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|  |  | E  TWA/45/25  **ORIGINAL:**  English  DATE:  July 15, 2016 |
| INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS | | |
| Geneva | | |

Technical working party for Agricultural crops

Forty-Fifth Session  
Mexico City, Mexico, July 11 to 15, 2016

Report

adopted by the Technical Working Party for Agricultural Crops  
  
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The Technical Working Party for Agricultural Crops (TWA) held its forty-fifth session in Mexico City, Mexico, from July 11 to 15, 2016. The list of participants is provided in Annex I to this report.

The TWA was welcomed by Ms. Graciela Ávila Quezada on behalf of the Minister of Agriculture, Livestock, Rural Development, Fisheries and Food, Mr. José Eduardo Calzada Rovirosa, and by   
Mr. Manuel Rafael Villa Issa, Director General, National Service of Seed Inspection and Certification (SNICS). A copy of the welcome address by Ms. Ávila Quezada is provided in Annex II to this report.

The session was opened by Mr. Tanvir Hossain (Australia), Chairman of the TWA, who welcomed the participants and thanked Mexico for hosting the TWA session.

The TWA received a presentation on plant variety protection in Mexico by Mr. Eduardo Padilla Vaca, Director of Plant Varieties Registry, SNICS, a copy of which is provided in Annex III to this report.

## Adoption of the Agenda

The TWA adopted the agenda as presented in document TWA/45/1 Rev.

Short Reports on Developments in Plant Variety Protection

### (a) Reports on developments in plant variety protection from members and observers

The TWA noted the information on developments in plant variety protection from members and observers, provided in document TWA/45/22 Prov. The TWA noted that reports submitted to the Office of the Union after July 8, 2016, would be included in the final version of document TWA/45/22.

The TWA noted that Mr. Bert Scholte had been appointed as Head of the Department Variety Registration in the Naktuinbouw from November 1, 2016.

### (b) Reports on developments within UPOV

The TWA received a presentation from the Office of the Union on latest developments within UPOV, a copy of which is provided in document TWA/45/16.

## Molecular Techniques

The TWA considered documents TWA/45/2 and TWA/45/2 Add.

*Developments in the Technical Working Parties*

The TWA noted the developments in the Technical Working Parties (TWPs) and the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT), as set out in document TWA/45/2, paragraphs 5 to 15.

*Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT)*

The TWA noted that the BMT, at its fifteenth session, held in Moscow from May 23 to 27, 2016, had been invited to develop a list of possible joint initiatives with the Organization for Economic Co-operation and Development (OECD) and the International Seed Testing Association (ISTA), including the development of a list of terminology (definitions) used by OECD, UPOV and ISTA for consideration at the Technical Committee (TC), at its fifty-third session, to be held in 2017.

The TWA noted that the BMT had:

* noted that the development of a joint document explaining the principal features of the systems of the OECD, UPOV and ISTA could only start after agreement by OECD and ISTA;
* noted that the development of a joint OECD/UPOV/ISTA document containing an inventory of molecular marker techniques used by crop could only start after agreement by OECD and ISTA;
* noted that OECD, ISTA and UPOV had different objectives and cooperation between the organizations in the use of molecular techniques would need to reflect that. However, the BMT agreed that it would be important to explore circumstances in which the same techniques and information could be used. In the first instance, it agreed that it would be more effective to explore such possibilities on the basis of real situations rather than at a theoretical and institutional level;
* welcomed the proposal by the Netherlands to organize a practical workshop in 2017, with support from UPOV, OECD and ISTA, to explore how molecular techniques might be applied in an efficient way for UPOV, OECD and ISTA purposes; and
* agreed that possible future collaboration between UPOV, OECD and ISTA might include the harmonization of terms and methodologies used for different crops and the possible development of standards, after the agreement by these organizations.

*OECD/UPOV/ISTA Joint Workshop on Molecular Techniques*

The TWA noted that a Joint OECD/UPOV/ISTA/AOSA (Association of Official Seed Analysts) Workshop on Biochemical and Molecular Methods had been held in Paris on June 8, 2016, and noted that the following recommendations of the Joint OECD/UPOV/ISTA/AOSA Workshop had been approved by the Annual Meeting of the OECD Seed Schemes, held in Paris on June 9 and 10, 2016:

* To develop a joint document explaining the principal features (e.g. DUS, variety identification, variety purity, etc.) of the systems of OECD, UPOV, AOSA and ISTA and, for mutual understanding, to repeat the joint workshop at relevant meetings of the OECD and ISTA;
* To carry out a joint inventory by UPOV, OECD, AOSA and ISTA of the use of molecular marker techniques, by crop, with a view to developing a document containing that information. The OECD will contribute to the document by sharing the ongoing list of molecular techniques used by National Designated Authorities (NDAs) and continuously collected by the Secretariat;
* To develop a list of terms and their definitions as used by OECD, UPOV, AOSA and ISTA and to make an attempt to harmonize these;
* To consider organizing another similar workshop in three years’ time; and
* To consider replacing “internationally validated” by another term such as “internationally harmonized.”

The Annual Meeting endorsed the proposal of the Netherlands to organize a practical workshop in 2017, with support of the OECD, UPOV and ISTA, to explore how molecular techniques might be applied in an efficient way for UPOV, OECD and ISTA purposes.

*Presentation of information on the situation in UPOV with regard to the use of molecular techniques*

The TWA noted that the TC, at its fifty-second session, had agreed a draft question and answer concerning the information on the situation in UPOV with regard to the use of molecular techniques for a wider audience, including the public in general, as set out in document TWA/45/2, paragraph 23, and that, subject to agreement by the Administrative and Legal Committee (CAJ), at its seventy-third session, and the Consultative Committee, at its ninety-second session, the draft would be presented for adoption by the Council, at its fiftieth ordinary session to be held in Geneva on October 28, 2016.

## TGP documents

The TWA considered documents TWA/45/3 and TWA/45/3 Add.

### Matters for adoption by the Council in 2016

The TWA noted the revisions to documents TGP/7, TGP/8 and TGP/0 to be put forward for adoption by the Council at its fiftieth session, as set out in paragraphs 6 to 13 of document TWA/45/3.

### Possible future revisions of TGP documents

The TWA noted that the proposals for future revisions of TGP documents to be discussed by the TWPs at their sessions in 2016 would be dealt with under separate documents.

### New proposals for future revisions of TGP documents

The TWA noted the new proposals for revision of TGP documents to be discussed by the Technical Working Party for Fruit Crops (TWF) at its forty-seventh session in 2016 on “Duration of DUS tests in the fruit sector” and “Definition of ‘recurved’”, as set out in document TWA/45/3, paragraphs 17 to 24.

### Program for the development of TGP documents

The TWA noted the program for the development of TGP documents, as set out in Annex III to document TWA/45/3.

### TGP/7: Development of Test Guidelines: Revision of document TGP/7: Drafter’s Kit for Test Guidelines

The TWA considered document TWA/45/9 and received a demonstration from the Office of the Union of Version 1 of the web‑based TG Template.

The TWA noted the issues addressed in response to the comments by Leading and Interested Experts that participated in the testing of the prototype of the web‑based TG Template, as set out in paragraphs 21 and 22 of document TWA/45/9.

The TWA agreed that the period for Leading Experts to draft Test Guidelines using the web-based TG Template should start shortly after the respective TWP session.

The TWA noted that the TC had agreed the format of the Table of Characteristics in all Test Guidelines with a structure as set out in paragraph 16 of document TWA/45/9.

