delete the whole characteristic
2		VS – A	
3		VS – A	
4		VS – A	To add example varieties
5	QN	VS – A	To read: “Leaf blade: intensity of green (ground) color on the <u>upper side</u> ” with states of expression “light” (3), “medium” (5) and “dark” (7), and to add example varieties
6		VS – A	To read: “Leaf blade: intensity of ground color on the <u>lower side</u> ” with states of expression “green” (1), “red” (2) and “purple” (3)
7		VS – A	To read: “Leaf blade: secondary color at beginning of growth”, to delete the stage of “other” (7) and to add an explanation. To define the stage of development for assessment

- 8 VS – A To read: “Leaf blade: distribution of secondary color at beginning of growth”; to add an explanation.
To define the stage of development for the assessment and to add an explanation/illustration
- 9 To delete the whole characteristic No. 9
- 10 VG – A
- 11 VS – A
- 12 VS – A To delete state “other: state type”(4)
- 13 To delete the whole characteristic
- 14 MS – A
- 15 MS – A
- 16 To delete the whole characteristic
- 17 VS – A
- 18 QN VS – A State (1) to read: “very weak”
- 19 VS – A To delete “(b)”
- 20 VS – A To read: “Leaf blade: secondary color”
- 21 VS – A To read: “Leaf blade: presence of patch”
- 22 (+) VS – A To read: “Leaf blade: size of patch in relation to blade” and to add an illustration and example varieties
- 23 VS – A To read: “Leaf blade: color of patch”
- 24 (+) VS – A Mexico to provide illustration
- 25 (+) MS – A To add an explanation
- 26 VS – A To split the characteristic on the basis of absence and presence of stripes and to delete stage “striped” (6)
- 27 VS – A To check if it is really QL
- 28 QL VS – A
- 29 QN VS – A
- 30 MS – A To verify the time of observation
- 31 VS – A To verify the time of observation
- 32 VS – A
- 33 VG – A To read: “inflorescence: type”, with states “amaranth form” (1) and “glomerule form” (2)
- 34 QN MS – A To add example varieties
- 35 VS – A To read: “Inflorescence, size of inflorescence; size of bract related to utricle
- 36 (+) MS – A To read: “Inflorescence: time of beginning of emergence of inflorescence” and to add an explanation
- 37 VS – A
- 38 (+) MS – A To add an explanation
- 39 MS – A
- 40 MS – C To read: “Seed: weight per 1000 grains (at 10 % moisture)”
- 41 VG – C
- 42 (+) VG – C To add drawing and to reword the states of expression

43 VG – C

44 VG – C

8. *Explanations on the Table of Characteristics*

8.1 Explanations covering several characteristics

- To read
- (a) observations on the seedling which should be made 3-6 days after to emergence
 - (b) observations of the growth habit, leaf, root and stem which should be made at full flowering (50% of the plants)
 - (c) observations of inflorescence which should be made on the main inflorescence
 - (d) observations on the seed which should be made on dry seed at harvest time

8.2 Explanations for individual characteristics

Ad. 4 To add explanation

Ad. 7 To add explanation

Ad. 44 Ad. 44: Seed: pop percent (relative increase of volume)

The moisture content must be between 14 and 16%; if necessary, the seeds should be soaked.

To delete the Code to identify some food species of the family Amaranthaceae

10. *Technical Questionnaire*

1 To add a box to specify the species

4 To delete 4.1 (ii)

4.2 To delete the references to GN 31 y GN 32

55. The subgroup agreed that experts from Brazil and Japan would, if possible, send seed samples to the expert from Mexico to be included in a field trial jointly with varieties from Mexico and Hungary. It further agreed that a new draft should be prepared for the next session of the TWA in 2005.

Common Millet (document TG/COM-MIL(proj.2))

56. Upon the request from the expert from Ukraine, the subgroup was chaired by the Office of the Union. It agreed the following changes to document TG/COM-MIL(proj.2):

4. *Assessment of Distinctness, Uniformity and Stability*

4.2.3 Ask the expert to define the assessment of uniformity in ear-row plots.

5. *Grouping of Varieties and Organizing the Growing Trial*
5.3 To reword (b) according to the table of characteristics

6. *Introduction to the Table of Characteristics*
6.5 To include VG, VS, MG and MS.

7. *Table of characteristics*

Char.No.	Type of expression	Method of assessment	Comment
			To order the characteristics in chronological order according to the time of observation
2		MG	To delete example variety "Charivne" from state 5 and "Novokyivske 01" from state 7
3 and 4			To add explanation (a) in Section 8.1
5		MG	To delete example variety "Syayvo" from state 5
6		MG	
7			To add explanation (a)
8 (+)		MS	To read: "Stem: number of nodes" and to add an explanation
9 and 10		VG - MS	
11			To check the states of expression
14			To split into: "Panicle: presence of pillows on branches", with states of expression "absent" (1) and "present" (9) and "Panicle: location of pillows" with states of expression "1 st and 2 nd branches only" (3), "up to 1/2 of panicle" (5), "up to 2/3 of panicle" (7) and "present along the whole panicle" (9)
15			To read: "Panicle: angle of branches", with states of expression from acute to obtuse
16		MS	
17		MS	
18 (+)		MG	To read: "Branches: length of primary branches", to delete example variety "Kyiviske 96" for state 5 and "Sonyachne" for state 7 and to add an explanation
19			To read: "Panicle: attitude" with state of expression "drooping" for note 4 and to add an illustration
20 (+)			To read: "Branches: degree of trailing", to delete example variety "Veselopodolyanske 632" from state 3 and to add explanation
21 (+)			To read "branches" instead of "twigs", to delete example variety "Veselopodolyanske 305" from state 3 and to prepare explanation

- 22 MS To delete the figures from the wording of the state of expression
- 25 State 11 to read “brown”. To check state (12) for a possible split
- 27 To verify and provide explanations
- 28 VS To read: “Grain” instead of “Caryopse” and states 1,2,5,6,7
- 29 VS To delete example variety “Tonkoplivchaste 048” from state 3
- 30 MG To have states of expression “very low” (1), “low” (3), “medium” (5), “high” (7) and “very large” (9). To delete example variety “Tonkoplivchaste 048” from state 3
- 31 To check the states of expression
- 32 To have state “medium” (5) and notes 3,5, and 7
- 33.1 a To include the denomination of the race in the wording of the
- 33.6 characteristic and to have states of expression “absent” (1) and “present” (9).
8. *Explanations on the Table of characteristics*
- 8.1 Explanations covering several characteristics
- To add an explanation (a) to explain what leaf should be observed
- 8.2 Explanations for individual characteristics
- Ad. 1 To add explanation
- Ads. 19 To be completed
- and 21
- Ads.33.1 In “Place of growing” to read “greenhouse” instead of “hothouse” to 33.6
10. *Technical Questionnaire*
- 5 To complete
- 6 To add example

57. The subgroup agreed that experts from Ukraine would prepare and circulate a new draft to the subgroup (AT, HU, MX, RU and ZA) by the end of October 2004 with comments to be sent to the leading expert by the end of January 2005. A new draft would then be prepared for the next session of the TWA.

French Bean (documents TG/12/9(proj.1) and TWA/33/13))

58. The TWA received a report from Mr. Kees van Ettehoven, Chairman of the TWV, on the basis of documents TG/12/9(proj.1) and TWA/33/13. It agreed to the changes to document TG/12/9(proj.1) as proposed by the TWV in document TWA/33/13 and agreed the following further changes:

7. *Table of Characteristics*

Char. No.	Comment
3	to be indicated as QL

- 5 Add (+) and explanation on how to assess in relation to VS type observation (The expert from Germany thinks it should be VG)
- 8 To insert “absent or very weak” as state 1 with the example varieties: “IPR Juriti (C)”; “IPR Uirapuru (C)”; “IPR Grauna (C)”
- 12 To add the example varieties:
note 1: “Perola (C)”; note 2: “IPR Juriti (C)”; note 3: “IPR Chopin (C)”
- 14 To add a new state: “pinkish white”, between white and pink
- 15 To add a new state: “pinkish white”, between white and pink
- 21 To add a new state “pink” (with example variety “IPR Juriti (C)”), between green and violet
- 24 To add a new state “pink” (with example variety “IPR Juriti (C)”), before red. To have the notes 1, 2, 3.
- 26 To be indicated as QL
- 32 To change the states to: “smooth” (1); “moderately rough” (2); “very rough” (3)
- 33 As Brazil has not been able to find example varieties, to change the states to: “absent or very weak” (1) “Pascal (D)”, “Regulex (D)”; “moderate” (2) (delete TUF); “strong” (3) “Mechelse Tros (C)”
- 37 To change “elliptic” to “medium elliptic”
- 41 As Brazil has not been able to find example varieties for state 1, to delete state 1 (white)
- 42 Not to add an asterisk. To change the states to: “around hilum” (1); “on half of grain” (2); “on entire grain” (3)
- 48.1, 48.2 and 49 Retain presentation of characteristics as: “absent” (1); “present” (9) and indicate as QL

59. The TWA agreed that, with the incorporation of the above-mentioned changes, the Test Guidelines for French bean could be presented to the Technical Committee for adoption at its forty-first session in April 2005.

Ginseng (document TG/GINSEN(proj.3))

60. Document TG/GINSEN(proj.3) was introduced jointly by Mr. Kees van Ettehoven (Netherlands) and Mr. Keun-Jin Choi (Republic of Korea). The TWA agreed to the changes to document TG/GINSEN(proj.3) as proposed by the TWV in document TWA/33/15 and agreed the following further changes to that document:

- Title page/
Chapter 1 Title page to be amended to reflect Chapter 1 of the Test Guidelines. The Office, in conjunction with the leading expert, to check the correct presentation of the botanical names and to complete the table of alternative names.

- 4.2.2 “8 off-types” to be replaced by “5 off-types”
- 6.4.2 To be deleted and indications removed from example varieties, if experts from Canada cannot provide example varieties of species other than *Panax ginseng*

7. *Table of Characteristics*

Char. No.	Comment
4	To be indicated as PQ. (+) to be deleted. Order of states 2 and 3 to be reversed
8	State 1 to read “absent or very weak”
12	“Leaf” to be amended to “Leaflet”
14	To have the notes 1, 2, 3
22	(+) to be deleted
Chapter 8	To be amended in line with changes to the Table of Characteristics
Ad. 4	To be deleted
TQ 5.3, 5.4, 5.5	To be deleted
TQ 7.3	To be deleted
TQ 9.3	To be deleted

61. The subgroup agreed that, with the incorporation of the above-mentioned changes, the Test Guidelines for Ginseng could be presented to the Technical Committee for adoption at its forty-first session in April 2005.

Hop (document TG/HOP(proj.1))

62. The subgroup, chaired by Mrs. Beate Rücker (Germany), agreed the following changes to document TG/HOP(proj.1) :

7. *Table of Characteristics*

Char.No.	Comment
1	Germany to check example variety “Northdown” for state (9)
New ch.	Germany to check possible new characteristic “Main shoot: type of color (upper half)”, with states of expression, “solid flush” (example variety Wye Challenger); “striped” (example variety “Zeneth”) and “mottled”
2	To read: “Leaf: size of blade”
3	To read: “Leaf: blistering of upper side of blade”
New ch.	Leaf: color of upper side of blade; with states of expression “yellow” (1); “yellow green” (2) and “green” (3); observation at stage 37-38; VG; QN.
4	To read: “ <u>Only green varieties</u> : Leaf: intensity of green color of upper side of blade”

- New ch. Germany to check possible new characteristic “Only dwarf types: Plant: length of internode”, with states of expression “short (3)”; “medium (5)” and “long (7)”. United Kingdom to provide example varieties, QN, VG.
- 7 To read “Plant: shape”
- 11 States 1 and 3 to read “very low” and “low” respectively and to improve the explanation
- 12 States of expression 1 and 3 to read “very few” and “few”
- 13 To read: “Side shoot of middle third of plant: number of cones” and states 1 and 3 “very few” and “few”, states 7 and 9 “many” and “very many”
- 14 To read: “Side shoot of the upper third of plant: number of cones” and states 1 and 3 “very few” and “few”, states 7 and 9 “many” and “very many”
- 21 To reword the characteristic
- New ch. Cone: color. Experts from United Kingdom to provide the necessary information
- New ch. “Cone: density of resin glands”. Experts from United Kingdom to provide the necessary information.

