



TWA/31/13

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
GENEVA

**TECHNICAL WORKING PARTY  
FOR  
AGRICULTURAL CROPS**

**Thirty-First Session  
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COMMENTS ON TGP DOCUMENTS

*Document prepared by the Office of the Union to present the comments made at*

*the Technical Working Party on Automation and Computer Programs (TWC), at its twentieth  
session held in Texcoco, Mexico, from June 17 to 20, 2002*

*the Technical Working Party for Vegetables (TWV), at its thirty-sixth session held in  
Tsukuba, Japan, from September 9 to 13, 2002*

(a). TGP Documents to which the Technical Committee has given highest priority for discussion

<b>TGP/7 Development of Test Guidelines</b>	
<i>TGP/7.1: Guidance for Drafters of Test Guidelines</i>	
TWV	<p>The TWV observed that the current presentation of document TGP/7.1 might give the impression to the drafters that all additional standard wordings (ASWs) should be used in UPOV Test Guidelines. However, the objective of the document was to provide guidance in order to maintain a minimum level of harmonisation in the layout and the wording used in Test Guidelines. The TWV observed that document TGP/7.1 could be improved to make it clear that the additional standard wordings should be used only when necessary and as appropriate and this would never force the drafter to include the information indicated by the headings of the additional standard wording.</p> <p><u>ASW 1 (TGP/7.2: Section 2.3) -seed quality requirement</u>: The second sentence should be amended to read: “In cases where the seed is to be stored, the germination capacity should be as high as possible and should <u>if possible</u>, be stated by the applicant.”</p> <p><u>ASW 6 (TGP/7.2: Section 4.3.3) -stability assessment of hybrid varieties</u>: An additional sentence referring to the stability assessment of parental lines should be added reading: “The stability of a parental line may, in addition to an examination of parental lines itself, also be assessed by examination of the uniformity and stability of its hybrids.”</p> <p><u>ASW 9 (TGP/7.2: Section TQ 4.2) -information on method of propagating hybrid varieties</u>: The last lines should read: “(b) <u>maintenance system</u> of male sterile lines.”</p> <p>The TWV further considered GN 14 (TGP/7.2: Section 7) -Table of Characteristics: Handling of a long list of characteristics, and observed that it should be stated clearly that a consensus should be required for the inclusion of characteristics fulfilling the criteria in order to avoid automatic adoption of such characteristics. The TWV further agreed in general to the following:</p> <p>1) a list of characteristics longer than necessary should be avoided, characteristics proposed but not adopted as Standard Test Guidelines Characteristics could be placed on a list, which would be then placed on the UPOV Website for further consideration and/or eventual adoption in future as Standard Test Guidelines Characteristics.</p>
<i>TGP/7.2: TG Template</i>	
TWV	<p>The TWV agreed to endorse document TGP/7.2 as agreed by the Technical Committee including the newly drafted Annex to the Technical Questionnaires.</p>