The TWA noted that the TC had agreed that guidance should be developed on the order of the methods of observation for a characteristic in the Table of Characteristics to indicate that the most commonly used method was displayed first.

The TWA noted that the development of Version 2 of the web-based TG Template would not start before 2018, subject to availability of resources, after Version 1 had been fully stabilized and tested.

The TWA noted that document TGP/7 would be revised to reflect the introduction of the web‑based TG Template after Version 1 is fully stabilized and tested.

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

#### Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, Section 9: the Combined-Over-Years Uniformity Criterion (COYU)

The TWA considered document TWA/45/10.

The TWA noted that the TC, at its fifty-second session, had agreed to request members of the Union to provide larger data sets to the United Kingdom for developing probability levels for the new method that would match results obtained using the previous probability levels, as set out in paragraph 20 of document TWA/45/10.

The TWA noted that the Office of the Union had issued UPOV Circular E-16/098 to invite UPOV members’ experts to provide to the United Kingdom by May 27, 2016, data sets including at least 100 candidate varieties, with a possibility that data for those 100 varieties could be derived from several years.

The TWA noted the report by an expert of the United Kingdom on the results and further progress, including contribution of data sets, made at the thirty‑fourth session of the Technical Working Party on Automation and Computer Programs (TWC).

The TWA noted the report from the expert from Denmark that the software provided by the United Kingdom had been tested and that a data set on oilseed rape varieties would be provided to support the development of probability levels for the new method of calculation of COYU.

#### Revision of document TGP/8: Part II: Selected Techniques used in DUS Examination, New Section: Examining DUS in Bulk Samples

The TWA considered document TWA/45/11.

The TWA considered the proposed guidance for examining DUS in bulk samples as presented in the Annex to document TWA/45/11, for inclusion in a future revision of document TGP/8.

The TWA noted that the TC had agreed to invite the Netherlands to develop guidance, with the inclusion of examples, for examining DUS in bulk samples, and agreed that the following criteria proposed by the TC were a good basis for inclusion in a future revision of document TGP/8 (see document TWA/45/11, paragraph 22):

1. “the characteristic should fulfill the requirements of a characteristic, as set out in the “General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of new Varieties of Plants” (see document TG/1/3, Section 4.2.1);
2. “there should be knowledge of the genetic control of the characteristic;
3. “the suitability of the characteristic should be validated through an initial assessment of uniformity on individual plants;
4. “information on plant-by-plant variation and differences between growing cycles should be provided (data from routine measurement of the characteristic from different years);
5. “a full description of the method of assessment should be provided;
6. “states of expression should be based on existing variation between varieties considering environmental influence.”

The TWA agreed with the TWV that the proposed guidance did not present enough examples for examining DUS characteristics on the basis of bulk samples and that the drafter should be requested to further elaborate the proposal including more examples, as requested by the TC, at its fifty-second session. The TWA agreed that further development of guidance on bulk samples should be subject to the availability of appropriate examples with data from routine measurement of characteristics such as chemical content or 1000 seed weight.

#### Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, New Section: Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions

The TWA considered document TWA/45/12 and noted the developments reported in that document.

The TWA noted that the expert from the United Kingdom in the practical exercise to determine the aspects in common and divergence among methods had provided information to the TWC on the reasons and situations in which example varieties, crop expert judgement and equal-spaced states would/would not be appropriate for transforming observations into notes.

The TWA agreed with the TWC that the study on the comparison of methods used for producing variety descriptions should continue to be developed to provide further information to explain the results obtained in the practical exercise.

The TWA considered the table presented in document TWA/45/12, Annex I, page 2, “Results by Method” with the notes attributed to the 31 candidate varieties using the methods described in the practical exercise. The TWA noted that candidate varieties were sorted by “average note by variety” values and agreed to propose sorting by values in the “over-years means” column to facilitate interpretation of results.

The TWA agreed with the TWC that participants in the practical exercise should provide a short description of the methods used to transform measurements into notes and examples where the methods would and would not be appropriate. The TWA noted the report by an expert from the United Kingdom that information had already been provided to the TWC.

The TWA received a presentation on “Genotype by Environment Interaction (GEI) - DUS test and data transformation into notes” by an expert from Italy. A copy of the presentation is provided in the Annex to document TWA/45/12 Add. The TWA agreed on the relevance of the information provided on genotype by environment interaction for possible future guidance on converting observations into notes and for producing variety descriptions.

### TGP/10: Examining Uniformity

#### Revision of document TGP/10: Assessing uniformity by off-types on basis of more than one growing cycle or on the basis of sub-samples

The TWA considered documents TWA/45/13, TWA/45/13 Add. and TWA/45/13 Add.2.

The TWA received a presentation on “Assessing uniformity by off-types on the basis of more than one growing cycle. Drafting guidance” by experts from Germany and the United Kingdom by electronic means. A copy of the presentation is provided in document TWA/45/13 Add.

The TWA also received a presentation on “Practical experience of assessing uniformity by off-types on oilseed rape and cauliflower” by an expert from France. A copy of the presentation is provided in document TWA/45/13 Add.2.

The TWA, in conjunction with TWC experts via video link, considered the draft guidance as presented in Annexes I and II to document TWA/45/13 for inclusion in a future revision of document TGP/10, including the new proposed “Approach 3: Combining the results of two growing cycles”.

The TWA agreed with the TWC that guidance should provide parameters for decisions on the most suitable approach based on experience from members. The TWA agreed to provide examples comparing the possible effect on uniformity decisions between Approach 3 and other approaches. The TWA welcomed the offers from France, Germany, the Netherlands, Poland and the United Kingdom to provide examples to be presented at its forty-sixth session.

The TWA agreed with the TWC on the importance of identifying whether differences in number of off‑types between growing cycles were due to biological reasons or sampling variation and agreed that results from growing cycles using different lots of plant material should not be combined.

The TWA noted the concern expressed by some members that the assessment of uniformity on the basis of combining different growing cycles may not be consistent with existing guidance in document TGP/8, Part I, Section 1.2.2 and in particular 1.2.2.7 on independent growing cycles and agreed to further consider this issue on the basis of examples to be provided at its forty-sixth session.

The TWA agreed with the TWV that, in conjunction with the revision of document TGP/10 on “Assessing uniformity by off-types on basis of more than one growing cycle or on the basis of sub-samples”, it would be important to review the guidance provided in document TGP/8: Part II: 8: “The method of uniformity assessment on the basis of off-types”, Section 8.1.7 “Method for more than one single test (year)”, because it did not reflect the practice within members of the Union.

The TWA noted the concern expressed by the representatives of ESA and CropLife about Approach 3, and noted the importance they attached to consistency in the approaches for the assessment of uniformity throughout all members of the Union.

## Experiences on matters concerning variety descriptions

The TWA considered documents TWA/45/14, TWA/45/14 Add. and TWA/45/14 Add.2.

The TWA noted the purpose of the variety description developed at the time of the granting of the breeder’s right (original variety description), and the status of the original variety description in relation to the verification of the conformity of plant material to a protected variety for enforcement of the breeder’s right, as set out in document TWA/45/14, paragraph 28.

The TWA noted the presentations on “Matters concerning variety descriptions” received by the TWPs, at their sessions in 2015, as set out in document TWA/45/14, paragraph 7.

The TWA noted the comments by the TWPs, at their sessions in 2015, on matters concerning variety descriptions and the role of plant material used as the basis for the DUS examination, as set out in document TWA/45/14, paragraphs 8 to 26.

The TWA agreed that the description of a variety had limitations due to its link to the circumstances of the DUS examination but agreed that it was an important element of the plant variety protection system.

