

TWC/25/20 ORIGINAL: English DATE: September 6, 2007

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS

Twenty-Fifth Session Sibiu, Romania, September 3 to 6, 2007

REPORT

adopted by the Technical Working Party on Automation and Computer Programs

Opening of the Session

1. The Technical Working Party on Automation and Computer Programs (TWC) held its twenty-fifth session in Sibiu, Romania, from September 3 to 6, 2007. The list of participants is reproduced in Annex I to this report.

2. The TWC was welcomed by Mr. Gabor Vàrga, General Director, State Office for Inventions and Trademarks (OSIM). A copy of his welcome address is provided in Annex II to this document.

3. The session was opened by Miss Sally Watson (United Kingdom), Chairperson of the TWC, who welcomed the participants.

Adoption of the Agenda

4. The TWC adopted the revised agenda as reproduced in document TWC/25/1 Rev., on the basis of the work program proposed by the Chairperson.

Short Reports on Developments in Plant Variety Protection

(a) Reports from members and observers

5. Mrs. Adriana Paraschiv, Head, Agricultural Division, State Office for Inventions and Trademarks (OSIM), (Romania) made a presentation on the situation of plant breeders' rights in <u>Romania</u>. A copy of the presentation is provided as Annex III to this report. Mrs. Mihaela Cristea, Examiner, State Institute for Variety Testing and Registration (ISTIS), made a presentation on software applications for the examination of distinctness, a copy of which is provided in Annex IV to this document.

6. The expert from <u>Australia</u> reported that 2007 marked the twentieth anniversary of the introduction of plant breeder's rights in Australia. Since 1987, over 5,500 applications had been received and more than 3500 certificates had been issued. He reported that varieties of more that 500 different species from around 230 different genera had been protected. He explained that many of those were Australian native plant genera and species and that those figures increased on an average of one new species every three days and one new genus every ten days. He added that in the last seven years automatization had been incorporated to improve the efficiency of the work and that three years ago an on-line interactive system for variety descriptions had been incorporated. Finally he reported that the process for the establishment of a system for on-line filing of applications had been initiated, but was still likely to be some time away.

7. The expert from <u>China</u> reported that, since China acceded to the UPOV in 1999, significant achievements had taken place in the protection of plant varieties of agricultural genera and species. Up to August 30, 2007, the Ministry of Agriculture had received 4,268 applications, including 156 foreign applications, and had granted 1,266 plant breeder's rights. She reported that the Ministry of Agriculture had published six batches of lists of agricultural plant species included in the plant breeder's rights system and that a seventh batch would be published in the near future, bringing the total number of protected genera and species to more than 100. In order to promote intellectual property rights in plants and to encourage breeders to apply for plant breeder's rights, a reduction of the fees for plant variety protection had been introduced from September 1, 2007. That had resulted in a considerable reduction in the application fee, the examination fee and the annual fee and the elimination of the fees for DUS testing for new varieties. She explained that further information about fees was available on the website of the Office for the Protection of New Varieties of Plants at http://:www.cnpvp.cn.

8. An expert from Japan informed the TWC that, on November 2006, Japan had signed a Memorandum of Understanding with the Community Plant Variety Office with respect to international cooperation and agreed to accept DUS examination documents and reports issued by both offices in the procedure for granting plant breeder's rights. It was reported that, at that time, that agreement was limited to the following ornamental species: calibrachoa, petunia and cut-flower rose, but that it might be extended in the future. He further explained that, in October 2007, it was planned to host a workshop in Tokyo to exchange experiences and to consider possibilities for cooperation in plant variety protection amongst Asian countries.

9. An expert from <u>Moldova</u> reported that plant breeder's rights had been introduced in 1998 and that two organizations were responsible for the administration of plant breeder's rights: the State Agency on Intellectual Property and the State Commission for Crop Testing

of Plant Varieties. She explained that the State Agency on Intellectual Property was responsible for the examination of the application form, the examination of the denomination, publishing of the filing date of the application, granting of plant breeder's rights and maintenance of the Register of Applications and the Register of Plant Variety Protection. The State Commission for Crop Testing of Plant Varieties was responsible for the establishment and maintenance and publication of the National List of Plant Varieties, DUS examination and VCU testing and elaboration of the official description of plant varieties. She added that, in June 2007, the government of the Republic of Moldova extended the list of plant genera and species eligible for plant variety protection from 24 to all plant genera and species. She concluded by reporting that 200 applications had been filed and 20 plant breeder's rights granted.

10. An expert from the <u>Republic of Korea</u> reported that from January 1 to June 30, 2007, 245 applications for plant breeder's rights had been filed and that the total number of applications filed was 3,173 with 2,026 plant breeder's rights having been granted. He recalled that the tenth session of the Working Group on Molecular Techniques and DNA Profiles in Particular was held from November 21 to 23, 2006, in Seoul and that the thirty-eighth session of the Technical Working Party for Fruit Crops was held in Jeju Island, from July 9 to 13, 2007. He reported that the National Seed Management Office (NSMO) had launched a training course on plant variety protection and that the first session was scheduled from August 19 to September 15, 2007. The course had 12 participants from Asian and African countries. He explained that one of the objectives of the course was to transmit the experience acquired by the NSMO on implementing a system on plant variety protection.

(b) Reports on developments within UPOV

11. The TWC received an oral report from the Office of the Union (the Office) on latest developments within UPOV, a copy of which is provided as Annex V to this document.

12. An expert from the United Kingdom requested clarification on the process for new statistical methods to be accepted by UPOV and on the allocation of time for discussion on the development of new statistical methods in relation to the discussion on TGP documents. The Technical Director clarified that it was the Technical Committee which was responsible for the approval of technical methods within UPOV and explained that the inclusion of methods in TGP documents would lead to their approval upon the adoption of the TGP document. He considered that the development of TGP documents, in particular TGP/8, was an integral part of the process of developing and approving statistical methods and ensuring that the approval of those methods was made known to all members of UPOV. With regard to the allocation of time at the TWC sessions, he observed that there had always been sufficient time to consider all TWC documents at the TWC sessions.

13. With respect to the slides on essential derivation, an expert from France asked how one would know if a variety was essentially derived. The Technical Director clarified that, for most UPOV members, it was not a matter for authorities to consider or decide whether a variety was essentially derived: that was a matter to be resolved by the breeders of the putative initial variety and the essentially derived variety, or by the courts.

14. An expert from France requested information on the evaluation of the distance learning courses. The Office explained that the results of the students were taken into account where those students were to participate in UPOV training activities: where it was apparent that some students had difficulties with particular questions, particular attention was taken on the

relevant subjects in the training activities. In all cases, students were given their exam results and could view the correct answers to any questions which they had not answered correctly: if necessary, they could then contact their tutors for a further explanation. Students with an exam mark of 70% or more were awarded a pass certificate and those with an exam mark below 70% were awarded a certificate of participation. It was explained that there had been a need for only minor changes to the course materials and exams to date and that those modifications had already been made. It was an essential feature in the design of the course that it should be "self-learning" and should require only a minimal input from tutors. An expert from Romania confirmed that there was a need for a specialized distance learning course on DUS examination.

Molecular Techniques

15. The TWC received an oral report on developments within UPOV concerning molecular techniques, on the basis of document TWC/25/2.

The expert from the Netherlands noted that paragraph 13 of document TWC/25/2 16. recalled that the TC had agreed to investigate the possibility of a practical exercise, involving a small number of crops, in the development of an exchangeable database and observed that the TWC might be able to provide assistance on techniques for checking repeatability. The Technical Director noted that work on molecular markers had already started in different laboratories, with different molecular markers, protocols and platforms already having been used; therefore, it was also important to explore the possibility and usefulness of developing a database combining such information. An expert from United Kingdom reported on a project on oilseed rape, financed by the Community Plant Variety Office (CPVO) of the He explained that, in that project, the biggest problems in European Community. harmonization had been with morphological data rather than with molecular data. An expert from Germany considered that it was necessary to develop a harmonized structure for exchanging data as well as harmonizing the data itself, before developing any database. He added that the TWC could provide guidance in that process of harmonization. An expert from France reported that a database containing descriptions of maize varieties from France, Germany and Spain had been developed. It was explained that the degree of consistency of descriptions from one location to another varied from characteristic to characteristic: for some characteristics, the descriptions were very consistent, whereas in others there was insufficient consistency to provide useful information for other locations. The experts from France and Germany explained that that database had proved to be very useful for the management of reference collections and had resulted in greater efficiency in the work at the national level. They reported that the database could incorporate data from other countries and could be used for other crops.