<b>TGP/7 Development of Test Guidelines (Cont.)</b>	
<i>TGP/7.3.1: Standardized UPOV Terms and Explanations – Types of Expression of Characteristics</i>	
TWV	The TWV agreed to send comments to the Office of UPOV before the end of the year.
<i>TGP/7.3.2: Standardized UPOV Terms of Explanations – Harmonized States of Expression of Characteristics</i>	
TWV	The TWV agreed to send comments to the Office of UPOV before the end of the year.
<i>TGP/7.4: Procedures for the Introduction and Revision of Test Guidelines:</i>	
TWV	<p>The TWV noted the importance of establishing procedures in a written form to ensure transparency and full participation of members of the Technical Committee and its observers in the process of the introduction and revision of Test Guidelines. The TWV agreed, however, that the proposed procedures should be improved by taking into account the following general comments made during the discussion:</p> <ol style="list-style-type: none"> <li>(1) Initiatives of Technical Working Parties in the drafting and revision of Test Guidelines would be affected by the proposed procedures, in particular, through the approval procedures included in Steps 1 to 3.</li> <li>(2) The proposed procedures may lead to the imposition of additional burden onto Technical Working Parties.</li> <li>(3) It would be necessary to include a mechanism to respect the priority and expertise of the Technical Working Party concerned when allocating drafting work.</li> <li>(4) Criteria for the prioritization should be clearly formulated.</li> <li>(5) Parties having requested the introduction and revision of Test Guidelines should be prepared to contribute to the work.</li> </ol> <p>In connection to the discussion on document TGP/7, the TWV noted that the procedures between the adoption of draft Test Guidelines and their publication were not clear and might need to be clarified, especially when draft Test Guidelines have been adopted subject to the inclusion of additional information to be provided by the leading expert. The TWV proposed that the decision taken by the Technical Committee including the instruction to the leading expert be circulated to the interested experts of the Technical Working Parties concerned.</p> <p>The TWV proposed that questionnaires be prepared to ask for opinions of TWPs on their mid-term work plan with respect to the establishment and/or revision of Test Guidelines.</p>

<b>TGP/4ManagementofVarietyCollections</b>	
<i>TGP/4.1GeneralGuidancefortheManagementofVarietyCollections</i>	
TWC	<p>Some experts considered that the wording of paragraph 14 was confusing especially the second part. The expert from Germany clarified that the aim of this part of paragraph 14 was to stress the need and importance of having a variety collection.</p> <p>Paragraph 14 to read:</p> <p>“14. As a conclusion, it is important to underline that whatever the situation adopted to establish a variety collection, it is impossible and not necessary to have a full collection of varieties of common knowledge <del>, but also to have a working variety collection with a II varieties which would have to be included</del>. Nevertheless, it is important that there should be an inclusive and relevant working variety collection”</p>
TWV	<p>The TWV noted that the coverage of this document overlapped with that of document TGP/9.3.1, and thought that a restructuring might be necessary. Furthermore, the TWV agreed to that Paragraph 13(a)(ii) should read: “<u>access to</u> a representative sample of plant material of the variety ”</p>
<b>TGP/9ExaminingDistinctness</b>	
<i>TGP/9.1.1:GeneralProceduresforDeterminingDistinctness:OfficialTesting</i>	
TWV	<p>The TWV noted the documents mentioned above, without making any specific comments.</p>
<i>TGP/9.1.2.1:GeneralProceduresforDeterminingDistinctness:BreederTesting(Australia)</i>	
TWV	<p>The TWV noted the documents mentioned above, without making any specific comments.</p>
<i>TGP/9.1.2.2:GeneralProceduresforDeterminingDistinctness:WiththeParticipationof Breeders(France)</i>	
TWV	<p>The TWV noted the documents mentioned above, without making any specific comments.</p>

<b>TGP/9 Examining Distinctness (Cont.)</b>	
<i>TGP/9.1.3: General Procedures for Determining Distinctness: General</i>	
TWV	<p>Remarks in the Table:</p> <p>Page 4: The superscript given to the word “Cross-pollinated” should be moved to the word “Obs” in the column for the second growing cycle.</p> <p>Page 5: The indication of the possibility of the rejection for any variety with an erroneous TQ description may be interpreted in various ways and thus should be redrafted to avoid any misunderstanding.</p>
<i>TGP/9.3.1: Consideration of All Varieties of Common Knowledge in the Examination of Distinctness</i>	
TWV	<p>The TWV noted a similarity in the contents of this document to document TGP/4.1: General Guidance for the Management of Variety Collection and suggested a possible reorganization of the structure of the TGP documents.</p>
<i>TGP/9.3.2 Use of Phenotypic Distance for Examining Distinctness</i>	
TWC	<p>The TWC noted that the proposed program had been used by one member State only and considered that it should be tested by more member States before being recommended by UPOV in TGP/9.3.2. The TWC further agreed to keep the introduction as part of TGP/9.3.2 and the program GAIA to be presented in a TWC paper at the following session.</p>
TWV	<p>(1) the determination of the weight applied to each characteristic is important and should be carefully done by crop experts with sufficient knowledge on the crop species concerned.</p> <p>(2) the result of the application of the proposed GAIA system should be examined in conjunction with application of COYD analysis.</p>
<i>TGP/9.4.1 Examining distinctness in different types of varieties: General</i>	
TWC	<p>The TWC agreed to have references to the features of propagation in this chapter and not in the chapters describing the statistical method for distinctness</p>
	<p>Paragraph 1 to read:</p> <p>“1. The appropriate method for examining distinctness depends on the methods of recording the expression of a characteristic in a specific crop and the resulting set of data (see TGP/8).....”</p>

