



TWF/45/3

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

TECHNICAL WORKING PARTY FOR FRUIT CROPS**Forty-Fifth Session
Marrakesh, Morocco, May 26 to 30, 2014**

TGP DOCUMENTS

*Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*

1. The purpose of this document is to provide an overview of developments concerning Test Guidelines' Procedures (TGP documents).

2. The following abbreviations are used in this document:

| | |
|---------|--|
| CAJ: | Administrative and Legal Committee |
| TC: | Technical Committee |
| TC-EDC: | Enlarged Editorial Committee |
| TWA: | Technical Working Party for Agricultural Crops |
| TWC: | Technical Working Party on Automation and Computer Programs |
| TWF: | Technical Working Party for Fruit Crops |
| TWF: | Technical Working Party for Ornamental Plants and Forest Trees |
| TWV: | Technical Working Party for Vegetables |
| TWPs: | Technical Working Parties |

3. The structure of this document is as follows:

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I. BACKGROUND

4. The approved TGP documents are published on the UPOV website at http://www.upov.int/upov_collection/en/

II. MATTERS FOR ADOPTION BY THE COUNCIL IN 2014

5. The TC at its fiftieth session held in Geneva, on April 7 to 9, 2014, agreed to invite the Council to adopt the following revisions of TGP documents at its forty-eighth ordinary session, to be held on October 15, 2014, as follows:

TGP/0: List of TGP Documents and Latest Issue Dates

6. The Council will be invited to adopt document TGP/0/7, in order to reflect the adoption of TGP documents.

TGP/2: List of Test Guidelines Adopted by UPOV

7. Following the launching of the redesigned UPOV website on November 1, 2011, the TC agreed that document TGP/2 be amended to read as follows (see document TC/50/36 "Report on the Conclusions", paragraph 26):

"A list and copies of adopted and published Test Guidelines can be obtained at http://www.upov.int/test_guidelines/en/".

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

8. Following the conclusion of discussions on disclaimers on UPOV documents in the Consultative Committee, the TC agreed that the guidance in document TGP/5: Section 10, should read as follows (see document TC/50/36 "Report on the Conclusions", paragraph 27):

"4.2 Proposals for additional characteristics and states of expression notified to the Office of the Union by means of document TGP/5 Section 10, will be presented to the relevant Technical Working Party(ies) (TWP(s)) at the earliest opportunity with information on the extent of use of the characteristic. The characteristics will then, as appropriate, be posted on the TG Drafters' Webpage of the UPOV website (http://www.upov.int/restricted_temporary/tg/index.html) on the basis of comments made by the relevant TWP(s), and/or the TWP(s) may initiate a revision or a partial revision of the Test Guidelines concerned."

TGP/7: Development of Test Guidelines

Revisions previously agreed by the TC

9. The TC noted that the following revisions to document TGP/7 previously agreed by the TC would be a basis for the adoption of document TGP/7/4 by the Council, at its forty-eighth ordinary session (see document TC/50/36 "Report on the Conclusions", paragraph 28):

- (i) Selection of Asterisked Characteristics
- (ii) Procedure for the Development of Test Guidelines
- (iii) Guidance on Number of Plants to be Examined (for Distinctness)
- (iv) Guidance for Method of Observation
- (v) Number of Plants Required for Description
- (vi) Coverage of Types of Varieties in Test Guidelines

Amendments to revisions previously agreed by the TC

10. The TC noted that the following revisions to document TGP/7 previously agreed by the TC would be a basis for the adoption of document TGP/7/4 by the Council, at its forty-eighth ordinary session, subject to amendments as presented below (see document TC/50/36 "Report on the Conclusions", paragraph 28):

(vii) Quantity of Plant Material Required

11. Annex 3 “Guidance Notes (GN) for the TG Template”, GN 7 “Quantity of plant material required” should read as follows:

“The drafter of the Test Guidelines should consider the following factors when determining the quantity of material required:

- “(i) Number of plants/ parts of plants to be examined
- “(ii) Number of growing cycles
- “(iii) Variability within the crop
- “(iv) Additional tests (e.g. resistance tests, bolting trials)
- “(v) Features of propagation (e.g. cross-pollination, self-pollination, vegetative propagation)
- “(vi) Crop type (e.g. root crop, leaf crop, fruit crop, cut flower, cereal, etc.)
- “(vii) Storage in variety collection
- “(viii) Exchange between testing authorities
- “(ix) Seed quality (germination) requirements
- “(x) Cultivation system (outdoor/glasshouse)
- “(xi) Sowing system
- “(xii) Predominant method of observation (e.g. MS, VG)

“In general, in the case of *plants* required only for a single growing trial (e.g. no plants required for special tests or variety collections), the number of plants requested in Chapter 2.3 often corresponds to the number of plants specified in Chapters 3.4 “Test Design” and 4.2 “Uniformity”. In that respect, it is recalled 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 (see GN 7 (a)).”

(viii) Example Varieties

12. Section 3.2.2 to read as follows: “3.2.2 Where different sets of example varieties are provided for different types of varieties covered by the same Test Guidelines, they are placed in the Table of Characteristics in the same column as normal. The sets of example varieties (e.g. winter and spring) are separated by a semicolon, and/or indicated by a key which is provided for each set and an explanation for the option chosen should be included in the legend of Chapter 6 of the Test Guidelines.”

(ix) Providing Photographs with the Technical Questionnaire

13. The first sentence of the introduction to the new GN 35 “Providing photographs with the Technical Questionnaire” should read: “The taking of photographs is influenced by factors, such as light conditions, quality and setting of the camera, and the background.”

Revisions agreed by the TC at its fiftieth session

14. The TC agreed that the following revisions to document TGP/7 should be put forward for adoption by the Council, at its forty-eighth ordinary session (see document TC/50/36 “Report on the Conclusions”, paragraphs 30 to 36):

(i) *Additional Standard Wording for Growing Cycle for Tropical Species*

15. The TC agreed with the proposed ASW for evergreen species with indeterminate growth for inclusion in document TGP/7, Annex 2 “Additional standard wording (ASW) for the TG Template”, ASW 3 “Explanation of the growing cycle”, to read as follows (see document TC/50/36 “Report on the Conclusions”, paragraph 30):

“New (after (ASW 3(b)): Evergreen species with indeterminate growth

“The growing cycle is considered to be the period ranging from the beginning of development of an individual flower or inflorescence, through fruit development and concluding with the harvesting of fruit from the corresponding individual flower or inflorescence.”

(ii) *Indication of Growth Stage in Test Guidelines*

16. The TC agreed that document TGP/7 should be amended to read as follows (see document TC/50/36 "Report on the Conclusions", paragraph 32):

"ASW 4 (TG Template: Chapter 3.3) – Conditions for conducting the examination

"Information for conducting the examination of particular characteristics

"(a) Stage of development for the assessment

'The optimum stage of development for the assessment of each characteristic is indicated by a reference in the second column of the Table of Characteristics. The stages of development denoted by each reference are described in Chapter 8 [...].'

"GN 9 (TG Template: Chapter 3.3) – Growth stage key

"In some cases, where it is appropriate to provide a growth stage key for the observation of characteristics, the following is a useful guide:

'Growth stages of mono-and dicotyledonous plants - BBCH Monograph'

(Federal Biological Research Centre for Agriculture and Forestry)

ISBN Number: 3-8263-3152-4

http://www.jki.bund.de/fileadmin/dam_uploads/_veroeff/bbch/BBCH-Skala_englisch.pdf

"In some other cases, a simplified growth stages key might be more appropriate, such as the example in the Test Guidelines for Potato (document TG/23/6):

"8.3 Optimal Stage of Development for the Assessment of Characteristics

1 = bud stage

2 = flowering stage

3 = ripening stage of tubers

4 = after harvest"

"GN 24 (TG Template: Chapter 7: column 2, header row 1) – Growth stage

"In some Test Guidelines, the growth stage at which the examination of the characteristic should be done is provided here. In such cases, the stages of development denoted by each reference are described in a section within Chapter 8, according to ASW 4(a)."