17. The TWC agreed to invite experts from France, Germany and Spain to make a presentation at the next session of the TWC on the development and operation of the maize database and the benefits which it offered for the participating partners. In that respect, it agreed that such a presentation would be an important opportunity to provide information to other UPOV experts on the issues which the participating countries had faced in developing the database, which could then help other experts wishing to pursue a similar initiative, as well as offering the possibility to consider if there might be other partners which it might be beneficial to include in the maize database in future.

18. An expert from France reported that the International Seed Testing Association (ISTA) was working on harmonization in the development of sets of markers which might be used for

variety verification. He noted that different numbers of markers might be necessary for different purposes such as description purposes, assessment of essential derivation and DUS examination. The TWC agreed to suggest that ISTA should be invited to make a presentation on that initiative at the eleventh session of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT).

TGP Documents

19. The TWC considered the TGP documents below in conjunction with document TWC/25/3.

(a) TGP Documents to which the Technical Committee has given highest priority:

TGP/10/1 Draft 7 Examining Uniformity

20. The TWC discussed document TGP/10/1 Draft 7 and agreed to propose the following:

2.4.2	final sentence to read "This can be determined by using a statistical method, such as one based on the χ^2 test (see document TGP/8)"
2.5.1	to add the following sentence at the end of the paragraph "Those situations are considered further in Section 6."
2.5.2 Table	to write the types of expression in full in the column titles, i.e. Qualitative (QL), Pseudo-qualitative (PQ) and Quantitative (QN)
3.2.2 (a)	final part to read "visual observations are appropriate if the resultant data fulfill the conditions for calculation of the mean and standard deviation:"
4.5.1.1	final sentence to read "The 'acceptance probability' is the minimum probability of accepting as uniform a variety with the population standard of off-types." and to add the following footnote: "This explanation of the term 'acceptance probability' is considered to be more appropriate than the explanation for 'acceptance probability' which has been used in the General Introduction (see, for example, Chapter 6.4.1.3).
4.5.1.4	the TWC clarified that its concern with regard to the current wording of the first sentence in TGP/10/1 Draft 7 was that it could be interpreted as meaning an "appropriate sample size" for the ""fixed", population standard and acceptance probability". However, on the basis that it would be sufficiently clear for readers of TGP/10 that the meaning was an "appropriate sample size" for a particular type(s) of variety, the TWC agreed to accept the current text of 4.5.1.4.
4.5.1.7	the TWC agreed to the deletion of the final sentence on the basis that document TGP/8 would explain the requirements for selecting the sample size and maximum acceptable number of off-types in order to produce a good test of uniformity.
4.6	with regard to the statement that "Setting the uniformity standard too low could have the consequence of protecting a variety with a large variation in the expression of its characteristics, thereby making it more difficult to establish distinctness for subsequent candidate varieties of that new species or type", in relation to COYD, the TWC noted that there would need to be an investigation to establish if that

	statement was appropriate. It also noted that COYD might not be an appropriate tool for distinctness for new types and species where there were very few varieties.
5.2.2	final sentence to read
	"This COYU procedure calculates a tolerance limit for each characteristic on the basis of varieties within the same trial with comparable expression for that characteristic."
5.2.4	to delete "(e.g. 1.26 x standard deviations, 1.6 x variance, long term LSD)" on the basis that other statistical methods may be considered more appropriate at the point of adoption of TGP/8 and/or would allow a future update of statistical methods by revision of TGP/8, without the need for a revision of TGP/10.
6.	the TWC proposed that, if possible, a more suitable title should be developed

(b) Other TGP documents:

TGP/8 Trial Designs and Techniques used in the Examination of Distinctness, Uniformity and Stability (documents TGP/8/1 Draft 7)

21. The TWC considered documents TGP/8/1 Draft 7, TWC/25/9, TWC/25/10, TWC/25/11, TWC/25/12, TWC/25/13, TWC/25/15 and TWC/25/16. The TWC also received oral presentations by Japan, the Republic of Korea and the United Kingdom on measured, quantitative characteristics, which are reproduced in document TWC/25/3 Add. The TWC agreed the following changes to document TGP/8/1 Draft 7:

	PART I
General	the TWC agreed to invite the TWC Chairperson and the Office of the Union to edit the text in Part I in order to improve the structure and flow of the document. It noted that it would not be possible to indicate all changes to the text of the current draft, but agreed that any significant changes to the substance of the text should be highlighted for particular consideration at the next TWC session. It was agreed that the review of the structure would include the creation of an introduction and the relocation of Section 2.6 "Reasons for using statistics" to a more appropriate location in the new structure. It was also agreed that the Office would approach the experts from France and Poland for presentation materials which those experts had previously used to provide an overview of the use of statistics.
2.2.2.7	to read "When field or greenhouse crop varieties are planted/sown in successive years and the layout of the plants in the trial is randomized (at least partly), the independence of the growing cycles is considered to be satisfied."
2.5.1	to check whether this section should be reviewed to indicate that the type of trial layout may also be determined by the assessment of uniformity, e.g. ear row plots
2.5.3	to add a new section for randomized "blind" testing (see document TGP/9, Section 6.4)
2.5.3.1	final sentence to read
	"If many similar varieties need to be grown in close proximity to the candidate varieties, then some varieties may be present in more than one plot within a replicate.





2.9	the TWC agreed that Sections I to III of document TWC/25/12 provided the basis for a new section on the quality control of DUS test observations. It agreed that the new section should make reference to ISO 5725-2 as a suitable basis for introducing quality controls in DUS testing and should make reference to a section in TGP/8/1, Part II containing the examples for France provided in Sections I to III of document TWC/25/12. It was noted that other examples could also be considered for inclusion in TGP/8/1, Part II.
3.2.6	the TWC noted that Section 3.2 should not be restricted to only situations where statistics were used and that that should be taken into account when revising the structure and flow of document TGP/8, Part I.
3.3	to revise the section to provide general guidance for checking assumptions, with a subsection on the checking of statistical assumptions
3.3.4	to provide an explanation of residuals
3.4	to review in accordance with the changes proposed for Section 3.3
3.4.1.1	to delete the first sentence and review the second sentence
4.	the TWC agreed that it might be helpful for the understanding of Section 4 by non-statisticians, to incorporate illustrative examples of ways in which scale levels would have an impact in DUS testing. It was agreed that Mr. Uwe Meyer (Germany), in conjunction with Mr. Sylvain Grégoire (France) and Mr. John Law (United Kingdom) would provide an illustrative example in oilseed rape. It was agreed that it was important to clarify that the examples would be illustrative and not exhaustive.
4.4.2.1	to delete "[TWC Chairperson: example for a non-quantitative characteristic to be provided]"

22. The TWC received presentations from Japan, Republic of Korea and the UnitedKingdom on the handling of measured, quantitative characteristics, which had been prepared in response to the invitation made in circular issued by the Office. Copies of those presentations are provided in document TWC/25/3 Add. The TWC agreed that those presentations highlighted the value of including a new section in TGP/8, Part I, on the handling of measured, quantitative characteristics. It agreed that, given the short notice for the preparation of information at the twenty-fifth session, other experts should have the opportunity to provide information for the twenty-sixth session. It was anticipated that it might then be possible to identify general situations where certain types of approach would be particularly suitable for measured, quantitative characteristics. That guidance could then be incorporated in TGP/8, in association with Part I, Section 4 "Types of Characteristics and their Scale Levels".