8. *Explanations to the Table of Characteristics*

- 8.1 (a) To be modified to explain which leaf should be observed
- Ad. 11 To add at the end “The total appearance of leaves of the side shoots should be observed without considering number and size of leaves separately
- Ad. 12 To be modified to clarify the difference between characteristics 12 and 13

10. *Technical Questionnaire*

- 7.3 To read: “Type of use of variety”, with the same options. Experts from United Kingdom to provide information on the methods of assessment.

Lotus (document TG/193/1(proj.3))

63. In the absence of the leading expert, the subgroup was chaired by the Office of the Union. It agreed the following changes to document *TG/193/1(proj.3)*:

Cover page

Requested the leading expert to check the botanical name *Lotus uliginosus* Schkur.

To verify the possibility to include *Lotus major* as common name in English and to have the common name in German as “Hornklee” instead of “Hornschootenklee”

Table of Contents

To delete items 6.1.1 and 6.1.2

3. *Method of Examination*

3.3.2 To delete the paragraph

3.5 To read:

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations on single plants should be made on 60 plants or parts taken from each of 60 plants.

5. *Grouping Characteristics*

5.1 Last line to read "... distinctness are

To read

(b) Plant: time of inflorescence emergence (characteristic 10)

6. *Introduction to the Table of Characteristics*

(a) – (b) See explanations on the Table of Characteristics in chapter 8.1

7. *Table of Characteristics*

Char. No.	Type of expression	Method of assessment	Comment
1 (+)		(a)	To add explanation (a) in Section 8.1 on the way it is assessed at vegetative stage
4, 5, 6, 7		(a)	To add explanation (a)
5			To check the translation into French of the term "sparse"
6			States 7 and 9 to read "semi-prostrate" (7) and "prostrate" (9)
7			To delete the asterisk
8			To read: "Plant: natural height <u>at beginning of flowering</u> "
9			To read: "Plant: growth in aftermath"
10			To read: "Plant: time of beginning of flowering (when 3 inflorescences show color in the floret)
11	PQ	VS	The subgroup considered it was a characteristic very difficult to assess and proposed the leading expert to examine its possible deletion from the table
12	(+)	PQ	To have states of expression "yellow" (1), "yellow and orange" (2), "orange" (3)
13		(b)	To read: "Leaf: length of central leaflet" And to have the following explanation in Section 8.1 "(b) to be observed in the 3 rd or 4 th leaf from end tip of longest stem"
14		(b)	To delete "(as for 13)" and to include note "(b)"
15			To read: "Stem: length of longest stem (when fully extended)
16	(+)		To add explanation on the time of observation
17			To read: "Grain: weight of 1000 seeds"

8. *Explanations on the Table of Characteristics*

8.1 Explanations covering several characteristics

To add (a) and (b)

8.2 Explanations for individual characteristics

Ad.9 To read: "Growth in aftermath should be observed after last cutting in autumn"

10. *Technical Questionnaire*

1 To check the layout of the boxes

1.2.2 To read "LOTUS MAJOR"

1.3.2 To read "NARROW LEAF TREFOIL"

4 To check the layout of the section

4.2 To read:
4.2 Method of Propagating the Variety

(a) Cross-pollinated

(i) population []

(ii) synthetic variety []

(iii) Other (please provide details) []

5 To modify according to the changes in the Table of Characteristics

64. The subgroup agreed that a new draft should be prepared for the next session of the TWA in 2005.

Lucerne (Revision) (document TG/6/5(proj.2))

65. The subgroup chaired by Mr. Joël Guiard (France) agreed the following changes to document TG/6/5(proj.2):

3.5.2 To read: "Unless otherwise indicated, all measurements should be made on row plots on a total of 18 plants or parts of plants, 6 taken from each of the 3 replicates."

5.3 To add characteristics 6, 7 and 8

6.5 "Chapter 8." After (+) to read: "Chapter 8.2"

Chapter 7 Example variety "Likarlu" to read "Karlu". Leading expert to check if the variety is also known by the name "Likarlu": if so, a synonym table to be created in Chapter 8

7. *Table of Characteristics*

Char. No. Comment

1 To be indicated as QN/VG. To add "(2 weeks before equinox)".

Example variety to read “KM Maraton”

- 3 To add MS/A. (*) to be indicated to apply only to MG/B method of examination and (+) and explanation to be provided of this
- 4 (a) to be deleted
- 14, 15 To add MS/A
- 19, 20, 21, 22 To be indicated as VS/C
- 20 To correct spelling of “Phytophthora”.
- Chapter 8 To be updated in accordance with changes to the Table of Characteristics. To check the characteristic numbers e.g. Chapter 8.1(a): to refer to characteristics 2, 3, 14 and 15
- 8.1(a) Diagram to be replaced by leading expert
- 8.1(b) “(VS)” to be replaced by “(see Chapter 3.3: A)”
- Ad. 10 “Characteristic 9” to be replaced by “characteristic 8”
- Ad. 16 “the fall dormancy rate” to be replaced by “characteristics 2, 3, 14 and 15”. 2nd paragraph: “occur” to be replaced by “be assessed” and “in” to be deleted. To replace Char. 1 and Char. 2 with Char. 2 and Char. 3, respectively. To replace “3 weeks” with “2 weeks”. Wording of characteristics to be amended according to the Table of Characteristics. Final paragraph to read: “It is recommended that the following varieties have the appropriate notes to ensure that descriptions are consistent.”.
- Ad. 17(3) Chemicals to be provided in English
- Ad. 17(9) To add “low” for note 3
- Ads. 19, 20, 21, 22 To replace “^o” with “%”. To replace “low resistant” with “weakly resistant”
- Ad. 20 To correct spelling of “Phytophthora”. “Hypocotyls” to be replaced by “hypocotyl”
- Ad. 21 Biotypes/rating: to correct spelling of “trifoliate”.
- Ad. 22 To read “Therioaphis...”. Spelling of “perlite” to be corrected. Spelling of “unifoliate” to be corrected. Spelling of “trifoliate” in 4 to be corrected.
- Chapter 9 Reference for describing flower color to be provided by the expert from Australia
- TQ 1.1.2 To add “Alfala”
- TQ 5 Example variety “Likarlu” to read “Karlu”
- TQ 5.4 To be updated
- TQ 6 Example: dormancy rating 3 / dormancy rating 4 to be provided
66. The subgroup agreed that, with the incorporation of the above-mentioned changes, the Test Guidelines for Lucerne could be presented to the Technical Committee for adoption at its forty-first session in April 2005.

67. The subgroup noted that characteristic 16 was a quantitative characteristic which required more than nine states. It proposed that this should be considered in any future revision of document TGP/7.

Medics (Medicago L. other than sativa) (document TG/Medics(proj.2))

68. The subgroup, chaired by Mrs. Robyn Hierse (South Africa), agreed the following changes to document TG/Medics(proj.2):

- 2.3 Quantity of seed to read “1 kg”
- 3.3.2 To add MG method
- 5.3 To be amended according to changes in the Table of Characteristics
- 6.5 To add MG method

7. *Table of Characteristics*

Char.No.	Comment
4	To amend notes to 1 to 8.
5, 6	To read “ <u>Only varieties with spot or fleck type of marks:</u> ...”
7	To read “Time of flowering”. To be indicated as MG/B and MS/A. To follow the decision made on the Test Guidelines for Lucerne regarding the need to split the characteristic into two characteristics according to the method of observation.
8	To be deleted
11	To read “Runner: pubescence”
14	To be indicated as QN
15	To be indicated as QN
17	Wording of states 1 and 2 to be reviewed
20	To read: “Leaflet hair on <u>upper</u> side: attitude”. To be moved after Char. 21
22	To read “Leaflet hair on <u>lower</u> side: attitude. To be moved after Char. 23.
28	To be indicated as PQ. To read “Inflorescence: predominant number of florets”
29	To be indicated as PQ. To delete states for “orange” and “pink” unless example varieties provided
33	To follow the decision made on the Test Guidelines for Lucerne regarding the need to split the characteristic into two characteristics according to the method of observation
35	To add further shapes if example varieties are provided by the expert from Australia
38	To be indicated as PQ. (+) to be added and illustration provided. “Spirals” to be replaced by “whorls”

- 39 State 1 to read “smooth”
- 43 To be indicated as MG. State 2 to read “medium”
- Chapter 8 To be updated in accordance with changes to the Table of Characteristics
- 8.1(a) Timing to be amended according to comments to be provided by the expert from the Russian Federation
- 8.1(b), (d), To replace “full flowering” with “flowering”
(e)
- TQ 5 To be updated in accordance with changes to the Table of Characteristics

69. The subgroup noted that there would be an exchange of seed of possible example varieties between Australia and South Africa.

Pea (documents TG/7/10(proj.1) and TWA/33/12))

70. The TWA received a report from Mr. Kees van Ettehoven, Chairman of the TWV, on the basis of documents TG/7/10(proj.1) and TWA/33/12. It agreed to the changes to document TG/7/10(proj.1) as proposed by the TWV in document TWA/33/12 and agreed the following further changes:

7. *Table of Characteristics*

Char.No.	Comment
General	Example varieties to be checked
4	To read: “ <u>Only varieties with plant anthocyanin coloration absent...</u> ”
5	To change state 1 to “absent or very faint”
6	State “non black” to have note 2
8	To read: “ <u>Varieties with simple starch grain only</u> : Seed: dimpled cotyledons”. To be moved after Char. 63.
10	To insert missing note 3
16	To be retained unchanged
22	To add (+) and explain which leaf and leaflet to observe
36	To be indicated as QN
37	To add (+) and explain which flower is to be observed, define fasciation (as there is no characteristic to do this) and to specify the node. To review the wording of the states
41	To change “white to cream” to “whitish cream”
43	To change “raised” to “moderately raised” and “arched” to “moderately arched”
45	To add (+) and explain which sepal to observe as there seem to be differences between flowers

46	To be indicated as PQ
New Chars. After 47	To add (+) and provide explanation on how to examine the characteristics. To check whether the characteristics provide useful discrimination between varieties. To specify whether MS or VS
48	(*) to be deleted
50	To be split into two characteristics (absent/present; degrees of presence) or state 1 to read “absent or partially present”. Leading expert to rearrange the other states accordingly and allocate the example varieties
New Char. (after 51)	Questioned whether this was really a clear cut QL two state characteristic. Thought to be more likely to have 3 states and be QN
55	To add for clarification: “ <u>Only varieties with green pods ...</u> ”
66 to 72	Methods to be provided in Chapter 8

71. The TWA agreed that the revised version of the document should be reviewed by the TWV, but agreed that it would not to be reviewed again by the TWA before submission to the TC.

Pearl Millet (document PRL_MIL(proj.1))

72. Upon the request of the experts from Brazil, the subgroup was chaired by the Office of the Union. It agreed the following changes to document PRL_MIL(proj.1):

Cover page

To include the common name “Mijo perla” in Spanish

3. *Method of Examination*

3.4 To add “C: special tests”
To verify the number of plants

4. *Assessment of Distinctness, Uniformity and Stability*

4.2.2 To provide the information for the assessment of uniformity

5. *Grouping Characteristics*

To define the grouping characteristics

6. *Introduction to the Table of Characteristics*

6.5 To add “C: special tests”

7. *Table of Characteristics*

To order the characteristics in chronological order in relation to the time of observation.