(iii) *Providing Illustrations of Color in Test Guidelines*

17. The TC agreed to include the following guidance on the risks of providing illustrations of color in Test Guidelines in document TGP/7, GN 22 "Explanations for individual characteristics" (see document TC/50/36 "Report on the Conclusions", paragraph 34):

"It is generally not appropriate to use illustrations of color, as such, in the Test Guidelines because the color in photographs can be affected by the technology of the camera, the facilities used to display the photograph (including printer, computer and screen) and lighting conditions under which the photograph is/was taken. Furthermore, the expression of color may vary according to the environment in which the variety is grown. For example, a photograph of a 'weak intensity' of anthocyanin coloration (or 'light intensity' of a color) observed in one environment may not represent a 'weak intensity' of anthocyanin coloration (or 'light intensity' of a color) observed in another environment."

(iv) *Revision of document TGP/7: Presence of Leading Expert at Technical Working Party Sessions*

18. The TC agreed to include the following guidance on the presence of Leading Experts in Technical Working Party sessions in document TGP/7, Section 2.2.5.3 (see document TC/50/36 "Report on the Conclusions", paragraph 36):

"In order to be considered by a Technical Working Party, the Leading Expert of the draft Test Guidelines should be present at the session. Subject to approval by the Technical Working Party Chairperson, and where arranged sufficiently in advance of the session, a suitable alternative expert may act as the Leading Expert at the session, or the Leading Expert may participate by electronic means, where that enables the Test Guidelines to be considered in an effective way."

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

Revisions previously agreed by the TC

19. The TC noted that the following revisions to document TGP/8 previously agreed by the TC would be a basis for the adoption of document TGP/8/2 by the Council, at its forty-eighth ordinary session (see document TC/50/36 "Report on the Conclusions", paragraph 37):

Part I: DUS Trial Design and Data Analysis

- (i) New Section 2: "Data to be recorded"

Part II: Techniques Used in DUS Examination

- (i) Section 3: "The Combined-Over-Years Criteria for Distinctness (COYD)"
(ii) Section 3: Subsection 3.6: "Adapting COYD to special circumstances"
(iii) Section 4: "2x1% Method-Minimum Number of Degrees of Freedom for the 2x1% Method"

Amendments to revisions previously agreed by the TC

20. The TC agreed that the revision to document TGP/8, New Section 5: "Reduction of the Size of Trials", previously agreed by the TC, as set out in document TC/50/5, Annex II, would be put forward for adoption by the Council, at its forty-eighth ordinary session, subject to the following amendments:

- title to read as follows: "Cyclic planting of varieties from the variety collection to reduce trial size"
- paragraph 1.1 to read as follows: "Cyclic planting of varieties from the variety collection (established varieties) to reduce trial size is appropriate for use in trials where."
- paragraph 1.1 to introduce a last bullet point: "three independent growing cycles are normally grown. The guidance below is for this case. However, it may also be adapted for crops where TWF independent growing cycles are normally grown."
- last sentence of second paragraph in 1.2 to read as follows: "If, after DUS testing, a variety is added to the variety collection it is allocated to a series and is cyclically omitted from the trial every third year."
- paragraph 1.3, sentences 5 and 6 to read as follows: "Because of a possible lag between final DUS testing and the decision on the application, candidate varieties are kept in trial for a fourth year after the three-year test period. If a positive decision is taken, they will become an established variety and will enter the cyclic planting system."

Revision agreed by the TC at its fiftieth session

21. The TC agreed that the revision to document TGP/8 Part II: Section 10: "Uniformity Assessment on the Basis of the Relative Variance Method" should be put forward for adoption by the Council at its forty-eighth ordinary session, as presented in Annex I to this document (see document TC/50/36 "Report on the Conclusions", paragraph 39).

22. The TWF is invited to note the revisions to documents TGP/0, TGP/2, TGP/5, TGP/7 and TGP/8 to be put forward for adoption by the Council at its forty-eighth ordinary session, as set out in paragraphs 5 to 21.

