



TWV/44/3 Add.

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**TECHNICAL WORKING PARTY FOR VEGETABLES**

**Forty-Fourth Session**  
**Veliko Tarnovo, Bulgaria, July 5 to 9, 2010**

ADDENDUM TO TGP DOCUMENTS

*Document prepared by the Office of the Union*

1. This document presents the comments made by the Technical Working Party on Automation and Computer Programs (TWC) at its twenty-eighth session, held in Angers, France, from June 29 to July 2, 2010, in relation to matters concerning TGP documents to be discussed by the Technical Working Party for Vegetables at its forty-fourth session.

2. The TWC considered the TGP documents below in conjunction with document TWC/28/3 (see document TWV/44/3).

(a) New TGP documents:

*TGP/11 Examining Stability*

3. The TWC considered document TGP/11/1 Draft 8 and the comments made by the Technical Working Party for Agricultural Crops (TWA), at its thirty-ninth session, held in Osijek, Croatia, from May 24 to 28, 2010, as set out in document TWC/28/3 (see document TWV/44/3), paragraph 10.

4. With regard to the TWA proposal in document TWC/28/3, paragraph 10, the TWC proposed that the final sentence of Section 2.3.3.1 be amended to read "The candidate parent line variety is declared stable if at least 5 ear-rows conform to the plot". The TWC also suggested that it might be appropriate to consider adding examples for vegetable, fruit and/or ornamental crops.

(b) Revision of TGP documents:

*TGP/5 Experience and Cooperation in DUS Testing, Section 10: “Notification of Additional Characteristics”*

5. The TWC noted the developments reported in document TWC/28/10 (see document TWV/44/10).

*TGP/7 Development of Test Guidelines*

6. The TWC considered the following items in conjunction with document TWC/28/3 (see document TWV/44/3):

(i) *Coverage of ornamental varieties in Test Guidelines*

7. The TWC considered document TWC/28/11 (see document TWV/44/11) and suggested that consideration might be given to whether the asterisked characteristics would necessarily be appropriate for types of varieties for which additional characteristics would be needed beyond those included in the Test Guidelines.

(ii) *Quantity of plant material required*

8. The TWC considered document TWC/28/12 (see document TWV/44/12).

9. The TWC noted that the Section 4.1.2 of document TGP/7/2 Draft 5 specified that the “quantity of plant material specified in Chapter 2.3 of the Test Guidelines is the minimum quantity that an authority might request of the applicant. Therefore, each authority may decide to request a larger quantity of plant material, for example to allow for potential losses during establishment, or for a standard sample (see GN 7 “Quantity of plant material required”).”.

(iii) *Applications for varieties with low germination*

10. The TWC noted the information presented in document TWC/28/13 (see document TWV/44/13).

(iv) *Number of plants to be considered for distinctness*

11. The TWC considered document TWC/28/14 (see document TWV/44/14).

12. The TWC proposed that consideration be given to developing guidance on:

- (a) how to select the plants to be examined for distinctness from within the trial;
- (b) the minimum number of plants of candidate varieties required to be able complete the trial, i.e. the minimum number of plants required to examine distinctness and uniformity;
- (c) the number of plants required for varieties of common knowledge (reference varieties) to be compared with the candidate varieties; and

(d) whether, for Test Guidelines with a small number of plants in the DUS trial (e.g. Grapevine), all the plants of the candidate variety might be examined, disregarding any off-type plants, irrespective of the minimum number to be examined. Thus, in the case of grapevine, all 8 plants of candidate varieties might be examined (or 7 if one plant was an off-type).

(v) *Selection of asterisked characteristics*

13. The TWC noted the proposals set out in document TWC/28/15 (see document TWV/44/15).

(vi) *Indication of grouping characteristics*

14. The TWC noted the proposals set out in document TWC/28/16 (see document TWV/44/16).

(vii) *Guidance for type of observation*

15. The TWC noted the explanation presented in document TWC/28/17 (see document TWV/44/17).

(viii) *Example varieties*

16. The TWC considered document TWC/28/18 (see document TWV/44/18) and proposed to amend the wording as follows:

“7. The conditions can be listed as follows:

“(a) Example varieties must be well-known across the member States, [...];

[...]

“(d) Considering a set of example varieties for a characteristic, the rank of each example variety [...]”

17. The TWC noted that a set of example varieties for North East Asia had been published on the UPOV website as an Annex to the Test Guidelines for Rice.