Char.No.	Type of expression	Method of assessment	Comment
1		VG	To read: "Seedling: intensity of anthocyanin coloration of base"
2		MS	
3		MS	To have notes 3, 5, and 7
4		VG	
5 (+)			To read: "Culm: degree of synchronism of basal tillers in the panicles maturity", with states of expression "low" (3); "medium" (5) and "high" (7)
6 (+)		MS	To read: "Culm: number of basal tillers" and to add explanation of basal tiller
7		MS	To read: "Culm: number of tillers with panicle"
8 (+)		MS	To add explanation of nodal tiller
9, 10 and 11		VG	
12			To be deleted
13 (+)		VS	To have notes 1 and 9 and to add explanation/drawing
14		VG	To read: "Leaf: ligule" with notes 1 and 9
15 (+)		VG	States of expression "erect" (1); "semi erect" (3) and "semi erect to horizontal" (5) and to add drawing in Section 8.2
16 and 17		MS	
18		VF	To split into two characteristics "Leaf: blade variegation", with states of expression "absent" (1) "present" (9) and "Non variegated varieties only. Leaf: blade color" with states of expression "yellow" (1); "light green" (2); "medium green" (3); "dark green" (4); "red" (5) and "purple" (6)
19		VG	
20		VG	To have notes 1 and 9

21	VG	To split into two characteristics: “Leaf: variegation of color of sheath”, with states “absent” (1), “present” (9) And “Varieties with color of sheath non variegates: color of sheath”, with states of expression “green” (1), “red” (2), “purple” (3)
22	VG	To check the states of expression
23 and 24	VG	To examine the discriminating power of these characteristics
25	VG	
26	VG	To read: “Panicle: exertion”, and to reword the states of expression
27	VG	To redefine the characteristic taking into account the distribution of the color
28	VS	To read “Panicle: scurs”
29	MS	To read “Panicle: scurs length”
30	VG	To redefine taking into account the distribution of the color
31	VG	To reword the states of expression
NEW	VG	To read: “Panicle: number of scurs”; with states of expression “one only” (1) and “more than one” (2)
32	VG	To read: “Varieties with one scur only. Panicle: scur length”, with the same states of expression
33	VG	To read: “Varieties with more than one scur. Panicle: scur density”, with the same states of expression
34	VS	To have notes 1 and 9
36	VS	To allocate state of expression “green” after “yellow”
36	VG	To read “Time of flowering” and to redraft the explanation
37	VG	To be reworded
38	VG	To verify the wording of the states of expression
39	VG	
40	VG	To verify the characteristic, in particular states (8)
41, 42 and 43	VG	To redefine the characteristic. To add note “C (special test)” to Char. 43
44		To examine the possibility to divide the characteristic in absence and presence of anthocyanin, intensity and/or distribution of anthocyanin
45		To be deleted

8. *Explanations on the Table of Characteristics*

8.1 Explanations covering several characteristics

To consider the inclusion of a key of growth stages in Section 8.2 in
place of explanation (a) to (i)

8.2 Explanations for individual characteristics

Ads. 2, 7, 15 To delete the tables with values and to add a drawing to Ad. 15

Ads. 16, 17 To be moved to Section 8.1

Ad. 22 To modify according to the changes in the wording of the characteristic

Ad. 36 To improve the explanation

10. *Technical Questionnaire*

4 To redraft more precisely

5 To include information

73. The subgroup agreed that experts from Brazil would prepare and circulate a new draft to the subgroup (AT, ES, KR, MX, RU and UA) by the end of October with comments to be sent to the leading expert by the end of January 2005. A new draft then to be prepared for the next session of the TWA.

Ryegrass (Revision) (document TG/4/8 (proj.1))

74. The subgroup, chaired by Mr. Michael Camlin (United Kingdom), agreed the following changes to document TG/4/8(proj.1):

Title page	UPOV codes to read "LOLIU_BOU; LOLIU_MUL; LOLIU_PER" Alternative names (table): <i>Lolium multiflorum</i> Lam. to be split into: <i>Lolium multiflorum</i> Lam. ssp. <i>italicum</i> (A. Br.) Volkart (Italian ryegrass) and <i>Lolium multiflorum</i> Lam. var. <i>westerwoldicum</i> Wittm. (Westerwold ryegrass)
1.	To be extended to cover <i>Lolium rigidum</i> Gaudin
3.4.1	To read: "Each test should be designed to result in a total of at least 60 spaced plants and 8 meters of row plot which should be divided between 2 replicates"
5.3	To include characteristics: 1, 4, 9, 14
6.5	"8." to read "8.2"
7. <i>Table of Characteristics</i>	
Chapter 7	Growth stage to be indicated. "VS B" to be replaced by "VG B". "MS A" to be replaced by "MG B"
Char. No.	Comment
1	(+) to be added and method to be provided
4	(+) to be added and explanation provided that observation will depend on the time of planting
5	To read "Leaf: green color" and "green" to be deleted from all states
6	To check if there is correlation with Char. 2

New Char.	“Leaf: width (at vegetative stage)”
New Char.	“Leaf: length (at vegetative stage)”
7	“natural” to be deleted
8	(+) to be added and explanation provided
10	“Low” to be replaced by “short”
11	(+) to be added and explanation provided
New Char. (after 13)	“Flag leaf: length/width ratio”
New Char. (after 14)	“Plant: length: length of longest stem from base to top node”
New Char. (after 14)	“Plant: length of upper internode on longest stem”
New Char. (after 16)	“Inflorescence: density” – calculated as Char. 15/Char. 16
17, 18	To check if glume should be taken from middle of inflorescence.
17	Subject to above to read “Inflorescence: length of outer basal glume”.
18	To add “(excluding awns)”
New Char.	“Plant: growth habit in aftermath” to be indicated as VG B
New Char.	“Plant: color in aftermath” to be indicated as VG B
New Char.	“Plant: height in aftermath” to be indicated as VG B or MG B
New Char.	“Plant: number of vegetative tillers” to be indicated as VG B/QN (1-9)
Chapter 8	To be updated in line with changes to the Table of Characteristics
8.1(a)	Second sentence to read “Characteristic 6 should only be recorded on biennial and perennial types.”
8.1(b)	“Plots with spaced plants and row plots ...” to be replaced by “Spaced plants or row plots ...”
8.1(c)	To indicate that each plant must be recorded at the appropriate time for the individual plant
8.1(d)	To read “These characteristics should be recorded when the inflorescence is fully expanded” and to indicate that Chars. 15-18 to be recorded on the same inflorescence, taken from the middle of the plant
Ad. 7	To be deleted
TQ 1	To be updated in line with changes to the coverage of the Test Guidelines and the table of alternative names
TQ 5	To be updated in line with changes to the Table of Characteristics

75. The subgroup agreed to recommend to the TWA that separate Test Guidelines be developed for hybrids between *Festuca* and *Lolium* (*Festulolium*). It agreed that experts should check the definition of “*Festulolium*” in their territories.

Sheep's Fescue (including Hard Fescue) and Red Fescue (Revision)
(document TG/67/5(proj.1))

76. The subgroup, chaired by Mr. Henk Bonthuis (Netherlands), agreed the following changes to document TG/67/5(proj.1):

Chapter 7	To provide explanation for all relevant characteristics that each plant needs to be recorded at the appropriate time for the plant concerned
Chapter 7	To consider the inclusion of “combined characteristics” where these satisfy all the appropriate criteria
Chapter 7	“VG A” to be replaced by “VS A”
2.3	“(DE asks for 1500 grams)” to be deleted
Char. No.	Comment
1	Experts from Slovakia to provide information on other ploidy types
2	(*) to be deleted
New Char.	“Inflorescence: anthocyanin coloration of the panicle” to be considered
3	To be deleted
4	To be recorded at growth stage 31. To read “Plant: presence of rhizomes”, to have the states: “absent or weak” (1), “medium” (2), “strong” (3) and to be indicated as QN
New Char.	“Plant: natural height”, to be indicated as DC 29, QN (1-9)
6	To be indicated as QN
7	To read: “ <u>Only red fescue varieties</u> : ...”
8	To read: “Leaf: green color”. “Green” to be deleted from all states
11	To be moved before Char. 10
15	To read: “Plant: length of longest stem (inflorescence included)”
16	To check if the characteristic provides useful additional information to characteristics 15 and 17.
18	To be deleted
19	To be deleted
New Char.	“Plant: growth habit in aftermath” to be indicated as VG B, DC 68+
New Char.	“Plant: color in aftermath” to be indicated as VG B, DC 68+
New Char.	“Plant: height in aftermath” to be indicated as VG B, DC 68+
Ad. 1	To include all ploidy types and indication of how to assess the characteristic
Ad. 6	To be corrected
Ad. 11	“Plots with spaced plants and row plots ... ” to be replaced by “Spaced plants or row plots ... ”

- 8.2 To check if the BBCH code might be more suitable
TQ 4.2 Proposal by France to be considered by ISF

Sugarcane (document TG/181/1(proj.1))

77. The TWA heard that the TC had adopted the Test Guidelines for Sugarcane, subject to certain information being provided by the leading experts. Mr. Tanvir Hossain (Australia) and Mr. Leontino Rezende (Brazil), joint leading experts, reported that the necessary example varieties could not be provided for characteristic 30. The TWA agreed that document TG/181/1(proj.1) should be amended by the deletion of characteristic 30 and resubmitted to the TC, since the change was not anticipated by the TC. It also requested the Office to put the Test Guidelines into the new format according to the adopted version of TGP/7.

78. The TWA noted that the changes to the document went beyond those requested by the TC and agreed that the Test Guidelines should be resubmitted to the TC in 2005 and should, in the meantime, be updated according to the adopted version of TGP/7.

Sweetcorn (documents TWV/38/6-TWA/33/6 and TWV/38/6 Add.-TWA/33/6 Add.)

79. The TWA considered documents TWV/38/6-TWA/33/6 and TWV/38/6 Add.-TWA/33/6 Add. and received a report of the discussions in the TWV from Mr. van Ettehoven, Chairman of the TWV.

80. The TWA agreed that the Test Guidelines for Maize should be revised and should incorporate the necessary changes to accommodate the DUS testing of sweetcorn varieties. The TWA and the Chairman of the TWV agreed that the TWA should be the leading Technical Working Party for that revision and further agreed that the joint leading experts should be from France and Hungary. The subgroup of interested experts is set out in Annex IV.

Recommendations on Draft Test Guidelines

81. The TWA noted document TWA/33/8

82. The TWA agreed that the draft Test Guidelines listed below would be sent to the TC for adoption at its forty-first session, to be held in Geneva from April 4 to 6, 2005, on the basis of the following documents with the amendments presented in this document:

French Bean (Revision)	TG/12/9(proj.1)
Ginseng	TG/GINSEN(proj.3)
Lucerne (Revision)	TG/6/5(proj.1)
Sugarcane	TG/181/1(proj.1)

83. The TWA decided to discuss further the following draft Test Guidelines at its next session:

Amaranth

Common Millet

Coffee

Festuca / Lolium hybrids (Festulolium)

Hop

Lotus

Maize

Medics (Medicago spp. other than sativa)

Pearl Millet

Ryegrass (Revision)

Sesame

Sheep's Fescue (including Hard Fescue) and Red Fescue (Revision)

Tea

84. The leading experts, interested experts and timetables for the development of the Test Guidelines, are set out in Annex IV.

Chairmanship

85. The TWA agreed to propose to the TC that it recommend to the Council to elect Mrs. Beate Rücker (Germany) as the next chairperson of the TWA.

Future Program, Date and Place of the Next Session

86. At the invitation of the expert from New Zealand, the TWA agreed to hold its thirty-fourth session in Christchurch, New Zealand, from October 31 to November 4, 2005.