	PART II
1.	the TWC agreed that the results of the questionnaire in document TWC/25/18 should be reviewed with a view to incorporating guidance in this section of TGP/8
1.	the Technical Committee and Technical Working Parties to be invited to consider whether it would be appropriate to make reference to suitable methods (e.g. "seedcalc") for developing tables for combinations of population standards and acceptance probabilities which were not included in Section 1.1.11, in order to cover combinations used by UPOV members which did not correspond to a combination in use in UPOV Test Guidelines. Alternatively, to consider whether

	document TGP/8 should only provide tables for combinations which existed in UPOV Test Guidelines, in which case it was noted that document TGP/8 would need to be revised if a new combination was introduced in UPOV Test Guidelines.
1.1.2.1	to be changed to incorporate the wording from document TGP/10/1 and to use a sample size larger than 20 plants
1.1.2.3	to be deleted
1.1.2.6	final sentence to read "Thus, for the example above, the sample size and maximum number of off-types have been chosen to give at least a 95% chance of accepting a variety which, if all individuals of the variety were examined, would have 1% off-types."
2.	the TWC considered Section 2 and "[New] Multiple Range Tests" in conjunction with documents TWC/25/9 and TWC/25/11, presented by Mr. Nik Hulse (Australia) and document TWC/25/15, presented by Mrs. Sally Watson (United Kingdom).
	With respect to document TWC/25/9, an expert from France wondered whether the use of a "two-tailed" test, rather than a "one-tailed" test was appropriate. The expert from the Netherlands and an expert from the United Kingdom supported a one-tailed test because distinctness depended on agreement with the differences observed in the breeder's trials. They also suggested that it would be useful to clarify that the test would only be conducted for a selected number of characteristics of the variety, rather than all the characteristics.
	An expert from Poland noted that LSD would provide a greater chance for a candidate variety to be considered distinct than the multiple range test.
	The TWC noted that the situations in Australia where the LSD and multiple range tests were used were situations where COYD could not be applied, because there was only one year of data and only a few candidate and comparator varieties in the trial. It agreed that Sections 2 and 3 of document TGP/8 should explain the general philosophy behind the suitability of statistical methods for the assessment of distinctness. It should explain that UPOV had developed the COYD method for situations where the COYD requirements were met and then go on to explain suitable approaches which might be used where those conditions were not met (2x1% criterion, methods involving the use of LSD or the multiple range tests) and the factors which should be considered in choosing a suitable approach. In addition to that explanation, it was agreed that it would be useful to include illustrative examples of the application of those statistical methods, such as the examples provided by Australia in documents TWC/25/9 and TWC/25/11.
	In order to have a well-developed draft of this part of TGP/8 for consideration by the TWC at its twenty-sixth session, it was agreed that Mrs. Sally Watson (United Kingdom), in conjunction with the Office and other experts, would develop a first draft text for comment by interested experts before the next draft of document TGP/8 was finalized for consideration by the Technical Working Parties in 2008. Mr. Nik Hulse (Australia), Mr. Uwe Meyer (Germany), Mr. Wieslaw Pilarczyk (Poland), Mr. Adrian Roberts (United Kingdom) and Mr. Gerie van der Heijden (Netherlands) agreed to comment on the first draft text as interested experts.
3.	contact details for Mrs. Sally Watson to be updated

3.	it was noted that the DUST package contained more statistical methods than just COY and it was agreed that the text should be amended to clarify that aspect and to indicate which part of the DUST package was relevant for COY.
3.1.9.4	Table B 1: first row to read "1 R1"
[New] to go before 4.	Chi-Square Test: the TWC experts did not have experience of the use of chi-square test for segregating characteristics, but invited experts to consult their colleagues to see if it would be possible to provide an explanation
5.	the TWC received a presentation on GAIA from Mr. Sylvain Grégoire (France), on the basis of document TWC/25/13. It noted that that document was intended to provide background information on GAIA and was not intended to lead to a modification of the text in document TGP/8/1 draft 7, Section 5.
5.3.5.3	to present genes in italics, e.g. "Idh1"
5.3.5.3.1	to read "[] The software does not allow the use of heterozygous loci, but only the use of homozygous loci, in conformity with the Test Guidelines" and to correct spelling in Diagram 2 to "Isocitrate Dehydrogenase"

23. The TWC considered document TWC/25/10, introduced by Mr. Nik Hulse (Australia), in conjunction with documents TGP/8/1 Draft 7 and TGP/10/1 Draft 7, Section 2.4.2. Mr. Hulse clarified that the document was a report on work in progress on which the views of the TWC were being sought. He further clarified that the document did not relate directly to segregating characteristics, which was the matter to be addressed in document TGP/8.

24. An expert from Germany observed that it was not easy to use the χ^2 test for distinctness, because it was not possible to separate the location parameter (mode or mean) and the parameter of dispersion. An expert from France concurred with that observation as far as quantitative characteristics were concerned, but noted that the χ^2 test might be useful for qualitative characteristics and where there were only two states of expression for the characteristic. Another expert from France wondered if ANOVA or LSD might be a useful approach for the situation described in document TWC/25/10, but an expert from the United Kingdom commented that such approaches might be inappropriate in the case of low frequencies. An expert from Germany suggested that it might be useful to consider the "Exact test" or, alternatively, the "Threshold model". The TWC discussed the correct number of degrees of freedom for the example provided in document TWC/25/10 and whether the data from a variety should be used for the null hypothesis.

TGP/11 Examination of Stability

25. The TWC considered document TGP/11/1 Draft 2, but agreed that there were no matters on which the TWC needed to comment.

TGP/12 Special Characteristics

26. The TWC considered document TGP/12/1 Draft 2.

27. With regard to Section III "Examination of Combined Characteristics Using Image Analysis", the TWC proposed that the text should be revised to consider simple characteristics before considering combined characteristics, because image analysis was most commonly used to observe simple characteristics.

28. The TWC discussed the possibility of seeking to develop general guidance on the use of image analysis and, in particular, the importance of comparing the results with human observations and the repeatability and reproducibility of the techniques. It also heard from the expert from Australia that freely available software had been used for image analysis in Australia and noted that it would be useful to include image analysis software in its discussions on exchangeable software. The TWC agreed to have an item on the agenda of its twenty-sixth session to consider those matters and to receive an update on the use of image analysis by UPOV members and to develop guidance on good practice.

TGP/13 Guidance for New Types and Species

29. The TWC considered document TGP/13/1 Draft 9, but agreed that there were no matters on which the TWC needed to comment.

TGP/14 Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents

30. The TWC discussed document TGP/14/1 Draft 3, Section 1 and agreed as follows:

	Section 1
COYD, COYU	to be deleted (included in Section 3)
DUSTNT	to ensure that the wording correspond to TGP/8

31. The TWC considered document TGP/14/1 Draft 3, Section 2, but had no comments.

32. The TWC discussed document TGP/14/1 Draft 3, Section 3, introduced by Mr. Gerie van der Heijden (Netherlands) and agreed that the document should be drafted in a way which was meaningful for both crop experts and statisticians. The TWC agreed the following amendments:

Additivity	To read: "are said to be additive" instead of "are said additive"
Alpha (α)	To delete in the fourth sentence: "only 1 out of 100 times that"
Alpha-design	Second sentence to read: "Such designs are particularly useful when there are many treatments to be examined, the variability of the experimental units is such that the block size needs to be kept small, and blocks can be combined into full replicates."
Alternative Hypothesis	To reword the last sentence to show that the alternative hypothesis can be two-sided ($\mu_1 \neq \mu_{2}$), or one-sided ($\mu_1 < \mu_2$ or $\mu_1 > \mu_2$)
ANOVA	To delete from "More specifically, using" until the end of the definition
(Balanced) Complete Block Design / Randomized complete block design	The end of the first sentence to read: "where all treatments are present once in every block." To delete the last sentence.