<b>TGP/9 Examining Distinctness (Cont.)</b>	
<i>TGP/9.4.1 Examining distinctness in different types of varieties: General (Cont.)</i>	
TWC	<p>Paragraph 3 and 4 to read:</p> <p>“3. Vegetatively propagated, truly self -pollinated and mainly self -pollinated varieties normally have very little variation within varieties. The same situation may occur in qualitative characteristics in cross -pollinated varieties (including synthetic varieties). A lack of significant variation within varieties allows examination of distinctness based on a single observation per variety, year and location. <u>Guidance for the assessment of Distinctness in such cases is provided in (TGP/9/ /) . In general, a minimum distance of one or more than one is recommended to consider a variety to be distinct. In the case of a single observation for each variety, the application of a statistical analysis is not possible or necessary.</u>”</p> <p>“4. Within variety variation is normally greater for quantitative characteristics in cross -pollinated varieties, including synthetic varieties, due to genotypic variation. In this case, the expression of a variety should be recorded using <del>more than one</del> <u>more</u> observations. <del>Usually, records are taken from a</del> <u>on</u> number of individual plants. Distinctness can then be assessed by comparing the differences in variety means with a measure of random variation inherent in the variety means (see TGP/9.7 “Recommended Statistical Methods”). If a characteristic in a vegetatively propagated, truly self -pollinated or mainly self -pollinated variety is recorded by observation of individual plants, the same methods can be applied. This situation might occur where there is considerable plant to plant variation within varieties due to environmental effects is observed. However, in general, a <u>one</u> single observation <u>per plot</u> for each variety is sufficient in vegetatively propagated, truly self -pollinated and mainly self -pollinated varieties.”</p> <p>To add new paragraph at the end:</p> <p>“The assessment of distinctness for hybrid varieties should follow the same rules independently of the degree of within variety variation on the level of the hybrid or of the parental lines. Specific guidance for the assessment of distinctness using the parental formula is provided in TGP/9.”</p>
TWV	<p>The TWV noted the document, without making any specific comments. The members of the TWV were invited to send comments on the documents to the Office as soon as possible so that those comments could be considered by the Technical Working Party for Agricultural Crops.</p>

<b>TGP/9 Examining Distinctness (Cont.)</b>	
<i>TGP/9.6 Use of Multiple Locations in the Examination of Distinctness</i>	
TWC	<p>Paragraph 4 to read as follows:</p> <p>“4. For some crops, such as fruit trees, the same plants are examined over successive years. In this case, the condition of independence of growing cycles is <u>not</u> <del>also</del> satisfied. But, as it would be impossible in practice to plant successive trials, this is accepted”</p>
	To reword the second sentence of paragraph 7 or to remove the whole paragraph.
	<p>The last point of paragraph 8 to read as follows:</p> <p>“Some offices systematically grow varieties in more than one location (usually 2). They do this in order to provide a double check for consistency in crops for which they experienced difficulties in proving distinctness and uniformity.”</p>
	The TWC did not accept to modify the fifth point of paragraph 8 as proposed by Australia because it considered necessary to check consistency of the DUS test by sampling different environments.
<i>TGP/9.7 Recommended Statistical Methods - COYD</i>	
TWC	<p>The TWC agreed to add an example of long term COYD and to put <u>in</u> name of Annex in page 14.. It also agreed to include other possibilities than “fitted constants” in paragraph 10 of Appendix A.</p>
	<p>Paragraph 1, first sentence to read as:</p> <p>“1. To distinguish varieties on the basis of a <del>measured</del> <u>quantitative</u> characteristic we need to establish a minimum allowable distance between varieties so that a pair of varieties showing a difference greater than the minimum might be regarded as “distinct” in respect of that characteristic...”</p>