87. The TWA proposed to discuss the following items at its next session:

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers (oral reports by the participants)
 - (b) Reports on developments within UPOV (oral report by the Office of the Union)

4. Molecular Techniques
5. TGP documents
6. UPOV Information Databases
7. Project to consider the publication of variety descriptions
8. Project for exchanging seed of selected varieties between interested countries
9. Development of regional sets of example varieties for the Test Guidelines for Rice
10. Discussion on draft Test Guidelines (Subgroups)
11. Recommendations on draft Test Guidelines
12. Date and place of the next session
13. Future program
14. Report on the conclusions of the session (if time permits)
15. Closing of the session

Visit

88. On Tuesday, June 29, 2004, the TWA visited the Research Centre for Cultivar Testing (COBORU), Slupia Wielka. The TWA was welcomed by Mr. Edward Gacek, Director of COBORU, and received a presentation on “Plant variety testing, registration and legal protection in Poland”, which is reproduced as Annex V to this document. Following the presentation, the TWA visited the COBORU trial fields.

89. The TWA adopted this report at the close of the session.

[Annex I follows]

ANNEX I

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[Annex II follows]

ANNEX II

Barley variety descriptions

Gerhard Deneken
Poznan 2004

- 2004 submitted descriptions
- 2001 descriptions used where no new submission (FR, AR (partly), ES, EST, UK, NZ, SK)
- Characteristics from TG/19/7 converted into TG/19/10 where compatible
- Characters comparable based on TG/19/10

Varieties	Descriptions	Guide-lines
723	1134	TG/19/10

Number of countries	Number of varieties	Country	Number of descriptions
1	505	NZ	2
2	128	AR	5
3	44	SA	9
4	22	UK	10
5	7	SK	12
6	8	ES	24
7	5	LT	31
8	1	CA	34
9	3	FR	38
		SL	42
>1 description	218	HU	52
		RU	93
		AT	118
		DE	181
		DK	228
		CZ	255

YEAR	Descriptions	YEAR	Descriptions
	103	1990	12
1973	2	1991	20
1974	1	1992	24
1975	1	1993	26
1978	1	1994	34
1980	1	1995	69
1981	2	1996	66
1982	1	1997	66
1983	1	1998	85
1984	1	1999	88
1985	3	2000	104
1986	4	2001	139
1987	7	2002	75
1988	5	2003	188
1989	9		

Follow up – autumn 2004

- Quality assessment/consolidation of data
- Level of harmonisation of variety descriptions assessment based on individual characters grouped according to (g, *, non*, QL, PQ and QN)
- Possibility of preselection based on established descriptions (GAIA and/or other tools)

Publication of
Potato Variety descriptions
Preliminary report

Objectives

- Study on the Stability of characteristics across different environments

Publication of Variety Descriptions

- Stability of Characteristics
 - Similarities / differences across different environments
 - Patterns among descriptions from different sources
- Similarities among Environments for selected (groups of) characteristics
- Potential use and constraints on the Publication of variety descriptions

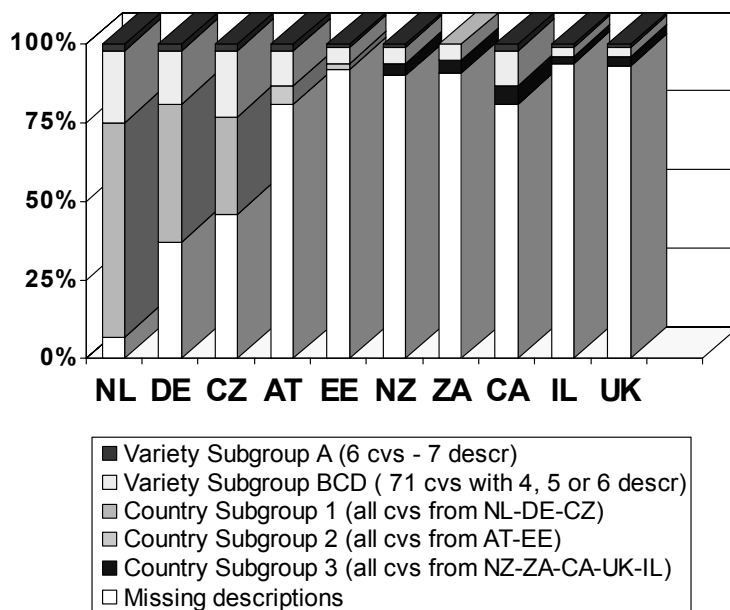
Dataset submitted

- Model study to be based on 325 varieties
- Data were received from 10 countries
- Mainly based on TG 23/5
- Covering a total number of 935 descriptions
- 935 out of a potential # of (10 * 325 =) 3250 descr. That is 29 % real data.

# varieties	# sources
6	7
5	6
17	5
49	4
100	3
133	2
15	1
Total # varieties = 325	
Total # descriptions = 935	

Unbalanced dataset (11 cvs. only with > 5 descriptions)

	NL	DE	CZ	AT	CA	ZA	NZ	EE	UK	IL	Total # of descr
Agria	X	X	X	X	X		X	X			7
Van Gogh	X	X	X	X	X		X	X			7
Asterix	X	X	X	X	X			X		X	7
Remarka	X	X	X	X	X			X		X	7
Adora	X	X	X	X	X				X	X	7
Mondial	X		X	X	X		X		X	X	7
Platina	X	X	X	X	X	X					6
Desiree	X	X	X	X			X			X	6
L. Rosetta	X	X	X			X	X		X		6
Santana	X	X	X		X	X				X	6
Victoria	X		X		X	X	X	X			6



Analyses – options (H_0 = similar descr. from diff. sources)

- 1. Over all varieties – across a subset of 3 countries (NL-DE-CZ)
 - Condensed dataset – (slightly) unbalanced – partial concl. on major set
- 2. Over all varieties – across a subset of 5 cnt. (NL-DE-CZ-AT-EE)
 - Unbalanced dataset – coherent set of countries
- 3. Over all varieties – across all countries
 - Highly unbalanced – overall conclusions
- 4. Over a subset of varieties – across countries
 - Concised dataset – slightly unbalanced – partial conclusions
- 5. Per variety – across countries
 - Direct comparison - no replications – few df – standard dev. – min / max

Unbalanced dataset – without replications

<i>sources of variation</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F-test prob.</i>
variety	324			
country	9			
variety*country = residual	602			
Total	935			

Genstat – REML procedure = Residual maximum likelihood

Restrictions on the statistical analyses

- Statistical variance analysis requirements
 - Normal distribution of data
 - Constant error variance
- Qualitative characteristics
 - Discontinuous scale (mostly) – should be tested non-parametric
- Short scales (< 1 - 9)
 - Limited range of variance (non-comparable with 1-9 scale)
 - Not always normally distributed (skew distributions and skew scales)
- No replications from similar sources
 - Test against interactions (small sign. differences indicate low interactions)
- Constraints equally applicable for comparison of Standard deviations

Stability across NL-DE-CZ

No difference at P = 0.05 for:

X6 = Lightsprout size of tip

X18 = Leaf size

X19 = Leaf silhouette

X21 = Leaf ext. anth. midrib

X28 = Leaflet glossiness

X34 = Inflor. anth. peduncle

(X38 = Flower cor. color inside)

(X40 = Flower cor. color outers)

(X47 = Tuber color of skin)

(X48 = Tuber color of eyebase)

X38, X40, X47, X48 are QL

Significant = Significant ?
Small sign. differences
indicate low interactions

X1		X11 3.10%		X21 47.30%		X31		X41	
CZ	4.89 a..	NL	4.75 a.	NL	2.05 a	DE	3.03 a..	CZ	4.18 a.
DE	5.35 .b.	DE	4.85 ab	CZ	2.05 a	CZ	3.92 .b.	DE	4.49 a.
NL	5.64 ..c	CZ	5.02 .b	DE	2.15 a	NL	4.28 ..c	NL	4.92 .b
X2		X12		X22 0.60%		X32		X42	
CZ	2.43 a..	CZ	3.79 a.	DE	5.35 a.	DE	3.14 a.	CZ	2.20 a.
DE	2.76 .b.	NL	4.24 .b	NL	5.51 ab	CZ	4.52 .b	DE	2.44 ab
NL	2.90 ..c	DE	4.38 .b	CZ	5.65 .b	NL	4.40 .b	NL	2.76 .b
X3 1.60%		X13		X23 0.50%		X33		X43	
DE	1.15 a.	CZ	5.26 a..	DE	4.95 a..	CZ	4.44 a.	DE	4.04 a.
CZ	1.16 ab	NL	5.69 .b.	CZ	4.99 a.	DE	4.80 ab	CZ	4.49 .b
NL	1.18 .b	DE	6.79 ..c	NL	5.17 .b	NL	4.90 .b	NL	4.68 .b
X4		X14		X24		X34 72.80%		X44 2.30%	
NL	5.17 a..	DE	1.84 a.	CZ	3.30 a.	NL	2.75 a.	CZ	2.74 a.
CZ	5.78 .b.	NL	2.11 .b	NL	3.60 .b	DE	2.80 a	NL	2.85 ab
DE	7.10 ..c	CZ	2.16 .b	DE	3.71 .b	CZ	2.85 a	DE	2.90 .b
X5		X15 1.00%		X25		X35		X45	
CZ	3.45 a.	NL	4.63 a.	NL	3.36 a.	CZ	4.46 a.	DE	3.11 a.
NL	4.67 .b	CZ	4.73 ab	DE	3.73 .b	DE	5.26 .b	CZ	3.23 a.
DE	4.81 .b	DE	4.92 .b	CZ	3.90 .b	NL	5.46 .b	NL	3.77 .b
X6 9.20%		X16		X26		X36		X46	
CZ	4.54 a	CZ	4.95 a.	NL	4.60 a..	CZ	2.90 a..	DE	3.57 a.
NL	4.98 a	DE	5.53 .b	CZ	4.81 .b.	NL	3.55 .b.	NL	4.62 .b
DE	4.79 a	NL	5.73 .b	DE	5.34 ..c	DE	4.28 ..c	CZ	4.74 .b
X7		X17 2.60%		X27		X37		X47 41.50%	
CZ	4.38 a..	DE	2.69 a.	NL	0.97 a.	DE	4.91 a.	NL	1.09 a.
NL	4.70 .b.	NL	2.93 .b	DE	1.08 a.	CZ	4.97 a.	DE	1.10 a
DE	5.10 ..c	CZ	2.98 .b	CZ	1.43 .b	NL	5.40 .b	CZ	1.11 a
X8		X18 5.59%		X28 60.10%		X38 12.40%		X48 13.80%	
NL	3.38 a..	DE	5.60 a	NL	4.89 a.	DE	1.37 a.	DE	1.1 a.
CZ	5.06 .b.	CZ	5.62 a	CZ	4.89 a	NL	1.40 a	NL	1.11 a
DE	5.52 ..c	NL	5.83 a	DE	4.98 a	CZ	1.41 a	CZ	1.12 a
X9		X19 28.80%		X29		X39		X49	
CZ	4.04 a.	DE	5.05 a	CZ	4.92 a.	DE	4.24 a.	DE	3.15 a.
NL	4.23 a.	NL	5.10 a	NL	5.03 a.	CZ	4.46 a.	NL	3.18 a.
DE	5.14 .b	CZ	5.24 a	DE	6.38 .b	NL	4.94 .b	CZ	3.42 .b
X10		X20		X30		X40 11.10%		X50	
CZ	4.66 a.	NL	4.99 a.	CZ	4.14 a..	DE	1.17 a	DE	2.19 a..
NL	4.74 a.	DE	5.30 .b	NL	4.64 .b.	CZ	1.20 a	NL	3.38 .b.
DE	5.15 .b	CZ	5.44 .b	DE	6.08 ..c	NL	1.60 a	CZ	3.95 ..c

P = 0.05 (basis for tprob grouping - abc)

P = 0.001

From 3 to 5 to 10 countries

- Most characteristics (40) are significantly different
- (Sign.) differences increase as the number of countries increases
- Nearly all char. are significantly different across 10 countries
- Qualitative char. (X38, X40, X47, X48) are more stable across environments