Bias	To add the following sentence at the beginning of the definition: "Bias is the difference between the true value of the parameter and the expected value of the estimator."
Bivariate Normality	To add 3 dimensional graphic of bivariate distribution and to eliminate the reference to "fireman's hat"
Chi-squared (χ^2) distribution	To read: "distribution of the sum of squared independent standard normal variables. Used to do significance tests on chi-squared statistics."
Consistency	To delete the last sentence.
Contingency Table	To change the example
Correlation	To read: "Correlation (Pearson):", in the fifth line to read "items", and to add the following at the end "See Measures of association."
Dependent Variable	To add the following last sentence: "This is often called the Y-variable."
Discrete Variable	The end of the fifth sentence to read: "discrete variables can be continuous."
Experimental Unit	To replace "field" by "experiment (trial)" and to add the following second sentence: "Usually the experimental unit in a field trial is a plot."
F Distribution	First sentence, after "ratio of two" to add "chi-squared variables, e.g. ratio of two";
	to reword and merge the fourth and fifth sentences to read: "The dfn is the number of degrees of freedom of the numerator, and dfd is the number of degrees of freedom of the denominator." and to add at the end "would suffice".
NEW	To add the following definition and content: Fixed term/Fixed factor: see mixed model
Independence	End of first sentence to read: "varieties on other plots."
	Second sentence to replace "big" by "tall".
	To add at the end "See also Statistical Independence."
Least Significant Difference (LSD)	To amend the formula to read "S ² " instead of "S"
Linear Regression	To add "Y=aX+b"
NEW	To incorporate definition of "Mixed model"
Mode	To consider whether this term should be in the glossary
NEW	To add the following definition and content: "Model: see statistical model"
Mutually Exclusive Events	To add "at once" at the end of the first sentence
Nonadditive	To read "Non-additive:"

Normal Probability Plot	At the end of the definition to insert "straight" before "line"
Population	To delete the second sentence
Qualitative Variable	To add the reference "see Variable"
Quantitative Variable	To add the reference "see Variable"
NEW	To add "Random Term / Random Factor: see Mixed models"
Regression Line	Last sentence to read "are normally distributed" instead of "normal"
Residual	To add the following last sentence "It is the difference of the observation and the prediction from the model."
Significance Level	First sentence, to replace "criterion" by "probability threshold"
Size of Test	To insert "of" to read: "Synonym of Significance Level"
Standard Normal Distribution	First line after the formula, to remove the comma after the term "where"
Statistical Method	To read "Joint" instead of "Joined"
NEW	To insert definition of "Statistical Model"
Statistical Significance	To delete the last sentence.
Statistical Test	First sentence to read "statistical test" instead of "number (a statistic) that" and to add "and Hypothesis Testing" at the end of the last sentence.
Statistic	First sentence to replace "A" by "Any" and "in a sample" by "from a sample".
Symmetric distribution	To be moved after "Student's t-Distribution"
Trimmed mean	To be deleted
Transformation	To delete "(e.g. persons)"
Type I and Type II Error	To delete the last sentence and in the table to read " H_0 " instead of " $H0$ ".
Variation	To be moved after Variance Component
Variance Component	To delete the term "Discernible"
Weighted data	To delete "(e.g. persons)"

(c) Revision of TGP documents:

TGP/5 Experience and Cooperation in DUS Testing

33. The TWC considered the draft 2 versions of document TGP/5 Sections 1/2, 2/2, 4/2, 5/2, 6/2 and 7/2, but agreed that there were no matters on which the TWC needed to comment.

34. In conjunction with its consideration of document TGP/5 and document TWC/25/3, paragraphs 21 to 26, the TWC received a presentation from Mr. Uwe Meyer on the on-line

application system used in Germany. Mr. Meyer reported that the on-line system of application had been launched on May 1, 2007, and explained that it was possible for breeders to make an application: electronically with an electronic signature; electronically with a manually signed copy being submitted by paper; or by a paper application. In order to use an electronic signature, Mr. Meyer explained that the applicant needed to have an electronic card and special software. In the case of applications filed electronically with a manually signed copy being submitted by paper, the relevant information to link the manual version with the electronic form was in the form of a 2-dimensional bar code. Mr. Meyer explained that there were many types of 2-dimensional code and it was important to select an appropriate type for their purpose. Mr. Meyer explained that a key feature of the system requested by the breeders, was that the application form could be downloaded on-line, but then completed off-line and then transmitted on-line once it was completed. He also explained that the connection was by https, rather than by e-mail.

35. The TWC agreed that it would be useful to invite other experts to make a presentation on their on-line application systems at the twenty-sixth session of the TWC, at which time it would also be possible to receive an update on the discussions which would take place in the Administrative and Legal Committee in October 2007.

36. The TWC noted the program for the development of TGP documents, as set out in document TWC/25/3, paragraphs 54 and 55.

Development of COY

A rationale for excluding varieties of common knowledge from the second growing cycle when COYD is used

37. The TWC considered document TWC/25/14 and received a presentation from Mr. Adrian Roberts (United Kingdom), a copy of which it was agreed should be provided as an addendum to document TWC/25/14. He explained that a next step would be to accommodate year-to-year variability in the approach.

38. An expert from the Netherlands wondered if it would be useful to increase the dataset by using data from non-sequential pairs of years. He also noted that the outcome would depend on the pair of years used for comparison and that demonstrated that it would never be possible to achieve 100% predictability after one year. Mr. Roberts explained that he had avoided mixing years because he wished to separate candidate and other varieties and that would be difficult if the years were non-sequential.

39. An expert from Poland observed that the weakest part of the approach was the assumption of stability in the residual variances. He noted that there would be greater stability if a larger number of varieties (e.g. more than 40) was used. Mr. Roberts agreed, but explained that it might be possible to allow for that factor in the approach.

40. An expert from France recalled that discussions on COYD had shown that some characteristics were more consistent and, therefore, less likely to give false positives than others. He suggested that it would be very helpful if the work contributed information on that aspect of the characteristics, irrespective of the overall aim of the project. He added that one approach might be to take a cautious view and use the largest LSD encountered over, for example, 20 years and see if the approach worked on that basis: if the outcome was useful, the value could be refined over time. Mr. Roberts agreed that the idea had its merits, whilst

noting that the value of the approach also depended on how different varieties were. The expert from France explained that for GAIA they used enlarged LSDs, which did not greatly vary over years, and so were popular with crop experts. An expert from the Netherlands observed that an enlarged LSD did not correct for different years and noted that it would be possible to use a smaller level if that was taken into account.

41. An expert from Germany asked if there had been any experience with counts, rather than measurements and asked whether it would be necessary to make an adjustment for such data. Mr. Roberts reported that he did not have experience with counts and confirmed that it would be necessary to make suitable adjustments, whether transformation or by another technique, on a case-by-case basis.

42. An expert from the United Kingdom wondered what the outcome would be if there were two trials in the first year in the same location. Mr. Roberts explained that it would depend on how the data was used in the COYD test.

43. An expert from France observed that the information after the first year on the probability of the variety being accepted as distinct would, in itself, be very interesting for breeders, because no indication of that probability was provided with the COYD criterion.

44. Experts from Germany and France observed that it would be very interesting to incorporate this approach into the GAIA approach. For example, the thresholds used in GAIA could be unchanged for qualitative characteristics but derived by this approach for quantitative characteristics.

Comparison of COYU and a method based on Bennett's test for coefficients of variation

45. The TWC considered document TWC/25/8, introduced by Mr. Wieslaw Pilarczyk (Poland).

46. In response to a request from an expert from France, Mr. Pilarczyk reported that there had only been 2 or 3 cases of discrepancies between COYU and the method based on the Bennett's test, with Bennett's test being slightly more tolerant. He also clarified that in Table 1 the blank cells indicated that that situation did not occur for any of the characteristics.

47. The Chairperson noted that the method based on the Bennett's test used the coefficient of variation and wondered what would happen if there was a negative correlation between characteristics and the standard deviation, which she had sometimes seen in the United Kingdom data. Mr. Pilarczyk replied that he had not encountered such data and requested the Chairperson to provide such data for checking in the method based on the Bennett's test.

48. An expert from the Netherlands wondered if the McNemar's test was appropriate for the given situation compared to say a chi-squared test. Mr. Pilarczyk reported that such tests tested different issues.

Population standards used for assessing uniformity by off-types

49. The TWC considered the draft questionnaire on off-types contained in document TWC/25/18, as presented by Mr. Uwe Meyer (Germany).

50. The TWC noted that the questionnaire was intended to address only situations where uniformity by off-types was assessed on the basis of more than one sample, or on a sub-sample of a single sample, and agreed that the title of the questionnaire should be amended accordingly. It also agreed that the word "However" should be deleted from the beginning of the second sentence of the third paragraph and that the words "Combining all observations on a variety" should be deleted at the end of the third sentence of that paragraph. With regard to the table in document TWC/25/18, the TWC agreed that a column should be inserted for "Plot type", the sixth column should read "Maximum number of off-types in sample" and that the final two columns should be merged into one column with the title "Decision procedure".

51. The TWC agreed that the results of the questionnaire should be reviewed with a view to incorporating guidance in document TGP/8, Part II, "1. The Method of Uniformity Assessment on the Basis of Off-Types".