<b>TGP/9 Examining Distinctness (Cont.)</b>	
<i>TGP/9.7 Recommended Statistical Methods – COYD (Cont.)</i>	
TWC	<p>Paragraph 12 to read as follows:</p> <p>“12. COYD is recommended for use in assessing distinctness of varieties when observations are made on a plant (or plot) basis over two or more years; <u>when the characteristic is quantitative</u></p> <p>when there are some differences between plants (or plots) of a variety <del>but, nevertheless, this variation is sufficiently small to allow us to distinguish between</del> varieties;</p> <p>– <del>in general COYD is recommended for use in the testing of allogamous (cross fertilized) varieties.</del>”</p>
	Paragraph 16: to replace “present” by “common”.
<b>TGP/10 Examining Uniformity</b>	
<i>TGP/10.2 Assessing Uniformity According to the Features of Propagation</i>	
TWC	<p>The TWC did not accept the proposal from Australia to modify paragraph 6, sentence 2 because it considered that the COYU is the only recommended method. The TWC also agreed to have references to the features of propagation in this chapter and not in the chapters describing the statistical method for uniformity.</p>
	<p>Paragraph 1(b) to read as follows:</p> <p>“(b). Variation within mainly self-pollinated varieties should also result, predominantly, from environmental influences but a low level of genotypical variation caused by some cross pollination is accepted. Therefore, <del>the tolerance limit for uniformity may be higher</del> <u>more variation may be tolerated</u> than for vegetatively propagated and truly self-pollinated varieties.”</p>
TWV	<p>The TWV noted the document, without making any specific comments. The members of the TWV were invited to send comments on the documents to the Office as soon as possible so that those comments could be considered by the Technical Working Party for Agricultural Crops.</p>



<b>TGP/10ExaminingUniformity(Cont.)</b>	
<i>TGP/10.2AssessingUniformityAccordingtotheFeaturesofPropagation</i>	
TWC	<p>Paragraph2:toreadasfollowsandtoaddanewone:</p> <p>“2. <u>As a result of the above, appropriate uniformity standards for the different types of varieties must be developed according to the features of propagation (specific population standards).</u>”</p> <p>“2.a <u>The variation within varieties in a characteristic determines how that characteristic is used to determine uniformity in the crop (off -types in case of discontinuous variation or variances in case of continuous variation of characteristics). Thus, the uniformity of the crop may be determined by off -types alone, by variances of the characteristics alone, or by off -types for some characteristics and by variances for other characteristics .</u>”</p>
	<p>Paragraph4(b),last sentencetoreadasfollows:</p> <p>“(b). ..... An appropriate fixed population standard <del>should</del> <u>may</u> also be applied in the case of a very low number of comparable varieties.”</p>
	<p>Paragraph6toreadasfollows:</p> <p>“6. If the detection of off -types is not possible because of considerable genotypic and/or environmental variation within varieties, uniformity should be assessed after taking this variation into account. The variability of a candidate variety should not exceed the variability of comparable varieties or types <u>already known</u>. The comparison between a candidate variety and comparable varieties is carried out on the basis of variances calculated from individual plant observations. The COYU procedure is the recommended statistical method for this comparison (see Section 10.3.1). This procedure calculates the tolerance limit on the basis of comparable varieties already known i.e. uniformity is assessed using a relative tolerance limit.”</p>
	<p>Paragraph8toreadasfollows:</p> <p>“8. If the inheritance of a clear -cut segregating characteristic is not known, the <del>expression of the characteristic is treated in the same way as other characteristics in cross-pollinated varieties (including synthetic varieties). The</del> observed segregation ratio should be described. An assessment of uniformity is not possible for these characteristics. (The rules outlined for predictable segregation ratios in Chapter 10.3.3 should be used for testing stability.)”</p>