3 countries			5 countries			all countries			3 countries			5 countries			all countries														
Ligheproot: size of tip (1-9)															Inflorescence: anthocyanin coloration of peduncle (1-9)														
X6 9.20%			X7 <0.1%			X8 <0.1%			X24 72.80%			X24 31.48%			X24 4.80%														
CZ 4.54 a	NL 4.58 a	DE 4.79 a	CZ 4.52 a	NL 4.58 a	DE 4.79 a	NZ 4.17 a...	ZA 4.48 a...	CA 4.61 a...	NL 2.75 a	DE 2.80 a	CZ 2.85 a	EE 2.82 a	NL 2.82 a	DE 2.84 a	EE 2.87 a	NZ 2.43 a	IL 2.49 a...	AT 2.71 a...	EE 2.76 a...	ZA 2.77 a...	CA 2.90 a...	NL 2.93 a...	DE 2.99 b	CZ 3.04 b	UK 3.78 ...c				
Leaf: size (1-9)															Flower corolla: color of inner side (1-3)														
X18 8.50%			X18 8.20%			X18 <0.1%			X38 12.40%			X38 3.30%			X38 <0.1%														
DE 5.60 a	CZ 5.62 a	NL 5.83 a	EE 5.54 a	DE 5.55 a	NL 5.86 a	UK 4.67 a...	NZ 4.76 a...	ZA 5.43 b...	DE 1.37 a	NL 1.40 a	CZ 1.41 a	DE 1.38 a	NL 1.40 a	EE 1.42 a	DE 1.46 a	DE 1.39 a...	NL 1.42 a...	AT 1.43 a...	EE 1.43 a...	ZA 1.45 a...	UK 1.46 a...	CA 1.48 a...	EE 1.55 ...c	DE 1.60 ...c	NL 1.63 ...c				
Leaf: silhouette (1-9)															Flower corolla: anthocyanin coloration of outer side in white flowers (1-5)														
X19 82.80%			X19 <0.1%			X19 <0.1%			X40 11.10%			X40 18.80%			X40 1.78%														
DE 5.05 a	NL 5.10 a	CZ 5.24 a	DE 5.06 a	NL 5.12 a	EE 5.19 a	IL 3.35 a...	DE 3.39 a...	CA 3.58 b...	DE 1.17 a	CZ 1.20 a	NL 1.60 a	DE 1.18 a	EE 1.18 a	NL 1.44 a	EE 1.98 a	IL 0.51 a	CA 0.68 a	GA 0.80 a...	CZ 1.22 a...	DE 1.24 a...	AT 1.55 a...	NL 1.64 a...	EE 1.97 b	UK 2.74 b					
Leaf: extension of anthocyanin coloration of midrib (1-9)															Tuber: color of skin (1-5)														
X21 47.30%			X21 <0.1%			X21 <0.1%			X47 61.60%			X47 28.70%			X47 0.40%														
NL 2.05 a	CZ 2.05 a	DE 2.15 a	NL 2.05 a	CZ 2.06 a	EE 2.88 b	IL 1.23 a...	DE 1.25 a...	CA 1.28 b...	NL 1.09 a	DE 1.10 a	CZ 1.11 a	EE 1.04 a	NL 1.09 a	DE 1.11 a	CZ 1.11 a	EE 1.05 a	CA 1.05 a	AT 1.10 a	NL 1.10 a	IL 1.11 a	NZ 1.11 a	DE 1.12 a	ZA 1.16 a	UK 1.33 b					
Leaflet: glossiness of the upper side (1-9)															Tuber: color of base of eye (1-3)														
X28 60.10%			X28 <0.1%			X28 <0.1%			X48 13.80%			X48 62.40%			X48 <0.1%														
NL 4.89 a	CZ 4.89 a	DE 4.98 a	EE 3.95 a	AT 4.91 b	NL 4.91 b	IL 3.68 a	DE 3.67 a	CA 3.87 a	DE 1.1 a	NL 1.11 a	CZ 1.12 a	DE 1.10 a	EE 1.11 a	NL 1.12 a	AT 1.12 a	IL 1.01 a...	UK 1.08 a...	DE 1.10 b	EE 1.12 b	NL 1.12 b	AT 1.12 b	CZ 1.12 b	ZA 1.26 ...c	CA *	NZ *				

P = 0.05 (basis for tprob grouping - abc) P = 0.001

Standard Dev. of highly sign. Char. on Prevailing Varieties (QN char, 1-9, < 0.1 %)

	L.spr . int. anth base	L spr Pub. base	L spr Habit of tip	L spr int. anth tip	Leaflet freq. coal.	Leaf freq. sec. leaflet.	Term leaf. size sec II	Lat. leaf. size sec II	Tub. sm. skin	Tub. anth in re. light	# of descr
	X4	X5	X7	X8	X24	X29	X30	X32	X46	X50	
Agria	1.00	1.25	1.40	1.99	0.00	1.79	2.00	1.50	1.10	1.41	7
Van Gogh	1.57	1.00	0.79	2.36	1.63	1.14	1.10	1.67	1.83	1.10	7
Asterix	1.38	0.76	1.51	1.25	1.79	1.79	2.26	1.10	0.84	-	7
Remarka	1.15	1.41	1.25	1.15	1.41	2.07	2.99	0.89	1.33	0.98	7
Adora	1.41	2.57	1.72	2.04	0.55	0.52	0.89	0.89	0.45	0.98	7
Mondial	1.27	2.48	1.21	1.91	0.96	2.00	2.83	2.06	1.94	1.15	7
Platina	1.87	1.26	0.82	0.82	1.26	0.89	0.84	1.14	1.10	1.58	6
Desiree	1.60	1.60	1.55	0.98	0.58	0.84	1.26	1.41	1.00	-	6
L. Rosetta	1.37	1.33	0.41	1.33	2.08	0.00	3.20	1.50	1.79	-	6
Santana	0.98	0.75	1.37	0.98	1.63	1.95	2.97	1.82	2.19	2.19	6
Victoria	0.75	1.75	0.84	1.51	1.26	0.58	1.26	1.63	1.37	0.00	6
Range	2.2	2.1	3.3	2.2	2.8	2.5	2.0	2.4	3.0	3.1	(= max-min)

G x E interactions and Main Effects for quantitative characteristics

- Small significant effects indicate low interactions
 - Characteristics are scored at (slightly) different levels
 - Similar ranking across countries
- No final conclusions yet
 - Further Ranking analyses required
 - Similarity based on Variance levels and Ranking indices ?

	Small country-effect	Large country-effect
Low G x E interaction	** Similar, but different levels of observations	*** Different levels due to environment / observer
High G x E interaction	n.s. Similar (?), but sensitive to 'environment'	** Different levels and sensitive to 'environment'

Scores and Standard Dev. for Maturity on Prevailing Varieties

X43	NL	DE	CZ	AT	CA	ZA	NZ	EE	UK	IL	St. dev.	# of descr
Agria	6		5	6	7			6			0.71	7
Van Gogh	7		7	6				8			0.82	7
Asterix	6		7	6				6			0.50	7
Remarka	6		5	6	9			7		6	1.38	7
Adora	1		1	3					1	1	0.89	7
Mondial	7		6	7						3	1.89	7
Platina	4		5	4							0.58	6
Desiree	6		6	6							0.00	6
L. Rosetta	4		5								0.71	6
Santana	4		4		7					5	1.41	6
Victoria	4		5					5			0.58	6
Berber	3		2	3				2			0.58	5
Folva	7		5	7				5			1.15	5
Quarta	4		4	5				5			0.58	5
Impala	3		2	2				1			0.82	5
Ukama	3		2	2							0.58	5
Nicola	6		6	5							0.58	5
Novita	3		3	4						3	0.50	5
Rikea	3		3		5			1			1.63	5
Felsina	4		3		5					4	0.82	5
Vital	7		5							7	0.55	5
Fresco	1			1				1	1		0.00	5
Carlita	3							3		3	0.00	5
Florissant	5		5	6	5						0.50	5
Innovator	3		5								1.41	5
L. Christie	2		1		5						2.08	5
Liseta	3		3							3	0.00	5
Valor			7		8						0.71	5
Avg Maturity (all cvs.)	4.624	4.087	4.455	4.472	6.124			4.446	4.585	4.208		

Differences for 'stable' QL-characteristics: X38

X38	NL	DE	CZ	AT	CA	ZA	NZ	UK	IL	Country A	Country B
24 cultivars										2	3
Carrera	2		1								
Cleopatra	2				1						
Diana		2						1			
Draga	1				2		3				
Jana	2	1	2								
L. Christl	2				1	2					
Molle	3	1									
Novita	3	2		1					3		
Platina	1			1	2	1					
Romula	1	2	2								
Rosella	2	2	2	1							
Saxon	1				1		1	2			
Sirius	2	1	1								
Verdi	1	2									

X38 = Flower corolla: color of inner side

1 = white 2 = red-violet 3 = blue-violet

Remaining cvs. were stable

Differences for 'stable' QL-characteristics: X40

X40	NL	DE	CZ	AT	CA	ZA	NZ	EE	UK	IL	St. dev.	# of descr
Agria	1		1	1	1			9			3.58	5 (7)
Allure	9	1									5.66	2 (2)
Anosta			1					9			5.66	2 (3)
Atlas	9	9	1							1	4.62	3 (3)
Desiree				9							5.66	2 (6)
Dorado	9		1			1					4.62	3 (3)
Felsina	1	9	9		1					1	4.38	5 (5)
Fianna	9				1						5.66	2 (4)
Gloria	1	9	1								4.62	3 (4)
Hilite Russet	1				1				9		4.62	3 (3)
Kuras	9	1	1	1							4.00	4 (4)
Sante	9		1		1			1			4.00	4 (4)
Saturna		1	1	9							4.62	3 (4)
Stefano	9	1									5.66	2 (2)
Taiga	9	1									5.66	2 (2)

X40 = Flower corolla: anthocyanin coloration of outer side in white flower

■ = 'unofficial' description

Remaining cvs were stable

Differences for 'stable' QL-characteristics: X38, X40, X47

X47	NL	DE	CZ	AT	CA	ZA	NZ	EE	UK	IL	St. dev.	# of descr
Cleopatra	2				1						0.71	2 (2)
Diana	2	1							2		0.58	3 (3)
Glamis	1								4		2.12	2 (3)
Merlin					1	4			4		1.73	3 (3)
Quarta	1	4	4	1				1			1.64	5 (5)
Rasant	1	2	2								0.58	3 (3)
Redstar	2				1		2				0.58	3 (3)

X47 = Tuber: color of skin (1 – 5)

1 = yellow

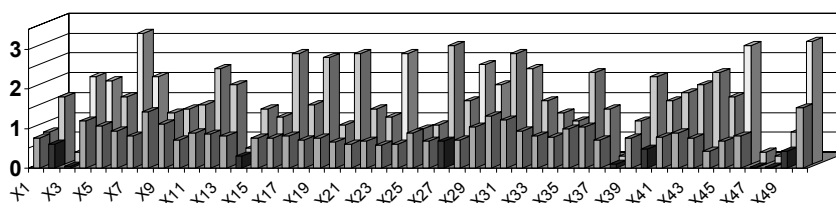
2 = red

4 = red parti-colored

■ = 'unofficial' description

Remaining cvs. were stable

Averages across all countries



■ Average Standard deviation
■ Qualitative characteristic

■ Avg. Range of char. (max-min across countries)
■ Highly significant char. (4,5,7,8,24,29,30,32,46,50)

Groups of Characteristics

X1 – X12 = Lightsprout char.

X13 – X15 = Plant char.

X16 – X17 = Stem char.

X18 – X21 = Leaf char.

X22 – X32 = Leaflet char.

X33 – X42 = Inflorescence char.

X43 = Maturity

X44 – X50 = Tuber char.