The TWA noted the following presentations made by experts on their experiences with regard to the role of plant material used as the basis for the DUS examination in relation to matters presented in document TWA/45/14, paragraph 31 (in alphabetical order):

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| --- | --- |
| Australia | Variety Descriptions in Australia |
| European Union | Updating Variety Descriptions - Outcome of the Survey |
| Germany | Development and Use of Variety Descriptions |

The TWA noted that the presentations by the experts from the European Union and from Germany were available in Annexes I and II to document TWA/45/14 Add., and the presentation by the expert from Australia was available in the Annex to document TWA/45/14 Add.2.

## Number of growing cycles in DUS examination

The TWA considered documents TWA/45/15 and TWA/45/15 Add.

The TWA noted that the TC, at its fifty-second session, had agreed to invite members of the Union to simulate the impact of using different numbers of growing cycles on DUS decisions using actual data and to report on their results at the TWP sessions in 2016 and at the fifty-third session of the TC. The TWA agreed that the simulation of impact of using different numbers of growing cycles on DUS decisions should take into consideration the quality of variety descriptions.

The TWA received a presentation by an expert from the Netherlands, as reproduced in the Annex to document TWA/45/15 Add.

The TWA welcomed the offers from France, Germany, the Netherlands, Poland and the United Kingdom to simulate the impact of using different numbers of growing cycles on DUS decisions and the quality of variety descriptions using actual data and to report on their results at the TWA at its forty-sixth session.

## Uniformity assessment

The TWA noted that document TWA/45/13 “Assessing uniformity by off-types on the basis of more than one growing cycle or on the basis of sub-samples” had been discussed under agenda item 5 “TGP documents” as set out in paragraphs 43 to 51 of this Report.

## Proposal to the “Guide to the UPOV Code System” on the Principal Botanical Name for Inter-generic and Interspecific Hybrids

The TWA considered document TWA/45/18 and received a presentation by an expert from the European Union.

The TWA noted that the TC, at its fifty-second session, had agreed to invite the European Union to make a proposal to the TWPs, at their sessions in 2016, for a revision of the Guide to the UPOV Code System with regard to UPOV codes for hybrid genera and species.

The TWA considered the proposal to present the principal botanical name for UPOV Codes of hybrid genera and species indicating the parents in alphabetical order. The TWA noted the existence of different procedures among members of the Union and noted that, in some members of the Union, the information on parents of an intergeneric or interspecific hybrid variety were published with the female parent first. On that basis, the TWA agreed with the TWV that it would not be appropriate to revise the Guide to the UPOV Code System in relation to the principal botanical name for inter-generic and interspecific hybrids.

## Impact of endophytes on DUS characteristics in grasses

The TWA received a presentation on the “Impact Analysis of Endophytes on the Phenotype of Varieties of *Lolium perenne* and *Festuca arundinacea*” by an expert from the Community Plant Variety Office of the European Union (CPVO), a copy of which is provided in the Annex to document TWA/45/24.

The TWA noted there had been no interaction between the endophytes studied and expression of the DUS characteristics on the crops studied. The TWA agreed that it would not be possible to make a general recommendation on the effect of endophytes in DUS characteristics due to the possibility of positive interaction between other endophytes and the expression of DUS characteristics.

The TWA noted the report that New Zealand would consider the requirement for endophyte‑free plant material for DUS examination and welcomed the offer to make a presentation on the outcome of discussions to the TWA at its session in 2017.

The TWA welcomed the offer by the European Union to make a presentation on the outcome of discussions in the CPVO and the offer by Mexico to make a presentation on the impact of endophytes on DUS characteristics in grasses at its forty-sixth session.

## Statistical methods for visually observed characteristics

The TWA considered document TWA/45/23.

The TWA noted that China had made a presentation at the thirty-fourth session of the TWC to describe the statistical methods used in the DUSTC software package for the analysis of distinctness and uniformity.

The TWA noted that the TWC had agreed that appropriate naming and drafting guidance on the method developed by experts from Denmark and Poland should be considered once further experience had been acquired and software was available to facilitate its use in DUS examination.

The TWA noted that the expert from France would make a report to the TWC, at its thirty-fifth session, to be held in 2017, on the study to develop software to implement the method developed by experts from Denmark and Poland.

## Experiences with new types and species

No reports on experiences with new types and species were made during the forty-fifth session of the TWA.

## Possible revision of the Test Guidelines for Rice

The TWA considered document TWA/45/21.

The TWA agreed to propose a full revision of the Test Guidelines for Rice (document TG/18/8) to be coordinated by Japan. The proposal made by IRRI, as presented in document TWA/45/21, would be taken into consideration.

## Matters to be resolved concerning Test Guidelines adopted by the Technical Committee

*Cassava* (Manihot esculenta *Crantz*.)

The TWA considered documents TWA/45/19 and TG/CASSAV(proj.6).

The TWA considered the information provided by the Leading Expert in response to the request by the TC-EDC and agreed to propose the Test Guidelines for Cassava for adoption by the TC at its fifty-third session, on the basis of the changes to document TG/CASSAV(proj.6) presented in Annexes I and II to document TWA/45/19.

*Urochloa* (Urochloa)

The TWA considered documents TWA/45/20 and TG/UROCH(proj.9).

The TWA considered the information provided by the Leading Expert in response to the request by the TC-EDC and agreed to propose the Test Guidelines for Urochloa for adoption by the TC at its fifty-third session, on the basis of the changes to document TG/UROCH(proj.9) presented in Annexes I and II to document TWA/45/20 and the following additional changes:

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| Ad. 2 | to read “The height of the plant should be measured in the center of the plant, from the first leaf below the flag leaf to the ground level, excluding the inflorescence.” |
| Ad. 4, 5 | to read “The assessment of the length of internode should be made in the middle third of plant; it does not refer to floral culm.” |

## Discussion on draft Test Guidelines (Subgroups)

### Barley (Hordeum vulgare L. sensu lato) (Revision)

The subgroup discussed document TG/19/11(proj.1), presented by Ms. Beate Rücker (Germany), and agreed the following:

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| Char. 1 | - to check whether to specify colors observed (light/dark blue?)  - to check whether to add state “black” and example varieties  - to provide photos for all states of expression to demonstrate the range of variation |
| Char. 10 | - to be indicated with growth stages 70 to 80  - to check states of expression (7) and (9) to be renamed (reflexed?) |
| Char. 13 | state (2) to read “six” |
| Char. 14 | to read “none” (instead of “non”) |
| Chars. 14, 15 | to add explanation that these characteristics apply for number of rows 2 |
| Char. 16 | to replace “clearly” by “strongly” |
| Char. 17 | to replace “lax” by “sparse” |
| Char. 19 | - to check whether to add characteristic “Awn: length” or to replace current char. 19 by “Awn: length”  - to provide data for deciding about appropriate characteristic |
| Char. 20 | to be indicated as MS/A VG/A MG/A |
| Char. 27 | - to check whether to replace the characteristic by “Lemma: base types” with states of expression “bevelled” and “non-bevelled”  - to check whether the characteristic is linked to “Lodicule: size” |
| Char. 28 | to check whether to replace example variety “Cierzo” |
| Chars. 29, 30 | - to check whether Chars. 29 and 30 should be kept  - to provide data for deciding about appropriate characteristics |
| Char. 31 | to be deleted |
| Char. 32 | to be deleted |
| Char. 33 | - to check whether characteristic to be taken up  - to read “Grain: length of rachilla compared to grain length” |
| Char. 34 | to be deleted |
| Ad. 15 | to read: “The attitude of sterile spikelets should be observe~~r~~d…” |
| Ad. 19 | images to start from the bottom |
| Ad. 23 | to keep second set of illustrations |
| Ad. 27 | to keep second set of illustrations |
| Ad. 28 | to be revised according to the Wheat Test Guidelines |
| TQ 5 | - to add Char. 14 (used as grouping characteristic in 5.3)  - to use full scale of notes for TQ 5.2 and 5.4 |