<b>TGP/10ExaminingUniformity(Cont.)</b>	
<i>TGP/10.3.1RecommendedStatistical Methods:COYU</i>	
TWC	<p>The TWC agreed to include a paragraph clarifying that the same number of plants, measurements and replications as in COYD are used. It also agreed a paper to be prepared for the following TWC meeting proposing an alternative method to COYU when there requirements on degrees of freedom for COYU are not fulfilled</p>
	<p>Paragraph 1, first sentence to read:</p> <p>“1. When the uniformity of plants of a variety is to be judged on the basis of <del>measurements</del> <u>quantitative characteristics</u>, then the standard deviation (SD) can be used to summarise the spread of the observations.”</p>
	<p>Paragraph 11: to include an extra point “when the characteristic is quantitative”</p>
	<p>Paragraph 14: To amend the second formula.</p>
	<p>Paragraph 30: reference to “Table B2” should be to “Table A2”</p>
	<p>To check the format of Table A2.</p>
<i>10.3.2RecommendedStatisticalmethods:Off -types</i>	
TWC	<p>The TWC considered that the tables and figures included in the document in pages 14 to 36 should be improved. It was agreed that Denmark would send the drafter the program to create new ones.</p>
	<p>The TWC also considered necessary to include advice for the assessment of Uniformity by relative tolerances in the number of off -types in TGP/10. It was agreed that experts from Germany and United Kingdom would prepare a document for the following session of the Working Party.</p>
	<p>The TWC agreed to request the opinion of the other Technical Working Parties in relation to the use of the term “heterogeneous” of paragraph 11 or whether it could be replaced by “nonuniform”</p>

<b>TGP/10ExaminingUniformity(Cont.)</b>	
<i>10.3.2RecommendedStatisticalmethods:Off -types(Cont.)</i>	
TWC	<p>Paragraph2toreadasfollows:</p> <p>“2. <del>Uniformity of candidate varieties of self-pollinated and vegetatively propagated crops is normally assessed on the basis of the number of off-types recorded in tests.</del> The maximum number of off-types that is acceptable should be chosen so that the probability of rejecting a candidate variety that should meet the crop standard is small. On the other hand the probability of accepting a candidate variety that has many more off-types than the standard of that crop should also be low.”</p>
	<p>Paragraph8toreadasfollows:</p> <p>“8. This method is recommended for use in assessing the uniformity by number of off-types in <del>self-pollinated and vegetatively propagated crops</del> <u>with a fixed population standard.</u>”</p>
<b>TGP/8UseofStatisticalProceduresinDUSTesting</b>	
<i>TGP/8.6ExaminingDUSinBulkSamples</i>	
TWC	<p>Some experts considered that it would be necessary to include more examples to show the reaction to bulking in different characteristics. One expert from United Kingdom proposed the components of the formula in paragraph 3 should be considered as “sources of variation” instead of “variance caused by”.</p>
	<p>Paragraph4toread:</p> <p>“4. In cases where the data are not bulked the variance <del>on</del> <u>of</u> the difference between two variety means, <math>\sigma_{diff}^2</math>, becomes:”</p>
	<p>Paragraph10the explanation to the formula to read:</p> $Var(Z_w) = \sigma_w^2 + \sigma_f^2$ <p>where</p> <p><math>\sigma_w^2</math> is the total variance caused by the year in which the variety is measured</p> <p><math>\sigma_f^2</math> is the <del>variance caused</del> <u>influenced</u> by the number of degrees of freedom</p> <p><math>\sigma_f^2</math> is approximately <math>\frac{1}{2v} \left( \frac{\sigma}{\sigma+1} \right)^2</math> when the recorded variable is normally distributed and the variances are not too variable. This last expression reduces to <math>0.5/v</math> when <math>\sigma \gg 1</math>. Here <math>\sigma</math> is the mean value of the <math>s_w</math> values and <math>v</math> is the number of degrees of freedom used in the estimation of <math>s_w</math>.</p>
TWV	The TWV agreed to send comments to the Office of the Union before the end of the year.