III. FUTURE REVISION OF TGP DOCUMENTS

23. The TC, at its fiftieth session held in Geneva from April 7 to 9, 2014, agreed that the following matters for future revisions of TGP documents should be considered by the TWPs at their sessions in 2014 (see document TC/50/36 "Report on the Conclusions", paragraphs 43 to 75):

TGP/7: Development of Test Guidelines

- (i) *Plant Material Submitted for Examination*
See document TWF/45/12
- (ii) *Coverage of the Test Guidelines*
See document TWF/45/13
- (iii) *Drafter's Kit for Test Guidelines*
See document TWF/45/14

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

- (i) *Minimizing the Variation due to Different Observers*
See document TWF/45/15
- (ii) *Method of Calculation of COYU*
See document TWF/45/16
- (iii) *Examining DUS in Bulk Samples*
See document TWF/45/17
- (iv) *Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions*
See document TWF/45/18
- (v) *Guidance of Data Analysis for Blind Randomized Trials*
See document TWF/45/19
- (vi) *Examining Characteristics Using Image Analysis*
See document TWF/45/20
- (vii) *Statistical Methods for Visually Observed Characteristics*
See document TWF/45/21

TGP/9: Examining Distinctness

24. The TC noted that it had previously agreed the new Section 5.5 "Guidance on Number of Plants to be Examined (for Distinctness)" for inclusion in a future revision of document TGP/9 "Examining Distinctness" (see document TC/49/41 "Report on the Conclusions", paragraph 40).

25. The program for the development of TGP documents previously agreed by the TC at its forty-ninth session indicated that a revision of document TGP/9 would be proposed for adoption by the Council at its forty-eighth ordinary session in 2014. However, on the basis of the following new proposals for revision of document TGP/9, the TC agreed to delay the revision of document TGP/9 until 2015 (see document TC/50/36 "Report on the Conclusions", paragraph 74):

- (i) *Section 2.5: Photographs*
See document TWF/45/22
- (ii) *Method of Observation*
See document TWF/45/22
- (iii) *Schematic Overview of TGP Documents Concerning Distinctness*
See document TWF/45/22

TGP/14: Glossary of Terms Used in UPOV Documents

- Section 2.4: Apex/Tip Shape Characteristics*
See document TWF/45/23

26. *The TWF is invited to note that the proposals for future revisions of TGP documents to be discussed by the TWPs at their sessions in 2014 will be dealt with under separate documents.*

IV. PROGRAM FOR THE DEVELOPMENT OF TGP DOCUMENTS

27. The Annex II to this document presents the program for the development of TGP documents on the basis of the conclusions by the TC, as its fiftieth session, and the CAJ, at its sixty-ninth session (see document TC/50/36 "Report on the Conclusions", paragraph 75, and document CAJ/69/12 "Report on the Conclusions", paragraph 64, respectively).

28. The TWF is invited to note the program for the development of TGP documents, as set out in the Annex II to this document.

[Annexes follow]

REVISION OF DOCUMENT TGP/8 SECTION 10: UNIFORMITY ASSESSMENT ON THE BASIS OF THE RELATIVE VARIANCE METHOD

Note for Draft version

Underlining (highlighted) indicates changes to document TGP/8/1

10. UNIFORMITY ASSESSMENT ON THE BASIS OF THE RELATIVE VARIANCE METHOD

10.1 Use of the relative variance method

The relative variance for a particular characteristic refers to the variance of the candidate divided by the average of the variance of the comparable varieties (i.e. Relative variance = variance of the candidate/average variance of the comparable varieties). The data should be normally distributed. The relative variance method may be applied to any measured characteristic that is a continuous variable, irrespective of the method of propagation of the variety. Comparable varieties are varieties of the same type within the same or a closely related species that have been previously examined and considered to be sufficiently uniform (see document TGP/10, Section 5.2 “Determining acceptable level of variation”).

In cross-pollinated varieties, a common recommendation in the UPOV Test Guidelines is to take 60 measurements per characteristic per variety. In essence, the variance ratio equates to the F statistic, and the tabulated value of F at $P = 0.01$ under $df_1 = 60$ (degrees of freedom of candidate) and $df_2 = \infty$ (degrees of freedom of comparable variety(ies)) is 1.47. $df_2 = \infty$ is chosen as a conservative estimate, as it is assumed that comparable varieties accurately represent the infinite number of possible comparable varieties for the species as a whole. Therefore, 1.47 is the threshold limit for cross-pollinated species with 60 measurements per characteristics per variety. For different sample sizes, a different F statistic should be used for the df_1 , although the df_2 should remain at ∞ .