### Castor Bean (Ricinus comunis L.)

The subgroup discussed document TG/RICIN(proj.2), presented by Mr. Adriaan De Villiers (South Africa), and agreed the following:

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| 4.2.4 | to read “For the assessment of uniformity of seed-propagated in-bred lines and hybrid varieties,…” |
| 5.3 (e) | to add color groups (same as TQ 5.5) |
| T.o.C. | to present characteristics in order of growth stage |
| Char. 4 | to be deleted |
| Char. 5 | to have states “few” to “many” |
| Char. 7 | to read “Stem: width of internode” |
| Char. 8 | - to be moved before Char. 1  - to read “Immature leaf: intensity of anthocyanin coloration” |
| Char. 9 | - to be moved before Char. 1  - to add (+) and explanation as in Ad. 8 |
| Char. 10, 14 | to add example variety for state (3) “short” |
| Char. 11 | to read “Petiole: width” |
| new char. after Char. 12 | to add a new QN characteristic “Petiole: degree of waxiness” with states (1) weak, (2) medium, (3) strong |
| Char. 13 | to read “Petiole: intensity of anthocyanin coloration” |
| Char. 15, 17 | to add example varieties |
| Char. 16 | to be deleted |
| Char. 21 | to add (+) and illustration |
| Char. 22 | to add (+) and illustration for “low” and “high” ratios |
| Char. 23 | - to read “Leaf blade: main color” and to add (+) with explanation “To be observed on upper side”  - to add example varieties  - to add note 6 “purple” with example varieties |
| Char. 24, 25, 26 | - to delete “…on lower side” and add (+) with explanation “To be observed on lower side” |
| Char. 24 | - to add example varieties  - to add two new states “yellow” and “whitish” with example varieties |
| Char. 25 | to add example varieties |
| Char. 30 | - to be indicated as PQ  - to add (+) and illustration  - to check shape types according to TGP/14 |
| Char. 33, 35, 37, 39 | to add example varieties |
| Char. 34 | to read “Infructescence: density of capsules” |
| Char. 37 | - to add colors pink and orange  - to rename “reddish blue” to “purple” |
| new Char. before Char. 38 | to add new QL characteristic “Capsule: spines” with (1) absent and (9) present |
| Char. 38 | to replace “Fruit” by “Capsule” |
| new Chars. | - add new characteristic “Type of inflorescence” with states to be checked  - proposals for new chars. to be sent to LE |
| 8.1 (a) | to read “Observations on the main stem…” |

### Cotton (Gossypium L.) (Revision)

The subgroup discussed document TG/88/7(proj.2), presented by Mr. Antonio Escolano (Spain), and agreed the following:

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| 2.3 | to read “3 kg of delinted seed. ~~If requested~~ In the case of hybrids and interspecific hybrid varieties, an additional 1 kg of seed of each component should be submitted, if requested.” |
| 4.2.2 | - to read “The assessment of uniformity for ~~hybrid~~ varieties depends on the type of ~~hybrid~~ variety and should be according to the recommendations for ~~hybrid~~ varieties in the General Introduction.” (to check according to standard wording) |
| T.o.C. | to reorder explanation labels ((a) should appear first) |
| Char. 3 | to delete example variety “DP377” for note 3 |
| Char. 4 | to check whether to read “Petal: intensity of spot” |
| Char. 5 | to read “medium yellow” |
| Char. 6 | - to provide explanation of where observation should be made  - to provide illustration  - add VS |
| Char. 8 | - to read “…of green color”  - to check whether 9 notes observed |
| Char. 9 | add example varieties “LD Frego” and “DBB11 B2RF” for state (4) lanceolate |
| Char. 11 | - to read “Leaf: pubescence”  - to add (+) and explanation “To be observed on lower side”  - to add (\*) |
| Char. 12 | to add example variety “Guazuncho 3 INTA” and “DP 0935 B2R2” for state 1 |
| Char. 13 | to read “…on upper part” |
| Char. 14 | to check whether observations should be made at an earlier stage (65-69) |
| Char. 17 | to delete MS |
| Char. 18 | - to check whether states to read “circular”, “narrow elliptic”, “broad elliptic”, and “ovate”  - to check whether to be presented in grid (to facilitate understanding differences – states 2 and 3 seem to have same general outline and different ratio) |
| Char. 22 | to check whether to add a fourth level “undefined” |
| Char. 23 | check example variety “Intercott 670” for states 7 and 9 |
| Char. 27 | - to rename state “beige” as “light yellow”  - reorder colors as follows: white, light green, light yellow, light brown, grey  - example variety for note 2 to be provided |
| Char. 28 | to check whether to reduce to 5 notes and add an explanation |
| Char. 31 | to read “…strength” |
| Char. 35 | - to check whether to specify other colors (e.g. green, brown)  - add (\*)  - additional colors with example varieties to be provided  - check the spelling of example variety “Alepo” (“Aleppo”?) |
| New char. | check whether to add new characteristic “Leaf: distribution of nectaries” with two states: “on the central vein” (1) and “on the central and lateral veins” (2); provide explanation and example varieties |
| 8.1 (a) | - to be corrected as 8.1 (b)  - to read “~~Unless otherwise indicated, all~~ Observations on the leaf and on the stem should be made where leaves are fully extended. Colo~~u~~r observations should be made early in the morning.”  - to check whether to further precise the parts of the plant to be observed (e.g. upper or middle third of plant) |
| 8.1 (b) | - to be corrected as 8.1 (a)  - to read “~~All~~ Observations on the flower should be made on the first day of flowering in the morning.” |
| 8.1 (c) | - to read “~~Unless otherwise indicated, all~~ Observations on the boll should be made at green maturity.”  - to check whether this explanation is coherent with growth states 71 to 75 (is 8.1(c) necessary?) |
| 8.1 (d) | - to read “~~All~~ Observations on the seed…”  - to check whether 8.1(d) is redundant with growth stage 99 |
| 8.1 (e) | - to delete titles (start directly from “These characteristics…”  - to delete duplication of “Standard Test Methods for Measurement…” |
| Ad. 10 | to read “Observations should be made on the leaf from the fifth node from the top of the plant.” |
| Ad. 14 | - to read “Observations should be made on the main stem”  - to check whether to further specify where to be observed (middle third?) |
| Ad. 18 | modify names of states to correspond to Char. 18 and reorder drawings 3 and 4 |
| Ad. 24 | to read “~~The~~ Time of opening is ~~reached~~ when 50% of the plants have at least one boll open~~ed~~.” |
| 9 | - to delete the first reference to “American Society…” (repeated)  - to sort references by author of publication (not by title)  - check title of third reference “American Society for Testing and Materials (ASTM) (1995), Standard Test Methods for Measurement of Physical Properties od Cotton Fiberrs by High Volume INstruments (Designation: D5867-95).” |
| TQ 4.2 | to be completed (select from standard wording in template) |
| TQ 5 | to list all states of expression (including even notes) for 5.7, 5.9 and 5.10 |
| TQ 6 | to be completed with an example characteristic and levels of expressions |