Study on the use of data from multiple locations in DUS testing

52. The TWC considered document TWC/25/16, introduced by Mr. Uwe Meyer (Germany).

53. Mr. Meyer explained that the conclusions of the work, as reported in document TWC/24/13, were as follows:

(a) for the presented data in winter oilseed rape, due to significant variety x location effects, it was not recommended to use combined analyses over locations; and

(b) the second location provided insurance to achieve results independent of difficult weather conditions or other risks. Furthermore, the high number of candidate varieties to be compared with a large reference collection required a very efficient and reliable testing system to establish distinctness. The use of location and the variety x location interaction effects on varieties was a very efficient element in that respect.

54. An expert from Poland sought clarification on why the location was considered to be fixed rather than random and why the three-way interaction year x location x variety was not included in the model. Mr. Meyer explained that there was no freedom to choose the location and, for that reason, it was considered to be fixed, adding that treating location as fixed or random would not have a significant impact on the outcome of the analyses. With regard to the three-way interaction year x location x variety, he explained that that factor was included in the error.

55. The TWC noted that it would be useful to consider further whether location should be considered as fixed or random.

56. An expert from France proposed that the number of years in the models should be indicated as "j = 1, 2, 3 (number of years)"

Exchangeable software and database to search for TWC working documents

Database to search for TWC working documents

57. The TWC considered document TWC/25/17, introduced by Mr. Thomas Drobek (Germany).

58. The TWC noted the concerns of the Technical Committee with regard to a database to search for TWC documents and, in particular, the need for care with regard to the use of TWP session documents, which the TC had noted did not represent an agreed UPOV position and did not contain comments made on those documents by the relevant UPOV bodies (see document TC/43/12 "Report on the Conclusions", paragraph 9). In order to address those concerns, the TWC agreed that the title of the database should be amended to "Database to research TWC working documents" and agreed that a warning on the status of the documents and the purpose of the database should be automatically presented at each opening of the database. It also confirmed that the CDs containing the database would only be distributed to the participants at the relevant TWC session. The TWC confirmed the value of the database as a tool for TWC experts to develop new methods.

Exchangeable software

59. The TWC considered document TWC/25/19, introduced by the Senior Counsellor of UPOV.

60. The Office explained that the software contained in document TWC/25/19 could be of great interest to members of the Union which did not have experts attending the TWC session, but explained that the Office could not raise awareness of that software because it had not been included in a UPOV approved publication. It noted that any information on software which was included in the adopted version of document TGP/8 would be widely promoted within UPOV. The Chairperson invited the TWC to consider whether it would be appropriate to investigate ways of incorporating information on exchangeable software in document TGP/8.

An expert from the United Kingdom observed that document TGP/8 contained 61. information on methods rather than software. An expert from France noted that an evaluation of software would require a thorough analysis. An expert from the Netherlands wondered what was meant by "exchangeable" and whether responsibility would fall on the software providers if any problems arose as a result of the use of the software. The Office noted that it was possible for UPOV to agree to include software packages to perform methods such as COY and GAIA in document TGP/8 on the basis of the experience of a suitable number of members of the Union. In that respect, it was similar to UPOV Test Guidelines, which were developed by a subgroup of members of the Union with relevant experience and then approved by the relevant Technical Working Parties and adopted by the TC. It was noted that the Test Guidelines and TGP documents would only be adopted with the consensus of all the members of the Union. The Office noted that, before taking the matter further, it would be necessary for all members of the Union which had provided information on exchangeable software in document TWC/25/19 to consider, subject to agreement by the TWC and the TC, whether they would wish for reference to their software to be included in a UPOV publication and, therefore, made available to all UPOV members.

62. The TWC agreed that a new questionnaire seeking information on exchangeable software should be prepared for the twenty-sixth session of the TWC. It agreed that that questionnaire should include a request for contributors to provide information on their willingness to make the software available to UPOV members by inclusion in document TGP/8, subject to approval by the TWC and TC. It would also be necessary for contributors to indicate the extent to which they might provide support for the software. It was agreed that the TWC would consider whether and how such information might be provided in document TGP/8 at its twenty-sixth session. The TWC noted that information from previous versions of document TWC/25/19 had, in the absence of any request to the contrary, been carried forward into document TWC/25/19, but agreed that only information provided in response to the new questionnaire should be included in the document for the twenty-sixth session.

Review of test design: checking levels of quality

63. The TWC considered document TWC/25/12, introduced by Mr. Sylvain Grégoire (France) in conjunction with its discussions on document TGP/8/1 Draft 7, Part I. It noted that a revised version of document TWC/25/12, containing certain corrections to the text, would be posted on the UPOV website after the session.

64. The TWC agreed that Sections I to III of document TWC/25/12 provided the basis for a new section on the quality control of DUS test observations, which had been proposed for inclusion in TGP/8/1 (see comments on document TGP/12 Draft 7, Part I, Section 2.9).

65. The TWC noted the information on checking levels of defects, provided in Section IV of document TWC/25/12.

UPOV Information Databases

66. The TWC took note of the information provided in document TWC/25/4, presented by the Office. In response to a question by an expert from France, the Office recalled that there was a memorandum of understanding between UPOV and the Community Plant Variety Office of the European Community for cooperation in the development of software and maintenance of data in the UPOV Plant Variety database and the CPVO centralized database of variety denominations. The Office clarified that the authority contact details included in the on-line GENIE database would be the same contact details as those already on the UPOV website.

Variety denominations

67. The TWC noted the information provided in document TWC/25/5 and in the presentation on changes to the variety denomination classes arising from the adoption of document UPOV/INF/12/1 "Explanatory notes on variety denominations under the UPOV Convention", presented by the Office.

68. In response to a question from an expert from France, the Office clarified that the adoption of document UPOV/INF/12/1 and the new list of classes would not require authorities to review past decisions on the acceptability of variety denominations made on the basis of the previous list of classes. The Office also explained that, except for genera and species in the list of classes, the one genus / one class rule would apply to fungi and algae.

Project to Consider the Publication of Variety Descriptions

69. The TWC noted the information provided in document TWC/25/6, presented by the Office.

Applications covering a combination of lines

70. The TWC noted the information provided in document TWC/25/7, presented by the Office.

Future Program, Date and Place of the Next Session

71. At the invitation of the Republic of Korea, the TWC agreed to hold its twenty-sixth session in the Republic of Korea, with a provisional date set for September 2 to 5, 2008. During the twenty-sixth session, the TWC planned to discuss or re-discuss the following items:

- 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 (document to be prepared by the Office of the Union)
- 5. UPOV Information Databases (document to be prepared by the Office of the Union)
- 6. TGP documents
- 7. Assessing uniformity of off-types on the basis of more than one sample or sub-samples (document to be prepared by the Office of the Union)
- 8. Handling measured, quantitative characteristics (documents invited)
- 9. Segregation ratios: chi-squared test (document to be prepared by France)
- 10. Development of COY

(a) COY: selecting the optimum number of plants (document to be prepared by Denmark and Germany)

(b) A comparison of COYU and a method based on Bennett's Test for coefficients of variation (document to be prepared by Poland)

(c) A rationale for elimination of reference varieties when COYD is used (document to be prepared by United Kingdom)

(d) Adjustment to COY for grouping characteristics (documents to be prepared by United Kingdom)

11. Database combining variety data for maize from different UPOV members (document to be prepared by France, Germany and Spain)

- 12. Management of reference collections in oilseed rape using morphological and molecular data from different sources (document to be prepared by United Kingdom)
- 13. Image Analysis (documents invited)
- 14. On-line application system (documents invited)
- 15. Exchangeable software (document to be prepared by the Office of the Union)
- 17. Database for researching TWC documents (CD to be prepared by Germany)
- 18. Date and place of the next session
- 19. Future program

Chairperson

72. The TWC agreed to propose to the TC that it recommend to the Council to elect Mr. Gerie van der Heijden (Netherlands) as the next chairman of the TWC.

73. The TWC adopted this report at the close of its session.

[Annexes follow]

TWC/25/20

ANNEX I

LIST OF PARTICIPANTS

I. <u>MEMBERS</u>

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II. ORGANIZATIONS

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[Annex II follows]

TWC/25/20

ANNEX II

Welcome Address made by

Mr. Gabor Vàrga, Manager, State Office for Inventions and Trademarks (OSIM).

Ladies and Gentlemen, Distinguished Guests, Honourable participants!

First of all, allow me to warmly welcome you all on behalf of the State Office for Inventions and Trademarks. It is a great pleasure and honor for our Office to host this session of the UPOV Technical Working Party on Automation and Computer Programs.