10.2 Thresholds limit for different sample sizes

10.2.1 Different thresholds limits of F (at $P = 0.01$) should be applied for different sample sizes of the candidate variety. The df_1 will vary according to different sample sizes of the candidate variety. However, in all cases the df_2 will be considered to be ∞ , to cover the whole range of possible comparable varieties within a species - thus providing a conservative estimate of the threshold. Under these conditions and taking the relevant values from the F table, Table 1 shows the thresholds limits that would apply for different sample sizes of the candidate varieties. In the case of different sample sizes than those included in Table 1, the correct threshold limit should be used for the exact sample size.

Table 1: Thresholds limit for relative variance for some different sample sizes

| Sample size of candidate | Thresholds <u>limit</u> for relative variance |
|---------------------------------|--|
| 30 | <u>1.70</u> |
| 40 | <u>1.59</u> |
| 50 | <u>1.53</u> |
| 60 | <u>1.47</u> |
| 80 | <u>1.41</u> |
| 100 | <u>1.36</u> |
| 150 | <u>1.29</u> |
| 200 | <u>1.25</u> |

Source: Table of F published in ‘Tables for Statisticians’ Barnes & Noble, Inc. New York

10.2.2 For a given sample size, if the relative variance exceeds the threshold limit, the candidate variety will be deemed to be non-uniform for that characteristic.

10.3 The relative variance test in practice

10.3.1 When the calculated relative variance is lower than the tabulated value of F statistic presented in Table 1, for the relevant sample size, then it is reasonable to assume that the variances are equal and the candidate variety is uniform in that particular characteristic. If the calculated relative variance

is higher than the tabulated value of F, then the null hypothesis, that the varieties have equal variances, is rejected. The candidate variety would then be deemed to have a higher variance than the comparable varieties for that particular characteristic and, therefore, would not meet the uniformity criteria.

10.4 Example of relative variance method

Example

10.4.1 In a DUS trial, a cross-pollinated candidate variety is grown together with a number of varieties representing the required level of uniformity for all relevant characteristics. In order to illustrate the calculation of the relative variance, an example with 4 comparable varieties is given. The variance data on plant height measurements for the five varieties are presented in Table 2. For each variety, 60 plants were measured for plant height:

Table 2: variances of candidate and comparable varieties for plant height data

| Candidate | Comparable variety 1 | Comparable variety 2 | Comparable variety 3 | Comparable variety 4 |
|-----------|----------------------|----------------------|----------------------|----------------------|
| 5.6 | 7.8 | 4.5 | 3.2 | 5.8 |

10.4.2 The number of observations per variety is the same (n=60); therefore, we can take the average variance of the comparable varieties as their pooled variance.

10.4.3 The average variance for comparable varieties is $(7.8 + 4.5 + 3.2 + 5.8)/4 = 5.32$

10.4.4 The relative variance for a particular characteristic refers to the variance of the candidate divided by the average of the variance of the comparable varieties.

Relative variance = variance of the candidate/average variance of the comparable varieties

$$= 5.6/5.32 = 1.05$$

10.4.5 Now, in Table 1, for a sample size of 60, the threshold limit is 1.47; therefore, we can conclude that the candidate variety is sufficiently uniform for that characteristic.

10.5 Relationship between relative variance and relative standard deviation

10.5.1 Sometimes in DUS trials, the uniformity data is presented in terms of standard deviations, not as variances. Mathematically there is a simple relationship between variance and standard deviation, as follows:

Standard deviation = square root of Variance

10.5.2 Therefore, when dealing with relative standard deviations, Table 1 needs to be modified to include the square roots of the threshold limits, which is presented in Table 3.