Qualitative Characteristics

X2 = L.spr. shape (1 – 5)

X3 = Lightsprout anthocyanin coloration of base (1 – 2)

X14 = Plant type (1 – 3)

X27 = Leaflet: anth. pigmentation of apical rosette (1 / 9)

X38 = Flower corolla: color of inner side (1 – 3)

X40 = Flower corolla: anth. coloration of outer side (1 / 9)

X47 = Tuber: color of skin (1 – 5)

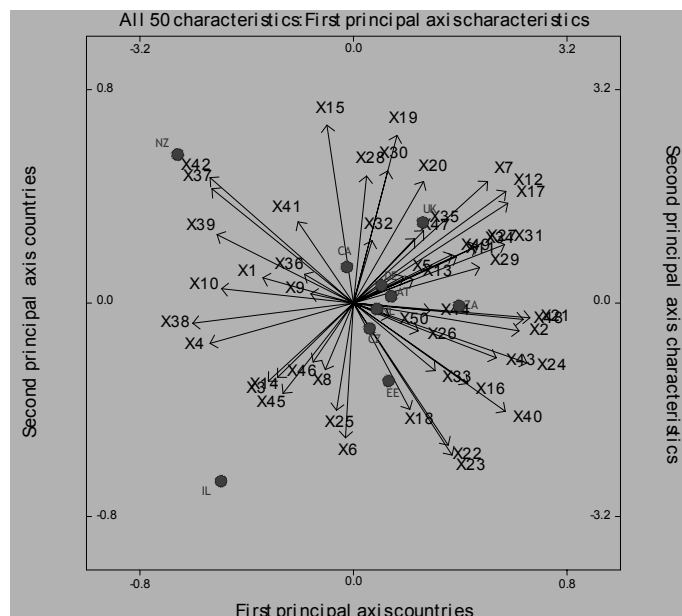
X48 = Tuber: color of base of eye (1 – 3)

X49 = Tuber: color of flesh (1 – 5)

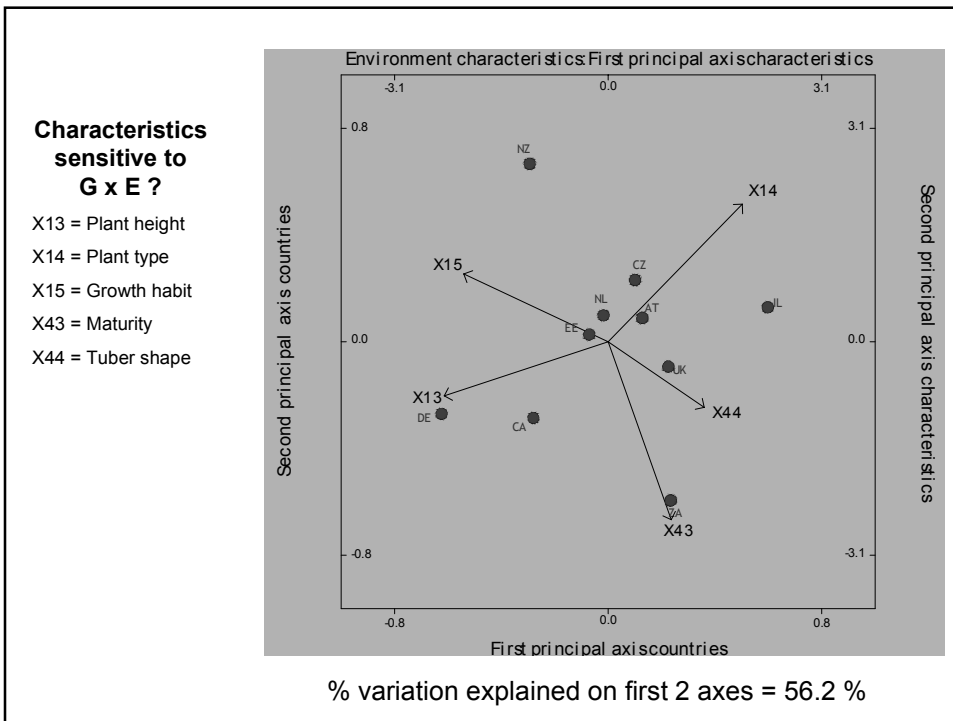
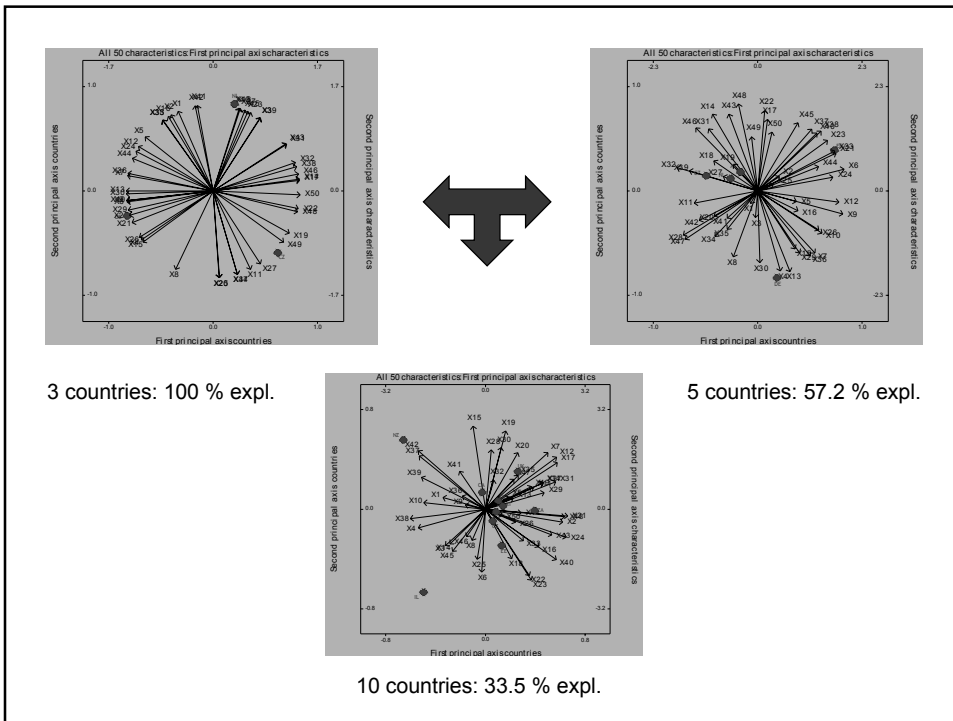
Similarities among environments

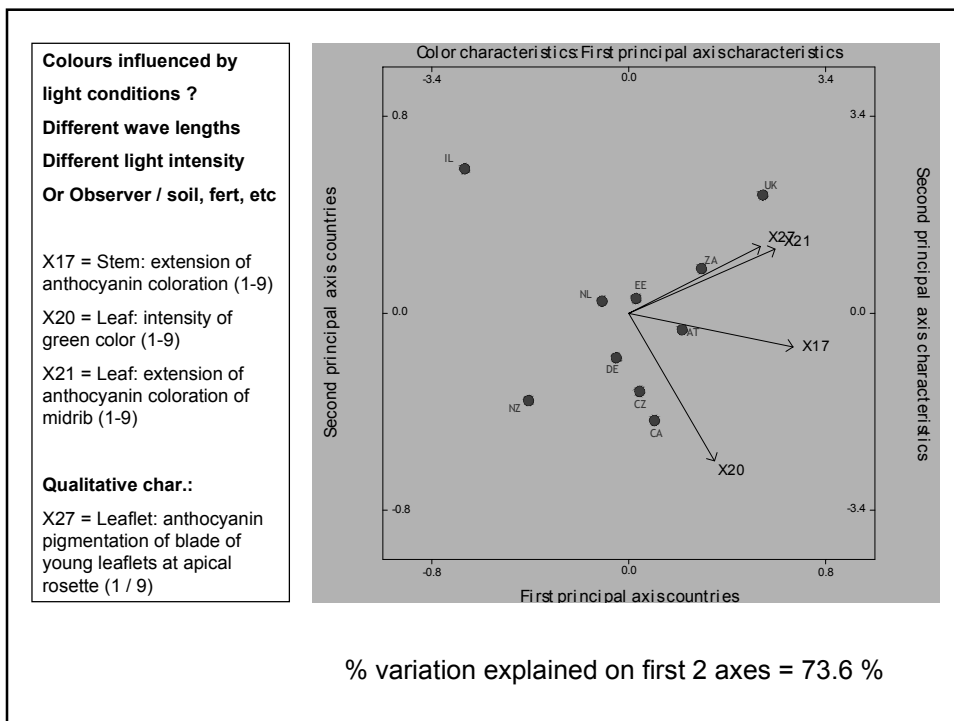
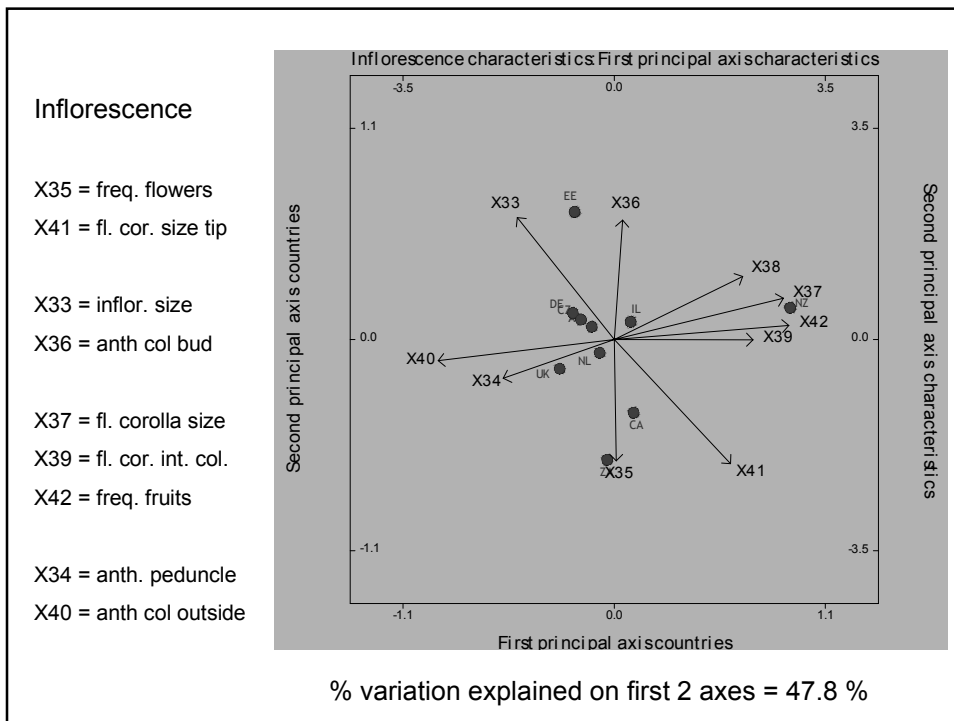
- Correspondence analysis (multivariate - biplot):
 - similarities among countries for different sets of char.
 - pca for differences among (groups of) countries:
 - group of 3 North West European countries (NL-DE-CZ)
 - group of 5 North West European countries (NL-DE-CZ-AT-EE)
 - All countries (NW-EU, Commonwealth and Israel).
 - multidimensional projection of correlations among characteristics on corresponding axes.