### Elytrigia (Elytrigia elongata (Host) Nevski)

The subgroup discussed document TG/ELYTR(proj.6), presented by Mr. Alberto Ballesteros (Argentina), and agreed the following:

|  |  |
| --- | --- |
| Common names | - to add Spanish common name “Agropiro”  - to check whether *pontica* belongs to rush wheatgrass - English  - to check whether to add “pontische Quecke”, “stumpfblütige Quecke” - German |
| 1 | to read “These Test Guidelines apply to all varieties of *Thinopyrum ponticum* (Podp.) Barkworth & D. R. Dewey *Elytrigia pontica* (Podp.) Holub.” |
| 3.3.3 | to read “A: Single plant with 60 spaced plants ~~separtes by 1.5 m.~~  “B: 2 replicate ~~pots~~ row plots with 6 m. long and 200 pl/m.” |
| 3.4.3 | to be deleted (repeated) |
| 5.3 (b) | to read “Leaf:…” |
| 5.3 (c) | to read “Time of inflorescence…” |
| 6.5 | add explanation on (A) and (B) |
| T.o.C. | to present characteristics in chronological order (growth stages) |
| Char. 1 | to be indicated as VG/VS |
| Char. 2 | - to be observed at growth stages “29-31”  - to be indicated as VS/A  - to check whether Char. 2 to be used as a grouping characteristic |
| Char. 3 | - to be indicated with (\*) (grouping characteristic)  - to be indicated as PQ  - to add example varieties |
| Char. 4 | states of expression to read “broad” (7) and “very broad” (9) |
| Char. 5 | - to check whether to add (\*) and explanation  - to be indicated as VS/A |
| Char. 7 | to add example varieties |
| Char. 8 | to change to MS/A and to provide explanation |
| Char. 9 | to read “Time of inflorescence…” |
| Char. 10 | to provide an explanation |
| Char. 11 | - to check whether only two colors observed in cultivated varieties  - state “brown” to be indicated by note (2)  - to check whether to delete Char. 11 |
| New Char. | “Number of spikelets” with states (3) few, (5) medium, (7) many, QN, MS/A, 60-68 |
| 8 | to remove all indications of growth stage for observation (already indicated in T.o.C.) |
| Ad. 1 | - to read “Observations should be made on the angle formed between an imaginary vertical line and the region with higher density of leaves.”  - (7) to read semi-prostrate |
| Ad. 2 | to read “Observations should be made at the base of the stems.” |
| Ad. 4 | to read “The flag leaf is the first leaf below the inflorescence. Measurements should be made at the broadest part.” |
| Ad. 5 | to read “Observations should be made on leaves at the upper third of the main stem.” |
| Ad. 6 | to read “The length of the longest stem should be measured from ground level to the base of the inflorescence.” |
| Ad. 7 | to read “The flag leaf is the first leaf below the inflorescence. Measurements should be made from the ligule to the end of the leaf blade.” |
| Ad. 8 | to check whether to add (+) and illustration |
| Ad. 9 | - title to read “Time of inflorescence…”  - to read “To determine the time of inflorescence emergence, observations should be made when 50% of the plants have reached stage of growth 49.” |
| Ad. 11 | to read “Observations should be made on seeds with no more than 35% humidity and harvested after the plant has completed its cycle.” |
| 9 | - to check punctuation (e.g. add comas to separate parts of each reference)  - last reference: to change “pág. 622” to “p. 622” |
| TQ. 5 | - to add all states of expression and notes to characteristics 5.1 and 5.3 (to present the full scale of notes)  - if Char. 2 is used as a grouping characteristic, add to TQ 5 |
| TQ. 6 | to add example |

### Field Bean (Vicia faba L. var. minor) (Revision)

The subgroup discussed document TG/8/7(proj.2), presented by Ms. Cheryl Turnbull (United Kingdom), and agreed the following:

|  |  |
| --- | --- |
| Common names | to include “Haba” as a Spanish common name |
| 3.1.2 | to be deleted |
| new 4.2.3 | to read “In the case of measurements, uniformity should be assessed using an appropriate statistical method.” |
| 4.2.3 | - to be renumbered as 4.2.4  - to read “In the case of visual observation, uniformity is assessed on the basis of off-types. For the assessment of uniformity ~~of seed propagated varieties~~, a population standard…” |
| 4.2.4 | to be deleted |
| 5.3 (b) | to be deleted |
| 6.5 | to check whether indications of (S) and (W) should be moved to 6.4 |
| Chars. 1, 2, 5, 21 | to read “…color” |
| Char. 1 | to name states of expression (1) “light”, (2) “light to medium”, (3) “medium”, (4) “medium to dark”, (5) “dark” |
| Char. 2 | to delete (\*) |
| Char. 3 | to remove growth stage indication |
| Chars. 6, 7, 14 | to underline “Only varieties with…” |
| Chars. 6, 7 | to delete “(if present)” |
| Char. 9 | to name states of expression “narrow” note (1) to “broad” note (5) (see explanation on 5 notes scale in Char. 1) |
| Char. 10 | - to delete parenthesis after “width”  - to name states of expression “low” note (1) to “high” note (5) |
| Char. 13 | state (1) to read “towards apex” |
| Char. 14 | to read “absent to weak” |
| Char. 15 | to add example varieties |
| Char. 16 | to be indicated as MS/MG |
| Char. 17 | to name states of expression “few” note (1) to “many” note (5) |
| Chars. 18, 19 | to be indicated as MS/VG |
| Char. 20 | to be deleted |
| Char. 21 | - to read “intensity” in small letters  - states (2) and (4): to replace “/” by “to”  - to add the following example varieties: “Blanca bona”, “Volantin” for note 1;  “Palacio”, “Fabina” for note 3; “Vitabon”, “Tiffany” for note 5 |
| Char. 22 | - to add space after “Pod:”  - to use scale of 5 notes and renumber current states of expression  - to add state (5) “pendulous” |
| Char. 23 | naming of states of expression to be checked |
| Char. 24 | - to check whether to replace state “beige” by appropriate color  - to check whether to additional colors (light, dark brown)  - to check whether states to be presented in order: green, yellow, grey, black |
| Char. 26 | to use 9 notes scale |
| 8.1(d) | to check whether to read “Observation on seeds should be made on dried seed.” |
| Ad. 10 | to remove grid and present illustrations in single row |
| Ad. 20 | to check whether to remove grid (no shapes considered) |
| 9 | to replace symbol by “-“ in references “Bould…” and “Link…” |
| TQ 5.1 | to present all states of expression (full scale with even notes) |
| TQ 6 | to add example |

### Oats (Avena sativa L. & Avena nuda L.) (Revision)

The subgroup discussed document TG/20/11(proj.2), presented by Mr. Antonio Escolano (Spain), and agreed the following:

|  |  |
| --- | --- |
| 2.3 | to read “Panicles: 120” |
| 3.4.3 | to read:  “The assessment of the characteristic ‘Seasonal type’ should be carried out on at least 300 plants.  “If tests on panicle rows are conducted, at least 100 panicle rows should be observed.” |
| 6.4 | to add key on how varieties are indicated (w/s types) |
| 6.5 | to add sample size for uniformity (A, B) as in chapter 4.2.2 |
| T.o.C. | to move indication of types (w/s) before the example varieties |
| Char. 3 | scale to read: (1) “absent or weak”, (2) “weak to medium”, (3) “medium”, (4) “medium to strong”, (5) “strong” |
| Char. 8 | - to check existence of varieties with notes (1) and (2)  - to check whether to be combined with Char. 7 |
| Char. 11 | to have states (7) “semi-drooping” and (9) “drooping” |
| after Char. 11 | to check whether to reinstate Char. “Orientation of branches” |
| Char. 13 | to add explanation on how to be observed (intensity or area or combined) |
| Char. 14 | to add (+) and explanation |
| Char. 15 | to be indicated as MS/B VG/B |
| Char. 17 | to add (+) and explanation |
| Char. 19 | to check whether scale to read: (1) “absent or weak”, (2) “weak to medium”, (3) “medium”, (4) “medium to strong”, (5) “strong” |
| Char. 21 | to check whether scale to be reduced to three notes |
| Char. 22 | - to check whether to add other example varieties for “spring type”  - example variety “Rapidena” to be indicated as “winter” |
| Ad. 3, 19, 20, 21 | to use five note scale |
| Ad. 4 | - to improve illustration  - to check whether to read “to be recorded on the leaf where the strongest expression is observed” |
| Ad. 6 | to check whether to read “…is ~~reached~~ when…” |
| 9 | to include literature |
| TQ 5 | to provide full scale of notes (even notes) in 5.2, 5.3, 5.5, 5.6 and 5.7 |
| TQ 6 | to add example |