Table 3: Thresholds limit for relative standard deviations for some different sample sizes

| Sample size of candidate | Thresholds <u>limit</u> for relative standard deviations |
|--------------------------|--|
| 30 | <u>1.30</u> |
| 40 | <u>1.26</u> |
| 50 | <u>1.24</u> |
| 60 | <u>1.21</u> |
| 80 | <u>1.19</u> |
| 100 | <u>1.17</u> |
| 150 | <u>1.14</u> |
| 200 | <u>1.12</u> |

10.5.3 When making a decision on uniformity based on relative standard deviations, the examiner needs to use Table 3, instead of Table 1, to get the appropriate threshold limits. The same principle for acceptance or rejection applies for relative standard deviation; only the thresholds limits are lower due to the square root of

appropriate values. For example, for 60 samples the relative variance threshold is 1.47; however, for relative standard deviation the threshold is 1.21, which is the square root of 1.47.

[Annex II follows]

TWF/45/3
ANNEX II
PROGRAM FOR TGP DOCUMENTS

| | Title of document | Current approved* documents | 2014 | | | | | | 2015 | | | | | | 2016 | | | | | |
|--------|---|-----------------------------|-----------------|-----------------|-----------------|-----------|--------|-----------------|---------------|--------------|--------|------|--------|---------------|--------------|-------|--------|------|--------|----------------|
| | | | TC-EDC | TC/50 | CAJ/69 | TWPs | CAJ/70 | C/48 | TC-EDC | TC/51 | CAJ/71 | TWPs | CAJ/72 | C/49 | TC-EDC | TC/52 | CAJ/73 | TWPs | CAJ/74 | C/50 |
| TGP/0 | List of TGP Documents and Latest Issue Dates | TGP/0/6 ADOPTED | | | | | | TGP/0/7 Adopt | | | | | | TGP/0/8 Adopt | | | | | | TGP/0/9 Adopt |
| TGP/1 | General Introduction with Explanations | - | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TGP/2 | List of Test Guidelines Adopted by UPOV | TGP/2/1 ADOPTED | TGP/2/2 Draft 1 | TGP/2/2 Draft 2 | TGP/2/2 Draft 3 | | | TGP/2/2 Adopt | | | | | | | | | | | | |
| TGP/3 | Varieties of Common Knowledge | C(Extr.)/19/2 Rev. | | | | | | | | | | | | | | | | | | |
| TGP/4 | Constitution and Maintenance of Variety Collections | TGP/4/1 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/5 | Experience and Cooperation in DUS Testing | ADOPTED | | | | | | | | | | | | | | | | | | |
| | Section 10: Notification of Additional Characteristics | Section 10/2 Adopted | TC-EDC/Jan14/2 | TC/50/5 | CAJ/69/3 | | | Sec. 10/3 Adopt | | | | | | | | | | | | |
| TGP/6 | Arrangements for DUS Testing | TGP/6/1 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/7 | Development of Test Guidelines | TGP/7/3 ADOPTED | | | | | | | | | | | | | | | | | | |
| | TC Approved Revisions (document TC/50/5 Annex I) | | TC-EDC/Jan14/2 | TC/50/5 | CAJ/69/3 | | | TGP/7/4 Adopt | | | | | | | | | | | | |
| | Plant Material Submitted for Examination (Drafter: Jens Wegner (European Union)) | | TC-EDC/Jan14/5 | TC/50/17 | | TWF/45/12 | | | x | x | | x | | | x | x | x | | | TGP/7/5 Adopt |
| | Coverage of the Test Guidelines (Drafter: Office of the Union) | | | TC/50/5 | | TWF/45/13 | | | x | x | | | | | | | | | | TGP/7/5 Adopt |
| | Drafter's Kit for Test Guidelines (Drafter: Office of the Union) | | | TC/50/5 | | TWF/45/14 | | | x | x | | | | | | | | | | TGP/7/5 Adopt |
| TGP/8 | Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability | TGP/8/1 ADOPTED | see Appendix | | | | | | TGP/8/2 Adopt | see Appendix | | | | | see Appendix | | | | | TGP/8/3 Adopt |
| TGP/9 | Examining Distinctness | TGP/9/1 ADOPTED | | | | | | | | | | | | | | | | | | |
| | TC Approved Revisions (document TC/50/5 Annex III) | | TC-EDC/Jan14/2 | TC/50/5 | CAJ/69/3 | | | | | | x | | | | | | | | | TGP/9/2 Adopt |
| | Revision of Section 2.5: Photographs (Drafter: Beate Ruecker (Germany)) | | | | | TWF/45/22 | | | x | x | x | | | | | | | | | TGP/9/2 Adopt |
| | Method of Observation (single measurement - MG) Drafter (Office of the Union) | | | | | TWF/45/22 | | | x | x | x | | | | | | | | | TGP/9/2 Adopt |
| | Schematic Overview of TGP Documents Concerning Distinctness Drafter (Office of the Union) | | | | | TWF/45/22 | | | x | x | x | | | | | | | | | TGP/9/2 Adopt |
| TGP/10 | Examining Uniformity | TGP/10/1 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/11 | Examining Stability | TGP/11/2 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/12 | Guidance on Certain Physiological Characteristics | TGP/12/2 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/13 | Guidance for New Types and Species | TGP/13/1 ADOPTED | | | | | | | | | | | | | | | | | | |
| TGP/14 | Glossary of Terms Used in UPOV Documents | TGP/14/2 ADOPTED | | | | | | | | | | | | | | | | | | |
| | Section 2.4: Apex/Tip Characteristics Drafter (Office of the Union) | | | | | TWF/45/23 | | | x | x | x | | | | | | | | | TGP/14/3 Adopt |
| TGP/15 | Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS) | TGP/15/1 ADOPTED | | | | | | | | | | | | | | | | | | |