Total dataset
Nw European
countries cluster
in the centre



% variation explained on first 2 axes = 33.5 %

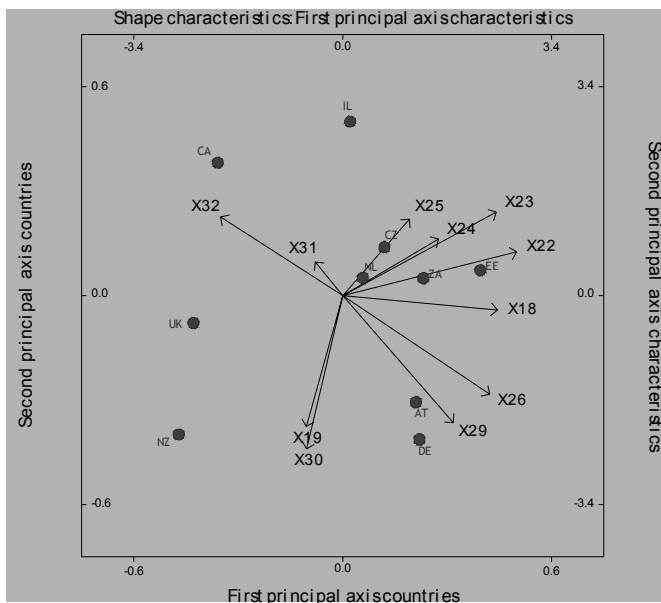




leaf shape

large dispersal
leaf shape and size
sensitive to observer
interpretation ?

X32 = size sec leaflet
X30 = freq. sec. leaflet
X19 = leaf silhouette

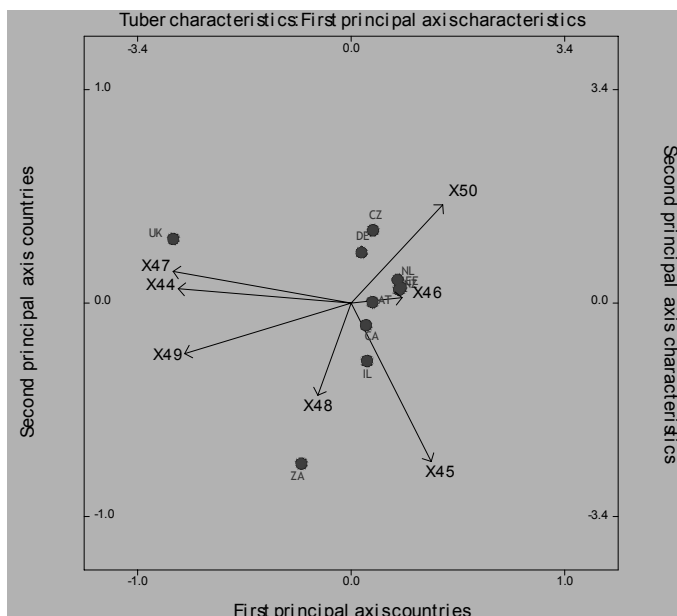


% variation explained on first 2 axes = 46.3 %

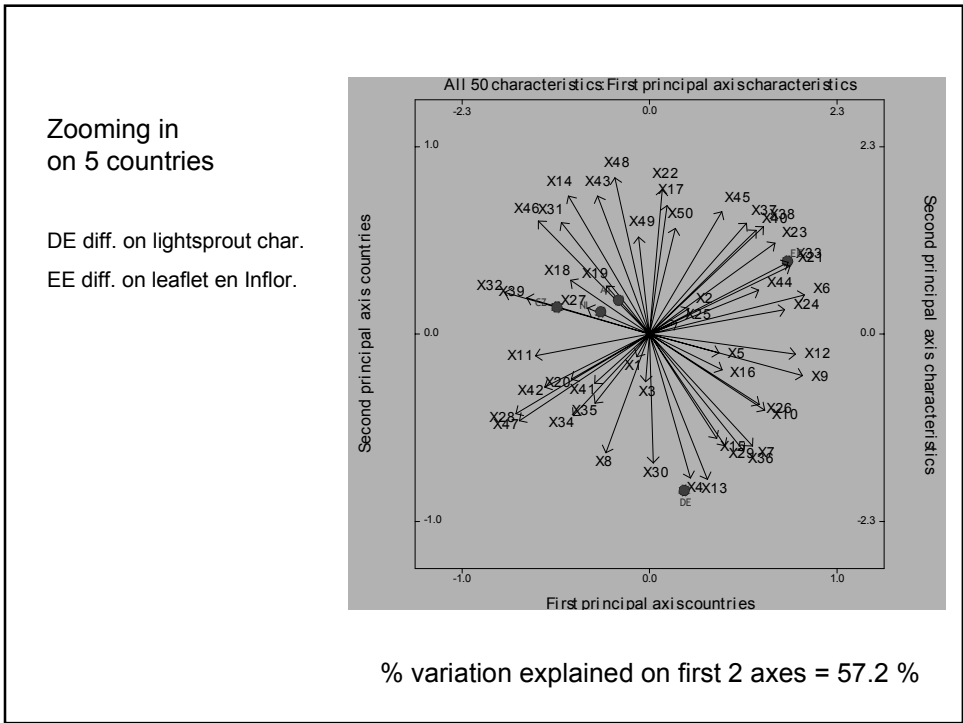
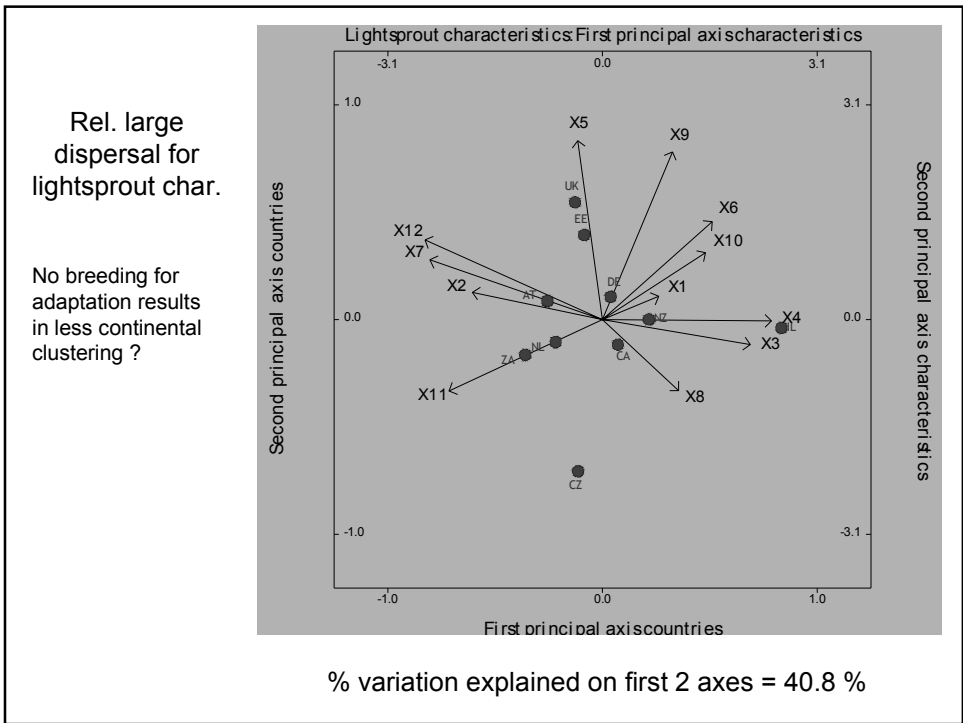
Tuber

UK market specialty ?

X47 = color of skin
X44 = shape
X49 = color of flesh
X45 = depth of eyes
X48 = color eyebase

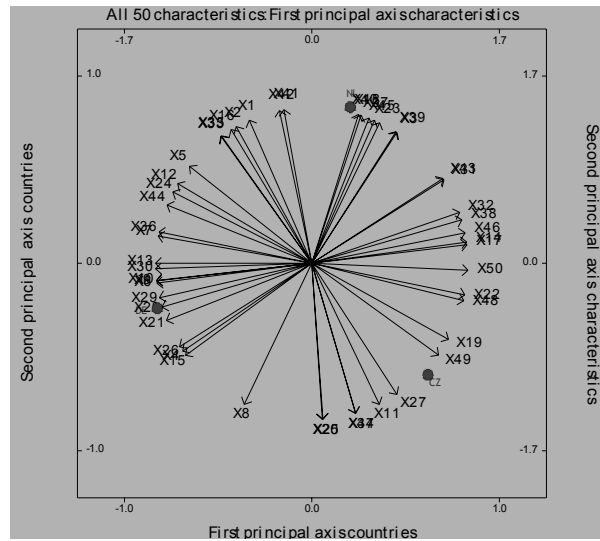


% variation explained on first 2 axes = 46.8 %



Zooming in
on 3 countries

Despite the differences
More regional similarity



Conclusions (preliminary)

- Methodology
 - Unbalanced datasets require adapted Analyses of Variance (REML)
 - Restrictions on Statistical Analyses need full attention.
 - Test against interactions – no final conclusions yet (level of Obs. or G x E ?)
 - Standard Dev. for direct comparison depending on Range and # Obs.
 - Environment = year, loc., soil, growing cond., daylength, observer, TG-interpr.
- Characteristics
 - Some QL-characteristics are stable (skin and flower colour)
 - Several QN's are not stable across environments (in general)
 - Some QN-characteristics are more stable than others
- Regional similarities
 - Stability seems to increase in regional subsets
 - Morphology is more stable in the original breeding environment (adaptation) !
 - Further study of varieties (with subsets based on origin) to test this hypothesis.
- Publication of Variety Descriptions ?
 - Main effects and G x E excluded or minimized – thresholds and corrections ?
 - Regional based or Worldwide ?

LIST OF LEADING EXPERTS

DRAFT TEST GUIDELINES
TO BE SUBMITTED TO THE TECHNICAL COMMITTEE IN 2005

Test Guidelines	Document	Leading experts
French Bean (Revision)	TG/12/9(proj.1)	TWV (François Boulineau (FR))
Ginseng	TG/GINSEN (proj.3)	Keun-Jin Choi (KR)
Lucerne (Revision)	TG/6/5(proj.1)	Joël Guiard (FR)
Sugarcane	TG/181/1(proj.1)	Leontino Rezende (BR)

All requested information to be submitted to the Office of the Union
no later than August 16, 2004.

POSSIBLE “FINAL” DRAFT TEST GUIDELINES
TO BE DISCUSSED AT TWA/34

Test Guidelines	Document	Leading experts	Interested experts (countries) (for name of experts see List of Participants, Annex I)
Hop	TG/HOP(proj.1)	Beate Rücker (DE)	GB, CPVO
Lotus	TG/193/1(proj.3)	Carlos Gómez (UY)	AT, DE, FR, GB, NZ
Medics (Medicago spp. other than sativa)	TG/MEDICS (proj.1)	Joan Sadie (ZA)	AR, AU
Ryegrass (Revision)	TG/4/8(proj.1)	Michael Camlin (GB)	AR, AU, CZ, DE, DK, FR, HU, KR, NL, NZ, PL, ZA, CPVO
Sheep’s Fescue (including Hard Fescue) and Red Fescue (Revision)	TG/67/5(proj.1)	Henk Bonthuis (NL)	DE, DK, FI, FR, GB, PL, CPVO

New draft to be submitted to the Office of the Union no later than September 16, 2005.

LIST OF LEADING EXPERTS

DRAFT TEST GUIDELINES
TO BE DISCUSSED AT TWA/34

Test Guidelines	Document	Leading experts	Interested experts (countries) (for name of experts see List of Participants, Annex I)
Amaranth	TG/AMARAN (proj.3)	Aquiles Carballo Carballo (MX)	BR, HU, JP, ZA
Coffee	TG/COFFEE(proj.1)	Leontino Rezende (BR)	KE, MX
Common Millet	TG/COM_MIL (proj.2)	Maksym Melnychuk (UA)	AT, FR, HU, MX, RU, ZA
Festuca / Lolium hybrids (Festulolium)	new	Michael Camlin (GB)	AR, CZ, DE, DK, FR, NL, NZ, PL, ZA, CPVO
Maize (partial revision)	TG/2/6 + Corr.	Joel Guiard (FR) / Tamás Harangozó (HU)	AR, AT, BR, DE, ES, KE, KR, MX, NL, PL, SK, ZA, CPVO
Pearl Millet	TG/PRL_MIL (proj.1)	Leontino Rezende Taveira (BR)	AT, ES, FR, KR, MX, UA, RU
Sesame	TG/SESAME (proj.1)	Baruch Bar-Tel (IL)	BR, CN, JP, KR
Tea		Lin Xiangming (CN)/ Evans O. Sikinyi (KE) (joint leading experts)	BR, JP, KR

New draft to be submitted to the Office of the Union no later than September 30, 2005.