(b) Other TGP documents

<b>TGP/3 Varieties of Common Knowledge</b>	
<i>TGP/3.2: Developments and Explanations Regarding Varieties of Common Knowledge</i>	
TWV	<p>The TWV observed that the contents of the existing drafts of the document groups under TGP/3 and TGP/4 were duplicated in several areas. It was considered that the objectives of TGP/3 would be to explain the legal background of variety of common knowledge on the basis of provisions of the UPOV Convention while the objectives of TGP/4 would be to give practical guidance to DUS testing authorities when establishing reference collection. The TWV, being aware of the close link between TGP/3 and TGP/4, thought, however, that a clear functional division should be respected.</p>
<b>TGP/8 Use of Statistical Procedures in DUS Testing</b>	
TWC	<p><u>Procedure for recommending statistical methods in TGP documents</u>: The TWC received several comments suggesting that the statistical procedures and methods included in the TGP documents were not the only ones that could be used in DUS testing. Even though the Working Party considered that it might be the case, it also considered that, to be recommended by UPOV in a TGP document, the Working Party and the Technical Committee should previously examine any statistical method as follows:</p> <ul style="list-style-type: none"> <li>(a) a working paper (“TWC document”) should be presented to the consideration of the Working Party, explaining the statistical principles applied including examples of its practical use in DUS testing.</li> <li>(b) the TWC to examine the proposal and to decide whether it could be put to the Technical Committee as a recommended statistical method or whether further development is necessary.</li> <li>(c) if considered suitable, the proposal to be put to the Technical Committee to be included as a TGP document.</li> </ul>
<i>TGP/8.4 Types of Characteristics and their Scale Level</i>	
TWC	<p>The TWC agreed to replace “level of view” by “level of process” throughout the whole document.</p> <p>Page 4, second paragraph to read:</p> <p>The continuous quantitative data for the characteristic “Plant length” are measured on a continuous scale with defined units of assessment. It depends only on the costs and the necessity to get any value in cm or in mm. <del>Changing of measure</del> <u>A change of unit of measurement</u> e.g. from cm into mm is only a question of precision and not a change of type of scale.</p>

<b>TGP/8 Use of Statistical Procedures in DUST Testing (Cont.)</b>	
<i>TGP/8.4 Types of Characteristics and their Scale Level (Cont.)</i>	
TWC	<p>Page 4, last paragraph to read:</p> <p>The definition of an absolute zero point makes it possible to define <del>additional</del> <u>additional constant</u> meaningful ratios. This is also a requirement for the construction of index numbers (e.g. the ratio of length to width). An index is the combination of at least two characteristics. In UPOV terms this special case is defined as a combined characteristic.</p>
	<p>Page 5, second paragraph to read:</p> <p>“ The interval scale is <del>higher classified than the ordinal scale but</del> — lower <u>classified</u> than the ratio scale (Table 2). That means that it is possible to use more statistical procedures. Fewer statistical procedures can be used with interval scaled data than with ratio scaled data (Chapter 7). The interval scale is theoretically the minimum scale level to calculate arithmetic mean values.”</p>
	<p>Page 5, last paragraph to read:</p> <p>“ The ordinal scale is <del>higher classified than the nominal scale but</del> — lower <u>classified</u> than the interval scale (Table 2). <del>It is possible to use more statistical procedures than for nominal scaled data but less than for interval scaled data</del> — Less statistical procedures can be used for ordinal scale than for all of the higher classified scaled data (Chapter 7).”</p>
	<p>Page 6, third paragraph</p> <p>Characteristics with only two categories ( <u>dichotomous</u> <del>alternative</del> characteristic) are a special form of nominal scales.</p>
	<p>Page 6, Table 2</p> <p>To replace “exact zero” by “absolute zero” in the column Description.</p>