[Appendix follows]

TWF/45/3
ANNEX II, APPENDIX
PROGRAM FOR REVISION OF DOCUMENT TGP/8

| Title of document | 2014 | | | | | | 2015 | | | | | | 2016 | | | | | |
|---|-----------------|----------|----------|-----------|--------|------------------|--------|-------|--------|------|--------|------|--------|-------|--------|------|--------|------------------|
| | TC-EDC | TC/50 | CAJ/69 | TWPs | CAJ/70 | C/48 | TC-EDC | TC/51 | CAJ/71 | TWPs | CAJ/72 | C/49 | TC-EDC | TC/52 | CAJ/73 | TWPs | CAJ/74 | C/50 |
| TGP/8 PART I: DUS TRIAL DESIGN AND DATA ANALYSIS | | | | | | | | | | | | | | | | | | |
| TC Approved Revisions (document TC/50/5 Annex II) | | TC/50/5 | CAJ/69/3 | | | TGP/8/2 Adopt | | | | | | | | | | | | |
| Minimizing variation due to different observers (Drafter: Nik Hulse (Australia)) | TC-EDC/Jan14/9 | TC/50/21 | | TWF/45/15 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| TGP/8 PART II: TECHNIQUES USED IN DUS EXAMINATION | | | | | | | | | | | | | | | | | | |
| TC Approved Revisions (document TC50/5 Annex II) | | TC/50/5 | CAJ/69/3 | | | TGP/8/2 Adopt | | | | | | | | | | | | |
| Method of Calculation of COYU (Drafter: Adrian Roberts (United Kingdom)) | TC-EDC/Jan14/10 | TC/50/22 | | TWF/45/16 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| Examining DUS in Bulk Samples (Drafter: Office of the Union) | TC-EDC/Jan14/12 | TC/50/24 | | TWF/45/17 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions (Drafter: Office of the Union) | TC-EDC/Jan14/13 | TC/50/25 | | TWF/45/18 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| Guidance of Data Analysis for Blind Randomized Trials (Drafter: Richard Brand (France)) | TC-EDC/Jan14/14 | TC/50/26 | | TWF/45/19 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| Examining Characteristics Using Image Analysis (Drafter: Jean Maison (European Union)) | TC-EDC/Jan14/15 | TC/50/27 | | TWF/45/20 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |
| Statistical Methods for Visually Observed Characteristics (Drafter: TWC to identify) | TC-EDC/Jan14/16 | TC/50/28 | | TWF/45/21 | | | x | x | | x | | | x | x | x | | | TGP/8/3 Adopt |

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