Improvement of plant varieties is very important for the increase of food security and the protection of the environment in the world.

Since the very beginning of agricultural activities, farmers have known how important plant seeds are and performed, either knowingly or not, a selection in order to identify crops and the varieties adapted to various agro-biological and socio-cultural circumstances.

The breeding of new plant varieties belonging to cultivated plants enjoys a long-standing tradition in Romania and has been closely linked to the agricultural research activity since as far back as before the Second World War.

Significant achievements have been scored in the breeding of varieties of cereals, sunflower, sugar beet, vineyard, fruit trees and vegetables.

The Second World War brought about bad losses in the research field and implicitly in the breeding of new varieties.

After the Second World War, the variety breeding started to develop and was organized as a centralized state activity. Specialized research institutes were established for the main plant crops which attached great importance to the breeding of new varieties.

Legal protection of new plant varieties and animal breeds has been regulated in Romania since 1974 by the Law on patents for inventions No 62/1974, administered by the State Office for Inventions and Trademarks, the government body entrusted with industrial property protection.

The same patenting criteria applying to the other industrial property subject-matters, namely: novelty, inventive step and industrial applicability, applied to these creations as well.

The international evolution of intellectual property protection, the requirement to implement the TRIPS Agreement called for the enactment of Law no. 255 on the protection of new plant varieties in Romania, in December 1998, which set up a *sui generis* system of protection of new plant varieties.

The law complied with the provisions of the International Convention for the Protection of New Varieties of Plants (UPOV), the 1991 Act.

Based on the law and its Implementing Regulations, on the 16th of March 2001, Romania became the 47th Member State to the 1991 Act of the UPOV Convention.

Romania's accession to the 1991 act of the UPOV Convention opened new perspectives to the Romanian breeders to protect their varieties in any UPOV Member State.

Law no. 255 was amended in 2006 and harmonized with the provisions of the Council Regulation (EC) No 2100/94 on Community plant variety rights.

Understanding the importance of legal protection of new varieties of plants is the breeders' key to success in turning them to good account, in recovering investments and in relaunching research in this field, especially now that Romania is a Member State of the European Union.

We are honored by the presence in Romania of the experts in the Technical Working Party on Automation and Computer Programs (TWC) and its Chaiperson, Mrs Sally Watson, the representatives of UPOV Office, Mr Peter Button, Technical Director, Mr. Raimundo Lavignolle, Senior Counselor, and ISTIS experts. We believe that the works of the 25th session of the TWC will have an important impact and will be an incentive for the Romanian experts involved in the technical examination of new plant varieties in view of the grant of legal protection by OSIM. They will also contribute to raising the Romanian breeders' awareness of protecting their newly created varieties at the European level too, with the Community Plant Variety Office (CPVO).

I wish you every success!

[Annex III follows]

TWC/25/20

ANNEX III

Presentation by Mrs. Adriana Paraschiv Head, Agricultural Division State Office for Inventions and Trademarks (OSIM)







Plant Variety Protection Agriculture in ROMANIA Country's area - 238,391 thousands km² Total no. of inhabitants - 22,7 mil. people Arable land - 9423,5 thousands hectars . **Forests area** - 6222 thousands hectars Pastures - 3309,8 thousands hectars Hayfields - 1467,9 thousands hectars Vineyards and nurseries - 285,9 thousands hectars **Orchards and nurseries** - 311,3 thousands hectars









Plant Variety Protection

OSIM acting as Plant Variety Office and is responsable for:

- Administration of PVP "sui generis" system in Romania
- Examination as to formal requirements
- Examination of the application (denomination and novelty)
- Publishing of the identification date of the application in the Industrial Property Bulletin – Section Plant Variety Protection

Plant Variety Protection

OSIM acting as Plant Variety Office and is responsable for:

- Submition of the applications to ISTIS for technical examination
- Granting of the PVP (plant variety patent)
- Recording of the official descriptions of the protected varieties
- Administration of the examination fees
- Maintenance of Register of Applications and Register of Plant Variety Patents.



Plant Variety Protection

The main tasks of ISTIS:

- Establishing and maintaning the National List for Varieties
- Testing for DUS and VCU
- Preparation of official descrptions of varieties
- Development and co-ordination of post-registration
- Publishing of Official Catalogues of Varieties of agriculturales and vegetables species in Romania

Plant Variety Protection

The growing trials for DUS assesing are performed as follows:

- Tests are conducted with ISTIS (The State Institute for Variety Testing and Registration)
- 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 Guidelines, CPVO Technical Protocols and/or National Guidelines are used for DUS tests
- Reference Collections are maintained for the protected species



Plant Variety Protection

The PVR's is granted when:

- ✓ The application is complet as to form
- ✓ The variety is novel (1 year vs. 4-6 yrs)
- ✓ It has a suitable denomination
- ✓ The variety is Distinct, Uniform and Stable
- ✓ The relevant fees are paid.

Plant Variety Protection The PVP are graned for:

- all genera and species
- 25 years for the majority of plant species
- 30 years for trees, vineyard and potato and hop
- provisional protection from the filing date of the application until the granting of PVR

		Tabel 1
	Species	PVP Aplications
Ι	agricultural	73
II	fruits	58
III	vegetables	36
IV	vineyards	11
V	technical medicinal plants	25
	Total	203

	2000-2007	-
		Tabel 2
	Species	PVR Granted
Ι	agricultural	61
II	fruits	26
III	vegetables	19
IV	vineyards	11
V	technical and medicinal plants	3
	TOTAL	120

Thank you !

[Annex IV follows]

TWC/25/20

ANNEX IV

Presentation by Ms. Mihaela Cristea, Examiner State Institute for Variety Testing and Registration (ISTIS), Bucharest









		DE-016	Amandha	32607	CR	
		FR-106	Anjou 281	45720	CR	
		FR-024	Anjou 310	26667	CR	
		DE-025	Aude	32436	CR	
		FR-128	Batz	19476	CR	
		DE-026	Bonito	20043	CR	the score
		RO-027	Brates	32598	R	The Score
		FR-028	Celest	13653	CR	
		FR-122	Coventry	45721	CR	
		DE-030	Cronus	32445	CR	
		HU-031	Dama	32445	CR	
		FR-130	Dk312	32526	CR	
		FR-115	Dk315	32445	CR	
		FR-109	Dk471	32607	CR	
		FR-013	DKC3511	32445		C
		FR-108	DKC 4626	32607	CR	Common
		FR-020	DKC5143	39006	CR	catalogue
		FR-127	Eurostar	25948	CR	
	5	DE-125	Falco	39240	R	
	T	RO-136	Felike	39159	CR	
Variety code:		DE-112	Fiacre	39087	CR	
-country + no		FR-014	Fructis	39168	CR	Decomo anti-
country i no.		RO-098	Fundulea 475M	20205	R	Roumanian
		DE-104	Garbure	39078	CR	catalogue
		DE-099	Gavott	26011	CR	_
		FR-135	Inagua	25947	CR	
		RO-033	Irina	39897	CR	
		DE-117	Kitty	26046	CR	
		DE-017	Kursus	32607	CR	
		FR-126	Kuxxar	39087	CR	
	1	DE-101	KWS0551	26613	CR	
		DE-120	KWS1393	26046	CR	
		DE-114	KWS1394	32589	CR	
		DE-001	KWS2360	19297	CR	
		DE-007	KWS2376	32526	CR	

Nr.CPVO Nr.UPOV G Specificatie
1 1 Prima frunza: coloratia antocianica a limbului
2 2 + Prima frunza: forma vartului
3 3 + Frunza: unghiul dintre limb si tulpina
5 5 Tulpina: gradul de zig-zag
6 5 6 D Tulpina: coloenta antocianica a radaci/li are ie/le
7 6 7 Manicul: perioada inceputului informului (50%)
8 7 8 + Panicut: coloratia antodani cati bazei girmei
9 8 9 Panicut: coloratia antodig/ica a glum/elor
10 9 10 Panicul: coloratia anociani ca a agrerelor
11 10 11 Panicul: densitate a spiculetelo
12 11 12 + Panicut: unofiuit dintre axulorincipal si ramificati
13 12 13 + Panicu pozitia ramifica/fior laterale
14 13 14 Payficut: numarul ramficatilor laterale primare
15 14 15 Astronomic Price Studies Perioada Anatasitutui
16 15 16 Situate cold Algorithm for calculation of the score
17 16 17 Studete ing
ror I = 0 to nrG
score = score + notaG(i) * 9^i
24 23 24 Frunza: latim
25 24 25 Stiulete: lungimea pedunculului
26 25 26 Stiulete: lungimea
27 26 27 Stiulete: dametrul (la milloc)