### Quinoa (Chenopodium quinoa Willd.)

The subgroup discussed document TG/CHENO(proj.3), presented by Mr. Erik Lawaetz (Denmark), and agreed the following:

|  |  |
| --- | --- |
| Common names | English common name to read “Quinoa” (only) and delete other common names |
| 4.2.2 | to check whether to use population standard 5% |
| T.o.C. | - general remark: to check whether to add more (\*)  - example variety “Carina” to read “Red Carina” |
| Char. 1 | - formatting: to have states of expression and word “color” at heading in small letters  - to add example varieties  - to replace example variety for state (5) “Carmen” by “Red Carina” |
| Char. 2 | to read “Foliage: glaucosity” (delete “intensity of”) |
| Char. 3 | to check whether to be replaced by “Leaf: angle of base” and to check naming of states of expression |
| Char. 4 | to read “Leaf: dentation” and to provide illustrations |
| Char. 5, 6, 8, 17 | - to add example varieties |
| Char. 5 | - to delete (+) |
| Char. 7 | - to read “Plant: height at beginning of flowering” (and to underline “at beginning of flowering”)  - to delete indication of “VG” |
| Char. 8 | to replace example variety “Carmen” by “Red Carina” |
| Char. 10 | to add state of expression “purple” with note (5) |
| Char. 12 | to check whether to be deleted |
| Char. 13 | - to check whether to be deleted  - to delete “very” from states (1) and (5) |
| Char. 14 | - states to read “straight” and “curved”  - to add intermediate state and to be indicated as QN  - to add (+) and explanation |
| Char. 15 | - to check whether to use botanical names for states of expression  - to check whether there is an intermediate state  - to check whether to combine Char. 15 and 16 |
| Char. 16 | to check whether to replace “lax” by “sparse” |
| Char. 17 | - to add example varieties  - to delete (+) and explanation to add state “green”  - to check example variety “Riobamba” |
| Char. 18 | - to read “Plant: height at maturity” (and to underline “at maturity”)  - to check whether to add example varieties |
| Char. 19 | to be deleted |
| Char. 20 | - formatting: to have states of expression in small letters  - to be indicated as MS |
| Char. 21 | - to check whether to add (+) and explanation  - to add example varieties |
| Char. 22 | to add explanation “To be observed after removing the perigonium” |
| Char. 23 | - to check whether to be indicated as QN (genetic background)  - to check whether to add (+) and explanation  - to be indicated as VG  - to check whether to be done on submitted seed |
| Ad. 3, 4, 5, 11 | to become 8.1(a) |
| Ad. 5 | illustrations to be moved to Ad. 3 |
| Ad. 10 | to read “To be observed in the middle part of the stem” |
| Ad. 13 | to update legend as states of expression in Char. 13 (“absent or weak”; “strong”) |
| Ad. 18 | to check whether to delete “to be observed at maturity of plants” (redundant with growth state indicated – 12) |
| Ad. 20 | illustration to be provided |
| Ad. 20 | to check whether to improve explanation |
| Ad. 22 | to delete illustration |
| 8.2 | to check whether to improve image quality (text visibility) and get third party acceptance |
| 9 | reference “Jacobsen…”: to add “pages” |

### Red Clover (Trifolium pratense L.)

The subgroup discussed document TG/5/8(proj.1), presented by Mr. Adriaan de Villiers (South Africa), and agreed the following:

|  |  |
| --- | --- |
| Common names | to correct spelling of Trebol in Spanish (to add a graphic accent to read “Trébol”) |
| 3.3.4 | to delete paragraph 3.3.4 |
| 3.4.1 | to read “…at least 3000 plants, density above 450 plants per square meter which…” |
| 5.3 | to check whether to add other grouping characteristics (e.g. TQ Char. 10, 22, 23?) |
| T.o.C. | to add growth stages key |
| Char. 1 | to reword state (2) to read “orange yellow” |
| Char. 2 | - to be indicated with “C” (special test)  - to remove indication on method of observation (VS) |
| Char. 3, 4 | to reduce scale to 5 notes only |
| Char. 6 | - to remove underline (the characteristic is not repeated in the TG)  - to read “Plant: growth habit” and add explanation that observations should be made without vernalization  - to remove (\*) |
| Char. 7 | to remove (\*) |
| Char. 8 | to add VS/A |
| Char. 9 | - to read “foliage”  - to use scale “sparse” to “dense”  - to read “Plant: density of foliage” and to add (+) and explanation on time of assessment (in vegetative phase)  - to be indicated as VS/A (only) |
| Char. 11 | to reduce scale to 5 notes |
| Char. 12 | to use scale from “few” to “many” |
| Char. 13 | - to check whether to use scale “sparse” to “dense”  - to check whether to be moved after Char. 4  - to check whether to be indicated as “C” and to delete (b) |
| Char. 14 | to spell “color” |
| Chars. 17, 18, 25, 26 | - characteristic to be checked before inclusion in Test Guidelines (uniformity assessment)  - to replace MS/B by MS/A |
| Char. 20 | - to read “Leaf: intensity of markings”  - to be indicated as VS/A  - to confirm whether VG is used |
| New char. | to check whether to introduce new characteristic “Plant: natural height in aftermath” indicated as VG/B with explanation |
| 8.1 | to indicate the leaf to be observed for Chars. 17, 18, 22 and 23 |
| 8.1(b) | - to check whether to clarify “mean flowering date” (same as Ad. 24 “Time of flowering”?)  - to check whether to delete “unless otherwise indicated” |
| Ad. 6 | to use 9 notes scale |
| Ad. 10 | this explanation also applies to Chars. 11, 12, 13 and 14 (check whether to add explanation in 8.1) |
| Ad. 21 | - to delete grid  - to improve background of photographs |
| Ad. 24 | to read “The observation should be made when 3 flowers per plant are open on at least 50% of the plants.” |
| TQ 4.2 | to be completed |
| TQ 5 | to display all states of expression and even notes (5.2 to 5.5) |
| TQ 6 | to be completed |

*Scorpion Weed* (Phacelia tanacetifolia *Benth*.)