(ix) *Providing photographs with the Technical Questionnaire*

18. The TWC considered document TWC/28/19 (see document TWV/44/19) and made the following comments:

paragraph 9	<ul style="list-style-type: none"> <li>- to revise the first sentence to refer only to aspects affecting the image captured by the photograph and to introduce a separate sentence to address aspects affecting the reproduction of the image (e.g. resolution of the screen on which the image is viewed)</li> <li>- to replace “an imprecise picture” with “such factors”</li> </ul>
paragraph 9 (vi)	to modify the final sentence to apply to situations other than flower color in ornamental plants and to consider adding the possibility of using a

paragraph 9 (vii)	<p>standard color check chart , instead of the RHS Colour Chart</p> <p>- to replace “and not reflect light” to “should not have a shiny surface”, for example</p> <p>- to add an explanation that there should be uniform light distribution over the object to be photographed, and to give examples of how that might be achieved, e.g. by a light tent</p>
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(x) *Standard references in the Technical Questionnaire*

19. The TWC considered document TWC/28/8 (see document TWV/44/8).

20. The TWC noted that it would be a matter for breeders to indicate the usefulness of standard references for UPOV Technical Questionnaires (TQs). However, it saw the benefits of having a standard reference for items in the TQ, particularly for authorities where applications forms could not be made available in multiple languages. In that regard, it noted that the inclusion of a standard reference in an authority’s TQ would be considerably more straightforward than translating those documents into other languages. It also noted that the growing diversity of languages and alphabets within UPOV meant that the use of the references by only some authorities might still bring substantial benefits.

*TGP/8 Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability*

Document TGP/8 Draft 15

21. The TWC agreed that, in document TGP/8/1 Draft 15: PART II: 5: Pearson’s Chi-Square Test Applied to Contingency Tables, Section 5.5 (4) should be amended to read:

“(4) Always use Yates Correction for determining the chi-square test with only one degree of freedom.”

Future Revision of Document TGP/8/1

22. The TWC considered document TWC/28/20 (see document TWV/44/20) and agreed the following with regard to the development of the items covered by the annexes:

TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS

*Annex I*

*New Section 2 - Data to be recorded ( Drafter: Mr. Uwe Meyer (Germany))*

The TWC considered that a DUS expert should be identified to assist Mr. Meyer in the redrafting of the section in order to ensure that it would be accessible to DUS experts

*Annex II*

*New Section 3 - Control of variation due to different observers (Drafter: Mr. Gerie van der Heijden (Netherlands))*

Mr. van der Heijden reported that he had discussed the section with Mr. Henk

Bonthuis, (Netherlands) and they would seek to develop a draft text for consideration by the TWP's in 2011.

*Annex III*

*New Section 6 – Data processing for the assessment of distinctness and for producing variety descriptions (Drafters: experts from Finland, France, Germany, Japan, Kenya and the United Kingdom)*

The TWC considered document TWC/28/32 “Principles Lying Behind the Methods Described in TGP/8 Part II for Producing Variety Descriptions” (see document TWV/44/29), prepared by Mrs. Sally Watson (United Kingdom) and Mr. Sami Markkanen (Finland).

The TWC agreed that the Office of the Union should develop the section by making reference to TGP/9 “Examining Distinctness” and “New Section 2 - Data to be recorded ( Drafter: Mr. Uwe Meyer (Germany))”.

The TWC noted that this section would need to be considered in conjunction with the development of the New Section 13 of PART II of TGP/8 “Methods for data processing for the assessment of distinctness and for producing variety descriptions: (Drafters: experts from Finland, France, Germany, Japan, Kenya and the United Kingdom)”

*Annex IV*

*New Section – Information of good agronomic practices for DUS field trials (Drafter to be agreed)*

The TWC noted that, at the thirty-ninth session of the TWA, held in Osijek, Croatia, from May 24 to 28, 2010, Mrs. Anne Weitz (European Union) had offered to act as a drafter of this section, and Argentina and France had offered to contribute.

TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION

*Annex V*

*New Section after COYU – Statistical Methods for very small sample sizes (Drafter Mr. Gerie van der Heijden (Netherlands))*

The TWC agreed that Mr. van der Heijden (Netherlands) would contact Mr. Chris Barnaby (New Zealand) to seek clarification on the purpose of this section and to seek examples of situations where guidance was needed. On the basis of those discussions, an introduction would be added to the text.

*Annex VI*

*Section 4 – 2x1 % Method - Minimum number of degrees of freedom for the 2x1% Method (Drafter to be agreed)*

The TWC agreed that Mrs. Sally Watson (United Kingdom) would draft a general explanation of the rationale for indicating “at least 10 degrees of freedom and preferably at least 20 degrees of freedom” for both the 2x1% Method and COYD.

*Annex VII*

*Section 9 - The Combined-Over-Years Uniformity Criterion (COYU) - Minimum number*

*of degrees of freedom for COYU (Drafter to be agreed)*

(see also comments to Annex VI above)

The TWC agreed that reference to “COYU” should be changed to “COYD”

*Annex VIII*

*Section 10 – Minimum number of comparable varieties for the Relative Variance Method (Drafter: Mr. Nik Hulse (Australia)).*

The TWC noted that a proposal would be prepared for discussion by the TWPs in 2011.