	PORUMB		
	Zea mays L.		
	Brates		
		TP/2/2	
	Descrierea morfologica	15/11/01	
	Nr. Nr. Caracteral	Expresia Nota	
	1 1 Prima frunza: coloratia antocianica a limbului	absenta sau foarte slaba 1	
	2 2 + Prima frunza: forma varialui	punctiforma 1	
	3 3 + Frunza: unghiul dintre limb ai tulpina	mijiaciu 5	
	4 4 + Frunza: pozitia limbului	recurbata 5	
	5 Tulpina: gradul de zig-zag	absert sau foarte slab 1	
	5 6 Tulpina: coloratia antocianica a radacini analene	medie 5	
	6 7 G Panicut perioada inceputului infortului (50%)	medie 5	
	7 8 + Panicut coloratia antocianica a bazei glumei	absenta sau foarte slaba 1	
	8 9 Panicut coloratia antocianica a glumelor	medie 5	
	9 10 Panicut coloratia antocianica a anterelor	medie 5	
	10 11 Panicul: deraitatea spiculetelor	medie 5	
	11 12 + Panicul: unghiul dintre acut principal si ramificati	mare 7	
	12 13 + Panicul: pozitia ramificatilor laterale	puternic recurbate 7	
	13 14 Panicut numarul namificatilor laterale primane	medii 5	
	14 15 Stulete: periceda materitului	medie 5	
	15 16 G Stulete: colorata antocianica a matazii	prezenta 9	
	16 17 Stulete: intensitatea coloratiei antocianice a matasii	alaba 3	
	17 18 Frunza: coloratia antocianica a limbului	alaba 3	
	18 19 Panicul: lungimes asului principal dessupra celei mai de jos ramificata	lung 7	
	19 20 Paricut lungmes actuul principal descupra cele mai de sus ramincati	iung /	
	20 21 Panicul: lungimen ramiticatilor laterale	medie 5	
	212 222 G Plante: ungines (inclusiv paricula)	Pata 7	
	22 23 Stutes: matmes de riserte a studeeui raportes la matmes totas a plane 23 24 Ences inferenciative lateral	mate /	
	24 25 Stidete lowines reducedois	have 7	
	24 25 Studies Internation	hanga 7	
	26 27 Stute: dametul fa miloc)	mare 7	
	27 28 Stidate from	clinder-contra 2	
	28 29 Stulete: numerul tandurilor de boabe	mediu 5	
	29 30 G Stulete: tipul bobului (in treimea mijibcie)	semindurst-dentst 4	
	30 31 Stulete: culoarea varfului bobului	caben 3	
	31 32 Stulete: culcarea margini dorsale a bobului	gaben-portocalu 4	
	32 33 G Stulete: colorata antocianica a giumelor stuletelui	prezenta 9	
	33 34 Studete: intensitatea coloratiei antocianice a glumelor	medie 5	
_			
Descri	ption of the variety according th	e UPOV/CPVO prot	locol
200011			



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	DE-125	Falco	39240	R
	FR-071	PR38F10	39240	C
	FR-014	Fructis	39168	CR
	FR-015	Leonis	39168	CR
	FR-063	PR36F54	39168	С
	IT-054	PR37A91	39168	С
☑	FR-038	LG2285	39159	CR
☑	FR-060	PR35R16	39159	С
✓	AT-103	PR38A67	39159	CR
	FR-072	PR38F53	39159	С
☑	IT-075	PR38T27	39159	С
	FR-114	LG3409	39151	CR
	FR-134	LG2305	39150	CR

NLPOV 1 2 3 4 5 6 7 8 0 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 33 33 33 33 33 33 33 33 33 33 33 33 34 5 6 7 8 9 20 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29 30 31 32 33 33 33 33 34 35 36 30								0									0					0								0			0	_
NUPOV 1 2 3 4 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 26 20 31 32 33 34 PR35A67 ** ** 0 0 * 0 0 * 0 <th>Nr.CPVO</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th></th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> <th>17</th> <th>18 1</th> <th>9 20</th> <th>21.2</th> <th>22</th> <th>23</th> <th>24</th> <th>25</th> <th>26</th> <th>27</th> <th>28</th> <th>29</th> <th>30</th> <th>31</th> <th>32</th> <th>33</th>	Nr.CPVO	1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18 1	9 20	21.2	22	23	24	25	26	27	28	29	30	31	32	33
MR28AR7 *** *** * ** ** **	Nr.UPOV	1	2	3	4	5	6	۸	8	9	10	11	12	13	14	15	16	17	18	19 2	21	22.2	23	24	25	26	27	28	29	30	31	32	33	34
G2228 0 * * * * * * 0 * 0 * 0 <td>PR38A67</td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td>0</td> <td>C</td> <td>٥</td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>•</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td> 0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td></td>	PR38A67					•	0	C	٥				0	0	•		0	0	0	0	0	0	0	0						0	0		0	
M238F86 ***********************************	G2285	0	·			0	0	0	٥		0					•	0		0			0	0	0				0		0	0	0	0	_
R38F31 **** 0 0 0 0 ************************	PR35R16							0							0	0	0	•	0			0	0		0	0	0	•		0	•		0	0
	PR38F53					0	0	0							0	•	0	•	0			0	•	0	0	•	0	0	•	0	0		0	
V	R38T27	•	0		0	0	0	0	0		0				0		0			0 **		0							•	0	•		0	
								V									0		0	-		5				-								0

		TOM	ATE INDUS TP/44/2	STRIE					
Soiuri	Carcteristici	Ani	Tabela Date	Grupa	Tabela Noua	Raport DL			
	Comparatie	Soi Candidat		Stabilirea Di	istinctivitatii				
	The	combined-	over-years	distinctne	ess softwar	е			

7 8 21 22 27 31 33 09.05.002 IS 24.50 21.25 11.00 51.00 15.25 23.75 6.5 09.05.004 V 26.30 20.40 11.50 56.50 14.95 23.15 8.0 09.05.005 23.20 18.00 11.00 60.50 18.40 23.35 7.5	32 33 50 3.5
09.05.0021S 24.50 21.25 11.00 51.00 15.25 23.75 6.5 09.05.004 V 26.30 20.40 11.50 56.50 14.95 23.15 8.0 09.05.005 23.20 18.00 11.00 60.50 18.40 23.35 7.5	.50 3.5
09.05.004 V 26.30 20.40 11.50 56.50 14.95 23.15 8.0 09.05.005 23.20 18.00 11.00 60.50 18.40 23.35 7.5	.00 3.5
09.05.005 23.20 18.00 11.00 60.50 18.40 23.35 7.5	
	.50 3.5
09.05.064 21.00 18.50 12.00 57.00 19.65 24.50 8.0	.00 2.5
09.05.065 24.25 19.20 11.00 55.50 15.25 26.65 6.5	.50 2.5
09.05.066 22.40 23.80 11.00 53.50 19.30 26.00 7.0	.00 2.0
09.05.067 23.00 19.00 11.00 63.50 16.70 28.70 8.0	.00 3.0
09.05.070 22.50 17.25 10.50 60.00 19.80 24.45 7.5	.50 3.5
C09.05.069 AR 24.00 18.50 9.00 50.00 17.90 22.70 8.0	.00 3.5
C09.05.071 20.10 23.50 11.50 52.00 17.75 23.75 7.5	.50 3.5
C09.05.073 22.45 24.00 12.50 51.00 16.95 23.25 7.5	.50 3.5

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Carcteristica Denumirea
7 Frunza: lungimea
8 Frunza: latimea
21 Peduncul: lungimea
22 Fruct: marimea
27 Fruct: depresiune a zonei pedunculare
31 Fruct: marimea miezului in sectiune transversala
32 Fruct: grosimea pericarpului
33 Fruct: numarul de loji seminale