The subgroup discussed document TG/PHACE(proj.4), presented by Ms. Bogna Kowalczyk (Poland) and agreed the following:

|  |  |
| --- | --- |
| Common names | to include English common name “California Bluebell” |
| Char. 1 | to delete example variety “Polyphaci” |
| Char. 4 | - to have notes (1), (2) and (3)  - to be indicated as VG (only) |
| Chars. 5, 6 | to add (\*) |
| Char. 7 | to be deleted |
| Char. 8 | - to add (+) and explanation “To be observed on leaves from the middle part of the main stem”  - to add (\*) |
| Char. 9 | - state 2 to read “blue violet”  - to add state “red violet” with note (3) |
| Char. 10 | - to add (\*)  - to add example varieties  - to add example variety “Vega” for note (5) |
| Char. 11 | - to delete example variety “Titan”  - to add example variety for state “long”  - to add (\*) |
| Char. 12 | to add (\*) |
| Char. 13 | to be deleted |
| Char. 15 | to read: “Seed: intensity of brown color” with states “light” to “dark” |
| Ad. 4 | to read “…from the base of plant to the top…” |
| Ad. 7, 13 | to be deleted |
| 9 | to add coma after “AT” (reference: Meyer) |
| TQ 4.2.1 | to read “(a) Population”; “(b) Synthetic variety”; “(c) Other (please provide details)” |
| TQ 4.2.2 | to delete empty box 4.2.2 |
| TQ 4.2.3 | to be renumbered 4.2.2 and to delete current 4.2.3 |
| TQ 5 | to display all states of expression and notes (5.2, 5.3 and 5.6) |

### Soya Bean (Glycine max (L.) Merrill) (Revision)

The subgroup discussed document TG/80/7(proj.2), presented by Mr.  Alberto Ballesteros (Argentina), and agreed the following:

|  |  |
| --- | --- |
| Common names | to add “Soya” in Spanish |
| 2.2 | to write “seed” in low case |
| 4.1.4 | to complete missing number of plants to be observed (“…or parts of plants taken from each of 20 plants…”?) |
| 4.2.2 | - to indicate type of propagation (self-pollinated?)  - to have population standard (0.5% = 4 off-types allowed) |
| 5.3 | - to remove underline  - to spell “color” |
| T.o.C. | to check whether to order characteristics in chronological order (growth stages) instead of botanical order (current) |
| Char. 1 | - to use 9 notes scale with states from absent or very weak to very strong  - to remove asterisk  - to add explanation |
| Char. 2 | - to read “Plant: growth type”  - to add additional state of expression “semi determinate to indeterminate”  - to indicate growth stage 66 to 89  - to be indicated as VS/MS  - to improve explanation |
| Char. 3 | - to have growth stages 66 to 80  - to read “semi erect” (to add space)  - to read “Plant: attitude of branches” |
| Char. 4 | - to remove underline and spell “color”  - to check whether to add example varieties for the different states of expression  - to add state “light brown” and to replace state “brown red” by “dark brown” |
| Char. 5 | to be deleted |
| Char. 6 | to be indicated as MG/MS |
| Char. 7 | - to check whether VS is appropriate (observation on 300 plants)  - to check coherence with states of expression in Ad. 7  - to check whether to have states (1) “ovate”; (2) “trullate”; (3) “lanceolate”; (4) “elliptic”  - to indicate which leaf to be observed (e.g. third leaf from top of plant) |
| Char. 9 | - to spell states of expression in small letters  - to add semi-colon to read “Flower: color” |
| Char. 10 | - to to be indicated as PQ  - to combine states 1 and 2 and to read “ light yellowish brown” |
| Char. 11 | to be deleted |
| Char. 12 | to be indicated as VG |
| Char. 13 | - to check whether to use different approach to describe seed shape (e.g. split in two characteristics: shape in cross-section and shape in longitudinal section)  - state 2 to read “obloid” |
| Char. 14 | - to read “Seed: color of testa”  - to add (+) and explanation that “Observations should exclude hilum”  - to add state “red” or “purple” |
| Char. 15 | - to remove underline  - to add (+) and explanation  - to be indicated as VG \ QN |
| Char. 16 | to have states (1) “absent” and (9) “present” |
| Char. 17 | - to be indicated as PQ  - to check whether to clarify color “light black” (dark grey?)  - to check whether to separate “imperfect” (presence of different colored “halo”) as a different characteristic  - to ckeck colors black, brown, grey, imperfect yellow, imperfect black, light brown, yellow |
| Char. 18 | to check whether to be indicated as QL |
| Char. 19 | - to remove italics  - to read “Time of beginning of flowering” |
| Char. 20 | - to read “Time of maturity”  - to check whether to add (+) and explanation  - to check whether to keep only Char. 20 or 21 |
| Char. 21 | to add (+) and explanation |
| 8 | to add growth stages key |
| Ad. 3 | to read “semi-erect” (to add hyphen) |
| Ad. 4 | to check whether to read “Observations should be made on the middle third of plant.” |
| Ad. 7 | to check whether to improve grid (state “trullate” has broadest part below middle and medium ratio; state “elliptic” has broadest part at middle” and medium ratio; state “ovate” has low ratio) |
| Ad. 8 | to check whether to read “Observations should be made on leaves in the middle third of plant.” |
| Ad. 19 | to check whether to read “Time of beginning of flowering is when 50% of plants have at least one open flower.” |
| 9 | - to sort references in alphabetical order  - reference “Taylor…”: to check whether to delete “MAY – JUNE”  - reference “Pioli…”: to add name of publication  - reference “Dorrance…”: to check whether to complete reference |
| TQ 4.2 | to be completed |
| TQ 6 | to read “Flower: color” (with colon and small “c”) |

### Wheat (Triticum aestivum L. emend. Fiori et Paol.) (Revision)

The subgroup discussed document TG/3/12(proj.5), presented by Ms. Virginie Bertoux (France), and agreed the following:

|  |  |
| --- | --- |
| 3.4.3 | - to delete “To read: 3.4.2”  - to renumber following paragraphs to 3.4.4 and 3.4.5 |
| 4.2.4 | to be deleted |
| 6.5 (6) | - to delete double “(a)”  - to add references to sample sizes “A” and “B” |
| T.o.C. | Winter and spring types to be separated by semicolon. Winter types to be placed before the semicolon and prefixed by “(w)” and the spring types placed after the semicolon and prefixed by “(s)” (see: TGP/7, Annex 3, GN28, 3.2.2). |
| Char. 6 | - to check whether example variety Dollar to be replaced by “LCS Star” or whether to be replaced by another example variety already proposed |
| Char. 7 | - delete growth stage 50  - to check whether to replace Maxwell (w) by Accor (w) for note 1  - to check whether Sertori (w) is a winter or spring type and whether to propose a new example variety for note 5 |
| Chars. 14, 18 | to check whether to replace KWS Flint (s) by another example variety for all characteristics concerned |
| Char. 24 | to add MG/A as third method of observation |
| Ad. 18 | to add notes and states of expression |
| Ad. 27 | to read: “… according to ~~its~~ their descriptions…”  to read “…(~~as a rule~~ they should have normally exceeded stage 75)…” |
| 9 | to read “…Catalogue…”  to present reference “Zadoks…” in separate row |
| TQ 4.2.2 | to add boxes to provide information on items (a) and (b) |
| TQ 5 | to display even notes in 5.1 and 5.3 |
| Annex, Part II | to check formatting of table; to add column for “Spanish” |
| Annex, Part II, Char. Glu-B1 | to reintroduce example varieties Zollernspelz and Schwabenkorn for bands 6.1 + 22 (see document TWA/44/23 “Report”) |
| Annex, Part III, chapter 5 | to reintroduce last table from the previous version of the Test Guidelines |

## Guidance for drafters of Test Guidelines

The TWA received a presentation by the Office of the Union on the tutorials for the following different user roles of the web-based Test Guidelines template:

* Leading Expert drafting tutorial
* Interested Expert comments tutorial
* Leading Expert checking tutorial.