*Annex IX*

*New Section 11 Examining DUS in bulk samples: (Drafter: Mr. Kristian Kristensen (Denmark))*

The TWC agreed that Mr. Kristian should provide an introduction to this section explaining the reasons for bulking of samples and the consequences of bulking for DUS examination.

*Annex X*

*New Section 12 - Examining characteristics using image analysis (Drafter: Mr. Gerie van der Heijden (Netherlands))*

The TWC considered that, before developing this section further, it would be useful to review information on the use of image analysis by UPOV Members. Experts from Australia, Czech Republic, Denmark, Finland, France, Germany, the Netherlands, Poland and the United Kingdom would make 15 minute presentations on their use of image analysis at the twenty-ninth session of the TWC.

The TWC noted that those presentations might also be considered in relation to exchangeable software.

*Annex XI*

*New Section 13 - Methods for data processing for the assessment of distinctness and for producing variety descriptions (Drafters: experts from Finland, France, Germany, Japan, Kenya and the United Kingdom)*

(see also comments on Annex III)

The TWC considered Annex XI in conjunction with the following documents:

TWC/28/24 “Handling measured quantitative characteristics for vegetable and herbage crops tested in the United Kingdom”, prepared by Mrs. Sally Watson (United Kingdom) (see document TWV/44/31)

The TWC noted that paragraph 7 should be amended to read “For vegetable crops excluding potato method (b) is used to divide the range of expression into states and notes, and for herbage crops method (a) is used.”

The TWC agreed that the notes should be amended to 1-5, instead of 1, 3, 5, 7, 9.

Mr. Markkanen (Finland) explained that the system used by Finland appeared to be based on the same principles as those used in the DUSTNT package and explained that, if that proved to be the case, Finland would consider using the DUSTNT package and would withdraw its method from the collection of

methods in Annex XI

TWC/28/32 “Principles Lying Behind the Methods Described in TGP/8 Part II for Producing Variety Descriptions”, prepared by Mrs. Sally Watson (United Kingdom) and Mr. Sami Markkanen (Finland) (see document TWV/44/29)

TWC/28/33 “Use of linear regression for the description of herbage crops tested in France” prepared by Mr. Vincent Gensollen (France) (see document TWV/44/32)

As a next step in preparing a section for TGP/8, the TWC agreed that the TWC should receive a 10-minute overview of each of the methods presented in document TWC/28/20 (see document TWV/44/20), Annex XI and also the presentations by Argentina, Germany, Japan and the Republic of Korea at the DUS seminar, held in Geneva in March 2010. The TWC would then analyse the similarities and differences in those proposals and would seek to identify methods that would serve as models and that would be available to UPOV members in the form of exchangeable software. As a possible future step, the TWC could consider whether it would be appropriate to compare results from common data sets.

*Annex XII*

*New Section - Guidance of data analysis for blind randomized trials (Drafter to be agreed)*

The TWC noted that at the thirty-ninth session of the TWA, it was agreed that France would provide an example.

*Annex XIII*

*New Section - Statistical methods for visually observed characteristics (Drafter to be agreed)*

The TWC noted that this subject would be discussed under agenda item 12 “Statistical methods for visually observed characteristics” (document TWC/28/29)

*Annex XIV*

*New Section - Guidance for the development of variety descriptions with information from more than one growing cycle in one location, and more than one location*

The TWC agreed that Mr. van der Heijden (Netherlands) would consider whether it would be possible to present a report on developments in the Netherlands

23. The TWC noted that, subsequent to the twenty-eighth session of the TWC, there had been some changes to certain sections in the version of document TGP/8/1 that was put forward for adoption by the Council and agreed that the TWC should review those sections at its twenty-ninth session.

*TGP/12: Guidance on Certain Physiological Characteristics*

24. The TWC noted the proposals set out in document TWC/28/21 (see document TWV/44/21).

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

(i) *Revision of existing sections*

25. The TWC considered document TWC/28/22 (see document TWV/44/22).

26. The TWC agreed that the first sentence of paragraph 8 should read “The ratio length/width (width/length) is a tool to describe a component of shape.”. It also noted that any characteristics that were considered for distinctness would also need to be examined for uniformity. The TWC agreed that it should consider the results of this analysis at its twenty-ninth session.

(ii) *New section for color characteristics*

27. The TWC considered document TWC/28/23 (see document TWV/44/23) and made the following comments:

<u>PART II: COLOR</u>	
2.1 Components of Color	to be amended to explain that, as and where appropriate, UPOV Test Guidelines may use a characteristic to describe “color” in relation to hue, saturation and brightness (three dimensions), but may also, for example, develop separate characteristics for “color” in two dimensions and a separate characteristic for “intensity of color”.
<u>PART III: COLOR DISTRIBUTION / PATTERN</u>	
3.1 General: The use of Number of Colors	- to indicate the difficulties in obtaining an objective and consistent assessment of number of colors - to delete “does not” at end of paragraph

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