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		7	8	21	22	27	31	32	33
C 09.05.073									
	C 09.05.073	NS	NS	NS	NS	NS	NS	NS	NS
	C 09.05.071	NS	NS	NS	NS	NS	NS	NS	NS
	C 09.05.069 A	NS	**	*	NS	NS	NS	NS	NS
	09.05.070	NS	***	NS	***	**	NS	NS	NS
	09.05.067	NS	**	NS	***	NS	***	NS	NS
	09.05.066	NS	NS	NS	**	*	***	NS	NS
	09.05.065	NS	**	NS	***	NS	***	NS	NS
	09.05.064	NS	**	NS	***	*	NS	NS	NS
	09.05.005	NS	**	NS	***	NS	NS	NS	NS
	09.05.004 V	*	*	NS	***	*	NS	NS	NS
	09.05.002 IS	NS	NS	NS	NS	NS	NS	NS	NS
	A report s	show	ving th	ne co	mpari	ison (of a c	andid	late



[Annex V follows]

TWC/25/20

ANNEX V

Presentation made by the Office of the Union

RECENT DEVELOPMENTS IN UPOV

OVERVIEW

- UPOV Membership and Observers
- Impact Study
- Variety Denominations and Databases
- Enforcement of Plant Breeders' Rights
- Molecular Techniques
- CAJ Advisory Group / EDV
- Distance Learning
- Technical Committee

Γ	MEMBERSH	IIP OF UPOV
	64 Me	embers
(63 Sta	ates and the E	uropean Community)
New Members:		
Morocco	October 8, 2006	
Viet Nam	December 24, 2006	
Dominican Republic	May 16, 2007	
Accession to 1991 Act:		
Ukraine	January 19, 2007	
Spain	July 18, 2007	
Laws examined:	Council Session	Advice
Dominican Republic	October 19, 2006	positive
Guatemala	October 19, 2006	positive (amendments of draft law required)
Philippines	March 30, 2007	amendments of law required
Georgia	March 30, 2007	positive







NEW OBSERVER

Observer status granted to:

 Seed Association of the Americas (SAA) in the Council, CAJ, Technical Committee and Technical Working Parties

COUNCIL OF UPOV

- President:
 Mr. Doug Waterhouse, Australia
- Vice-President: Mr. Keun-Jin Choi, Republic of Korea

UPOV MISSION STATEMENT

"To provide and promote an *effective system* of plant variety protection, with the aim of encouraging the development of *new varieties of plants*, for the *benefit of society*"



VARIETY DENOMINATIONS

- Explanatory Notes on Variety Denominations (UPOV/INF/12/1) adopted and published on UPOV Website:
 - Explanatory notes to relevant provisions of UPOV Convention
 - UPOV variety denomination classes (Annex I)

Enforcement of Plant Breeders' Rights

- Seminar at UPOV headquarters (Oct. 2005)
- Enforcement Workshops organized by UPOV members (Brussels, Warshaw, Tokyo, etc.)
- "Overview of existing activities of UPOV and possible future initiatives in relation to the enforcement of plant breeders' rights" is under preparation and will be made available to ISF and CIOPORA

Article	Oct. 2007	Oct. 2008
Article 1(iv) of the 1991 Act: Definition of breeder		Document fo CAJ-AG (Await TC discussion o
		Article 1(vi))
Article 5(2): Conditions of Protection (Article 6(2) of the 1978 Act)		
Article 18 of the 1991 Act: Measures Regulating Commerce (Article 14 of the 1978 Act)	Document for CAJ-AG	
Article 12 of the 1991 Act: Examination of the Application	No further work in CAJ-AG	
Article 14(5) of the 1991 Act: Essentially derived and certain other varieties (ISF invited to provide guidance materials)	Re-discuss existing text in document CAJ-AG/06/1/2	
Article 14(2) of the 1991 Act: Acts in respect of harvested material (Article 5(4) of the 1978 Act)		
Article 16 of the 1991 Act: Exhaustion of the Breeder's Right	Document for CAJ-AG	
Article 15 of the 1991 Act: Exceptions to the Breeder's Right (Article 5(3) of the 1978 Act)	Document for CAJ-AG	
Article 30(1)(i) of the 1991 Act: Implementation of the Convention: Provide for appropriate legal remedies for the effective enforcement of breeders' rights (Article 30(1)(a) of the 1978 Act)	Await CC conclusion	







UPOV Distance Learning Course DL 205

"Introduction to the UPOV System of Plant Variety

Protection

Under the UPOV Convention"

UPOV Distance Learning Course DL 205
Objective:
To provide a comprehensive introduction to the UPOV system of plant protection under the International Convention for the Protection of New Varieties of Plants
Target Audience:
(a) Officials/officially appointed persons:
 Responsible for running PBR offices
•Responsible for drafting PBR legislation
•Key staff of PBR offices
 Organizers of DUS trials
•DUS examiners
(b) Private Sector:
•Breeders
•IP managers
•IP agents/attorneys
•Academia/Students

UPOV Distance Learning Course DL 205
Category 1:
Government officials of members of the Union nominated by the relevant representative to the UPOV Council
No fee
Category 2:
Officials of observer States / intergovernmental organizations nominated by the relevant representative to the UPOV Council
(One non-fee paying student per State / intergovernmental organization;
Additional students: CHF1,000 per student)
Category 3:
Others
Fee: CHF1,000









	UPOV Distance Le	arning Course DL 205
2007	Session 1 E	
	F	April / May
	G	Registration : February 2007
	S	
	Session 2 E	
	F	September /
	G	October
	S	Registration : July 2007

TECHNICAL COMMITTEE

Developments in Technical Committee

• 43rd session (March 2007)

items covered in the TWA agenda

- TGP documents
- UPOV-ROM; GENIE database; UPOV code
- Variety denominations
- Publication of variety descriptions
- Molecular techniques
- Practical guide for drafters of UPOV Test Guidelines
- Combinations of lines

The Technical Committee proposed to the Council that it elect:

- Mrs. Françoise Blouet (France) as Chairperson of the Technical Committee
- Mr. Chris Barnaby (New Zealand) as Vice-Chairperson of the Technical Committee

Test Guidelines adopted by Technical Committee

Ref.	Crop / species	Drafter	TWP
TG/18/5	Elatior Begonia, Winter-flowering begonia	DE	TWO
TG/49/8	Carrot	FR	TWV
TG/55/7	Spinach	NL	TWV
TG/61/7	Cucumber, Gherkin	NL	TWV
TG/70/4 Rev.	Apricot	HU, QZ, FR	TWF
TG/137/4	Blueberry	PL	TWF
TG/140/4	Pot Azalea	DE	TWO
TG/155/4	Pumpkin	ZA/FR	TWV
TG/215/1 Rev.	Clematis	CA	TWO
TG/ANGLN	Angelonia angustifolia Benth. and its hybrids	AU	TWO
TG/COM MIL	Common Millet	UA	TWA

		e (con	it.)
TG/CUC_MOS	Butternut, Butternut Squash, Cheese Pumpkin, China Squash, Cushaw, Golden Cushaw, Musky Gourd, Pumpkin, Winter Crookneck Squash	FR	TWV
TG/DIASC	Diascia, Twinspur	CA	TWC
TG/HUSK	Husk Tomato	MX	TWV
TG/HYPER_PER	St. John's Wort, Common St. John's Wort, Goat weed, Klamath weed, Tipton weed	DE	TWV
TG/MOM	Balsma apple, Balsam pear, Bitter cucumber, Bitter gourd, Bitter melon, Cassila gourd	JP	TWV
TG/SUTERA	Sutera; Jamesbrittenia	DE	TWC
TG/TAGETE	Marigold	MX/FR	TWC
TG/45/7	Cauliflower (referred back to TWV to resolve technical issues)	FR	TWV
TG/46/7	Onion, Shallot (referred back to TWV to resolve technical issues)	NL/FR	TWV
TG/AMARAN	Amaranth (referred back to TWA to resolve technical issues)	MX	TWA



Database of TWC Documents

The TC noted the TWC proposal for a prototype of a database to search for TWC documents to be presented to other TWPs for comments. However, the TC agreed that the **TWC should be invited to note the concerns expressed at the TC**, in particular the need for care with regard to the use of TWP session documents, which it was noted did not represent an agreed UPOV position and did not contain comments made on those documents by the relevant UPOV bodies.









- The "General Introduction" (TG/1/3) – General technical principles
- "TGP" Documents
- "Test Guidelines"











[End of Annex V and of document]