<b>TGP/8 Use of Statistical Procedures in DUST Testing (Cont.)</b>	
<i>TGP/8.4 Types of Characteristics and their Scale Level (Cont.)</i>	
TWC	<p>Page 7, the third paragraph and the remark to read:</p> <p>“ For quantitative characteristics the scale level of data depends on the method of assessment. They can be recorded on a quantitative or ordinal scale. For example, "Length of plant" is usually recorded by measurements resulting in ratio scaled continuous quantitative data. Under specific circumstances, visual assessment on a 1 to 9 scale may be appropriate. In this case, the recorded data are qualitatively scaled (ordinal scale) because the <del>size</del> <u>interval between the midpoint</u> of categories is not exactly the same.</p> <p>Remark: In some cases visually assessed data on quantitative characteristics may be handled as <del>quantitative data</del> <u>measurements</u>. The possibility to apply statistical methods for quantitative data depends on the precision of the assessment and the robustness of the statistical procedures. In case of very precise visually assessed quantitative characteristics the usually ordinal data may reach the level of discrete intervals scaled data or of discrete ratios scaled data.”</p>
	<p>Table 4 and 5: to merge the columns Type/Procedure and Further Conditions and to delete “Recommended” from the titles of these tables. To replace “alternative” by “dichotomous” in table 5.</p>
	<p>The Working Party furthermore agreed that a paper on Chi square distribution to be prepared for the following session by experts from France and United Kingdom.</p>
<i>TGP/8.5 Statistical Method for DUSE Examination.</i>	
TWC	<p>The TWC agreed that bibliography should be included in the document and the drafter would contact national expert to get that information and to include another example of randomized block design, another example of completely randomized design and a section on paired t test. As the document would become more voluminous with the inclusion of more methods the Working Party considered that special care should be taken in its structure. Finally it was also agreed that experts from Denmark and Poland would prepare a document on incomplete block design and experts from France and United Kingdom would prepare a document on Chi Square for discussion at the following session of the TWC.</p>

<b>TGP/12 Special Characteristics</b>	
<i>TGP/12.1: Characteristics Expressed in Response to External Factors: Disease Resistance</i>	
TWV	<p>Paragraphs 4 to read:</p> <p>“The <del>decreasing</del> input from science on the taxonomy of the diseases and of the strains of diseases <del>is decreasing rapidly</del> around the world <u>is compensated by the input of phytologists from DUS testing institutes and seed companies</u> .”</p>
	<p>Paragraphs 13, the last sentence to read:</p> <p>“It has to be avoided <del>that the heterogeneity introduced through</del> <u>to attribute the trial is blamed induced heterogeneity to the candidate variety.</u>”</p>
	<p>Paragraphs 15, the second sentence to read:</p> <p>“<del>Therefore, In fact in many cases</del> — disease characteristics <del>may</del> <u>are often</u> be used as grouping characteristics.</p>
	Paragraphs 16 the last sentence to be deleted
	Paragraphs 17 (g) to read: “the availability of reliable inoculum <u>and host differential set</u> ”
	Paragraphs 21 the second indent to read: “The applicant/breeder may be requested to carry out a blind disease test with coded samples including the candidate variety and a number of also coded control samples as susceptible and resistant controls <u>on the basis of a clear control</u> .”
<i>TGP/12.4: Examination of Scent and Flavor Characteristics</i>	
TWV	<p>The TWV recalled that it had proposed at its thirty -fifth session that a separate TGP document be prepared on scent and flavor, but it still needed to nominate a drafter. The TWV felt, however, that it had not sufficient experiences and knowledge, for the time being, to use scent or flavor characteristics for the conduct of DUS testing for vegetable varieties.</p>

[End of document]