[Annex V follows]



THE RESEARCH CENTRE FOR CULTIVAR TESTING

Plant Variety Testing, Registration and Legal Protection in Poland

Edward S. Gacek

Ślupia Wielka, 29 June 2004

UPOV

Technical Working Party for Agricultural Crops
TWA

Agriculture and Food Economy in Poland

- Country's surface - 312,7 thousand km²
- Total no. of inhabitants - 38,6 Mio people
- Vegetation period - 200 days (on the average)
- Precipitation - 600-650 mm (on the average)
- Farmland acreage - 16,9 Mio ha (in 1996 - 18,1)
- Arable land - 10,8 Mio ha (in 1996 - 12,3)
- Fallow (uncultivated) land - 2,3 Mio ha (in 1996 - 1,5)
- No. of farms above 1 ha - 1,9 Mio
- Average farm size - 8,4 ha

Farmland Structure

- Crop area - 67,3%
- Grassland - 14,2%
- Fallow Land - 9,0%
- Pastures - 8,0%
- Orchards - 1,5%

FARMLAND = 100%

Population in Agriculture and Contribution of the Seed Sector to the GDP

- Population working in agriculture:
 - Czech Republic - ca. 8,0%
 - Hungary - ca. 11,0%
 - Latvia - ca. 12,6%
 - Lithuania - ca. 16,1%
 - Poland - ca. 18,8%
 - Slovakia - ca. 10,0%
- 2. Contribution of agricultural sector to the GDP:
 - Czech Republic - 4,2%
 - Hungary - 7,1%
 - Latvia - 4,7%
 - Lithuania - 10,4%
 - Poland - 4,2%
 - Slovakia - 4,4%

Liczba gospodarstw i przeciętna wielkość użytków rolnych w gospodarstwie indywidualnym [ha] oraz przeciętne zatrudnienie w rolnictwie na 100 ha użytków rolnych w 2001 roku



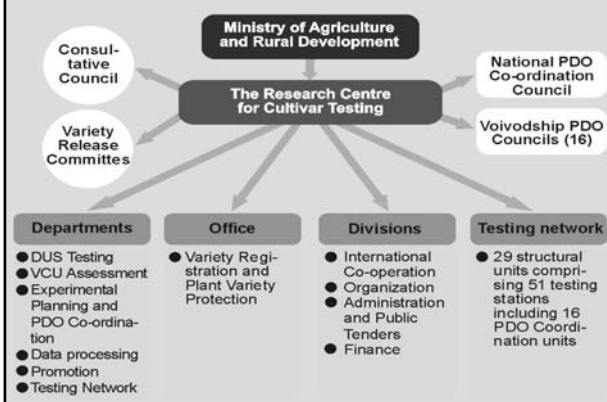
The main tasks of COBORU (1)

- maintaining the National Cultivar Register (KR)
- maintaining the Breeders Rights Register (KO)
- preparation of official descriptions of varieties included into the KR and/or KO
- testing for distinctness, uniformity and stability of cultivars (DUS tests)
- assesment of cultivars value for cultivation and use (VCU assesment)
- preparation of methods of official testing
- development and co-ordination of post-registration cultivar testing system (PDO)

The main tasks of COBORU (2)

- publishing of official information about varieties as well as performance results on varieties
- post-control variety tests
- co-operation with European Council and Commission Organs as well as other Member States concerning variety registration and legal protection
- co-operation with Community Plant Variety Office (CPVO) concerning granting Community Plant Breeders Rights
- co-operation with the International Union for the Protection of New Varieties of Plants (UPOV) concerning granting Plant Breeder's Rights

COBORU organization structure



COBORU testing network



51 Experimental Stations for Variety Testing (SDOO) organized into 29 structural units.

The size of SDOO:

- < 50 ha - 20 SDOO
- 50 - 250 ha - 24 SDOO
- > 250 ha - 7 SDOO

Employment - 669 persons, including 198 technical specialists

OFFICIAL CULTIVAR TESTING

DUS (OWT) tests

- distinctness
- uniformity
- stability

VCU (WGO) assesment

- agronomic value
- quality
- general performance

DUS tests are performed to see if a variety is

- distinct
- uniform
- stable

VCU performance tests are done in order to see if a variety has adequate value for cultivation and use

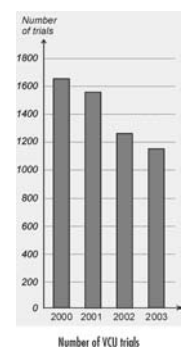
VCU Assesment

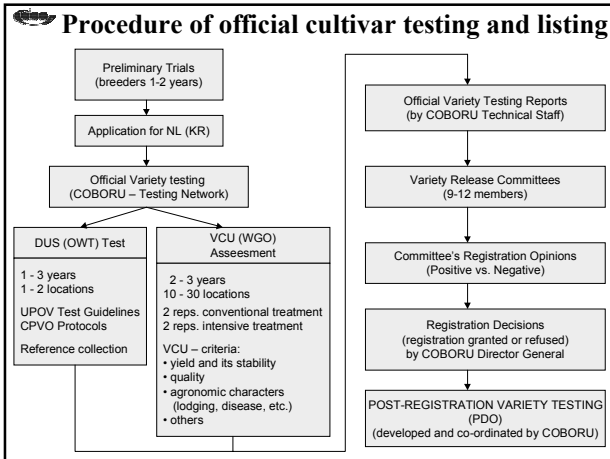
VCU trials are carried out in multisite comparative trials (in 10-20 locations) in four replications depending on plant species.

Registration decision are taken after two-three trial seasons.

The varieties of 22 horticultural species (15 vegetable and 7 fruit species) are investigated for VCU.

After registration, VCU assesments are done to prepare relevant Descriptive Lists.





National Register of Cultivars (1)

Seed material of an agricultural, vegetable and horticultural varieties can be legally produced and marked in Poland as well as in the other EU Member States after their accepting in the National Register of Cultivars (KR).

A variety enters the KR, if:

- the administrative requirements are fulfilled
- it has acceptable **DUS**
- it has a satisfactory **VCU**
- it has suitable denomination
- relevant fees are paid

National Register of Cultivars (2)

Varieties admitted to the KR

- period of 10 years
- enter into the Common Catalogue of Varieties of Agricultural Plant Species (CCA)
- enter into the Common Catalogue of Varieties of Vegetable Species (CCV)

Crops	Number of cultivars
agricultural	~1100
vegetable	~1400
fruits	~200

Plant Variety Protection (1)

There is no automatic link of the variety registration in the KR with its protection:

- variety can be protected and not accepted in the KR
- and conversely - it can be registered and not protected
- the legal base for variety protection in Poland constitute the **Plant Variety Protection Act of 26 June 2003**
- the PVP Act is based on 1991 Act of UPOV convention
- the PBR's in Poland can not be granted for the varieties which are already protected by Community Plant Variety Rights

Plant Variety Protection (2)

COBORU acting as Plant Variety Office is responsible for:

- administration of PVP system in Poland
- examination as to formal requirements (submission date, etc.)
- examination of the application as to the substance
- publishing „Polish Gazette for Plant Breeders' Rights and National Register” („Diariusz COBORU”) - bimonthly
- technical examination of a variety
- administration and examination fees
- maintenance of Register of Applications and Register of Granted Plant Breeders' Rights

Plant Variety Protection (3)

The PBR's shall be granted when:

- the variety is new (1 year vs. 4-6 yrs.)
- administration requirements are fulfilled
- the variety is **Distinct, Uniform and Stable**
- it has suitable denomination
- relevant fees are paid

Year	Number of varieties
2000	~6000
2001	~6500
2002	~7000
2003	~7200

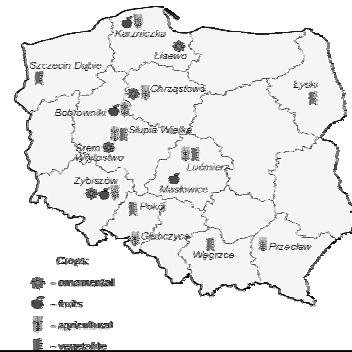
The system of DUS testing (1)

The testing system for assessing DUS is performed as follows:

- the DUS testing is mostly conducted within the COBORU testing network (fig. 1)
- it comprises comparative growing tests involving:
 - *sampling*
 - *observations and measurements*
 - *processing and evaluation of the obtained results*
- tests are done in 1–2 locations, for 1–3 consecutive years
- UPOV Test Guidelines and CPVO Technical Protocols are used for DUS tests
- the UPOV Reports on Technical Examination are prepared
- live collections of the Reference Collections for each genus or species in which varieties are tested are maintained

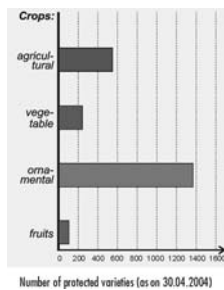
The system of DUS testing (2)

COBORU - Experimental Station, where DUS - Tests are performed



Plant Breeders' Rights Register (KO)

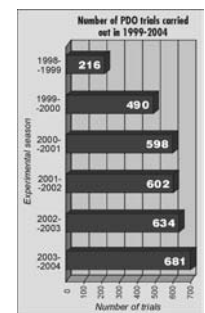
- The PBR titles are granted for:
 - all *genera* and *species*
 - 25 years for a majority of plant species
 - 30 years for potato, vine and trees
- „Temporary PVP Titles” are granted
- Exemptions to PVP



Post-registration cultivar testing system PDO (1)

The main aim of PDO is to provide agricultural community with objective and updated information about VCU of cultivars of agricultural species from KR and/or CCA.

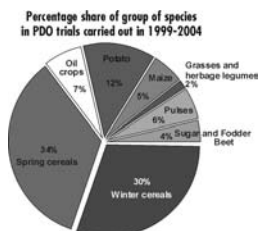
PDO system has been developed since 1998 on the basis of COBORU experimental network (testing stations) and another experimental units existing in our country.



Post-registration cultivar testing system PDO (2)

COBORU is legally responsible for the coordination of all activities within this system in cooperation with voivodship Self-Governments and Agriculture Chambers.

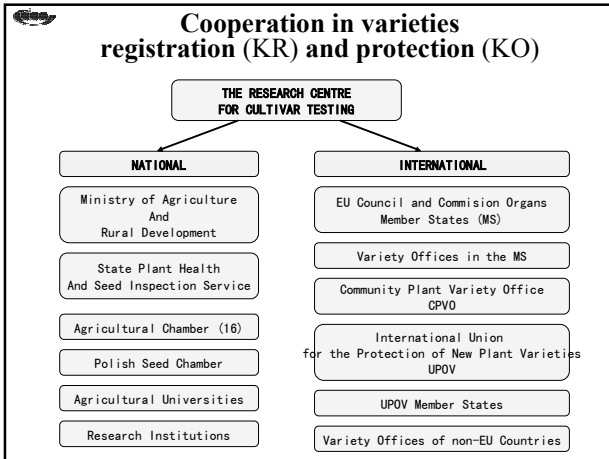
On the basis of results of PDO trials „The lists of recommended cultivars for cultivation” are published.



Post-registration cultivar testing system PDO (3)

Institutions involved in carrying out of PDO trials in 2003/2004





- COBORU publications**
- The List of agriculture and vegetable cultivars admitted into national register in Poland
 - The List of fruit plants admitted into national register in Poland
 - Official Gazette of COBORU
 - Descriptive Lists of Cultivars of agricultural, vegetable and fruit species
 - VCU Results of Official cultivar testing assesment
 - PDO Results publication
 - The COBORU Bulletin
 - Methodics and Instructions
 - Cultivar News

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