The TWA noted that the tutorials were available online on the TG Drafters’ webpage of the UPOV website and that a copy was reproduced in the Annex to document TWA/45/17.

The TWA noted that further comments by users of the web‑based TG Template could be sent to the Office of the Union.

## Variety denominations

The TWA considered document TWA/45/4.

The TWA noted the work on the possible development of a UPOV similarity search tool for variety denomination purposes by the Working Group for the Development of a UPOV Denomination Similarity Search Tool (WG-DST), as set out in document TWA/45/4, paragraphs 5 to 13.

The TWA noted that a revision of document UPOV/INF/12/4 (document UPOV/INF/12/5), in relation to changes of registered variety denominations, had been adopted by the Council, at its forty‑ninth ordinary session.

The TWA noted that the mandate and the composition of the WG-DST had been expanded to prepare recommendations for the CAJ concerning a possible revision of document UPOV/INF/12 and that it had become the Working Group on Variety Denominations (WG‑DEN).

The TWA noted that the first meeting of the WG-DEN had been held in Geneva, on March 18, 2016.

## Information and databases

### (a) UPOV information databases

The TWA considered document TWA/45/5.

#### UPOV Code System

The TWA noted the developments concerning UPOV codes, as set out in document TWA/45/5, paragraph 8.

The TWA noted the invitation to check the amendments to UPOV codes, the new UPOV codes or new information added for existing UPOV codes, and the UPOV codes used in the PLUTO database for the first time, as provided in the Annexes to document TWA/45/5. The TWA noted that any comments were to be submitted to the Office of the Union by October 7, 2016.

#### PLUTO Database

The TWA noted the summary of contributions to the PLUTO database from 2012 to 2015 and the current situation of members of the Union on data contribution, as presented in Annex II to document TWA/45/5.

The TWA noted that the CAJ, at its seventy-second session, had agreed that the WG‑DEN should consider proposals for the expansion of the content of the PLUTO database to include all recognized varieties, including those that had not been, or were no longer, registered/protected.

The TWA noted that the WG-DEN, at its first meeting, had agreed to defer the consideration of the matters concerning the possible expansion of the content of the PLUTO database to include all recognized varieties, including those that had not been, or were no longer, registered/protected until its second, or a subsequent, meeting.

The TWA noted the information concerning the training courses “Contributing data to the PLUTO database”, held in Geneva in September and October 2015, as set out in document TWA/45/5, paragraphs 22 to 24.

### (b) Variety description databases

The TWA considered document TWA/45/6.

The TWA noted the developments reported in document TWA/45/6 and, in particular, that:

(a) the TC, at its fifty-second session, had agreed to invite members of the Union to make presentations at the forthcoming session of the BMT on how databases containing molecular data might be developed in UPOV; and

(b) the outcome of discussions during the BMT on how databases containing molecular data might be developed in UPOV would be reported to the TC at its fifty-third session.

### (c) Exchange and use of software and equipment

The TWA considered document TWA/45/7.

#### Document UPOV/INF/16 “Exchangeable Software”

The TWA noted that the Council, at its forty-ninth ordinary session, held in Geneva, on October 29, 2015, had adopted document UPOV/INF/16/5 “Exchangeable Software”.

The TWA noted that the TC, at its fifty-second session, had agreed to propose the revision of document UPOV/INF/16/5 to include information on the use of software by members of the Union, which would be reported to the CAJ at its seventy-third session and, if agreed by the CAJ, a draft of document UPOV/INF/16/6 “Exchangeable Software” would be presented for adoption by the Council at its fiftieth ordinary session.

#### Document UPOV/INF/22 “Software and equipment used by members of the Union”

The TWA noted that the Council, at its forty-ninth ordinary session, held in Geneva, on October 29, 2015, had adopted document UPOV/INF/22/2 “Software and equipment used by members of the Union”.

The TWA noted that the TC, at its fifty-second session, had agreed to propose the revision of document UPOV/INF/22/2 to include information on the use of software by members of the Union and, if agreed by the CAJ, a draft of document UPOV/INF/22/3 would be presented for adoption by the Council at its fiftieth ordinary session.

### (d) Electronic application systems

The TWA considered document TWA/45/8.

The TWA noted the developments concerning the development of a prototype electronic form.

## Recommendations on draft Test Guidelines

### (a) Test Guidelines to be put forward for adoption by the Technical Committee

The TWA agreed that the following draft Test Guidelines should be submitted to the TC for adoption at its fifty-third session, to be held in Geneva from April 3 to 5, 2017, on the basis of the following documents and the comments in this report:

|  |  |
| --- | --- |
| Subject | Relevant document(s) |
| \*Cassava (*Manihot esculenta* Crantz.) | TWA/45/19 and TG/CASSAV(proj.6) |
| \*[[1]](#footnote-2)Scorpion Weed (*Phacelia tanacetifolia* Benth.) | TG/PHACE(proj.4) |
| \*Urochloa(*Urochloa*) | TWA/45/20 and TG/UROCH(proj.9) |
| \*Wheat (*Triticum aestivum* L.emend. Fiori et Paol*.*) (Revision) | TG/3/12(proj.5) |

### (b) Test Guidelines to be discussed at the forty-sixth session

The TWA agreed to discuss the following draft Test Guidelines at its forty-sixth session:

|  |
| --- |
| Barley (*Hordeum vulgare* L. *sensu lato*) (Revision) |
| Castor Bean (*Ricinus comunis* L.) |
| Cotton (*Gossypium* L.) (Revision) |
| Elytrigia (*Elytrigia elongata* (Host) Nevski), (*Agropyron elongatum* (Host) P. Beauv.) |
| Field Bean (*Vicia faba* L. var. *minor*) (Revision) |
| Ginseng (*Panax ginseng* C.A. Mey) (Revision) |
| Oats (*Avena sativa* L. & *Avena nuda* L.) (Revision) |
| Quinoa (*Chenopodium quinoa* Willd.) |
| Red Clover (*Trifolium pratense* L.) (Revision) |
| Rice (*Oryza sativa* L.) (Revision) |
| Soya Bean (*Glycine max* (L.) Merrill) |
| Tea (*Camellia sinensis* (L.) Kuntze) (Revision) |

The leading experts, interested experts and timetables for the development of the Test Guidelines are set out in Annex V of this report.

### (c) Possible Test Guidelines to be discussed in 2018

The TWA agreed that it should consider the development or revision of Test Guidelines for the following at a future session:

|  |
| --- |
| Finger millet (*Eleusine coracana* (L.) Gaertn.) |
| Rape Seed (*Brassica napus* L. *oleifera*) (Revision) |
| Rye (*Secale cereale* L.) (Revision) |
| Sunflower (*Helianthus annuus* L.) (Revision) |
| Triticale (x*Triticosecale* Witt.) (Revision) |

### (d) Participation in discussions of Test Guidelines from other TWPs

The TWA agreed to propose that the following experts be added as interested experts to the following draft Test Guidelines being discussed by the Technical Working Party for Vegetables (TWV), subject to the deadlines agreed in document TWV/50/32 “Report”, Annex IV:

|  |  |
| --- | --- |
| Subject | Interested experts (countries/organizations) [[2]](#footnote-3) |
| \*Brown Mustard (*Brassica juncea* (L.) Czern.) | DE, ES, GB, QZ |
| Turnip (*Brassica rapa* L. var. *rapa* (L.) Thell.) | DE, FI, GB, NZ, QZ |
| Pea (*Pisum sativum* L.) (Partial revision: disease resistance explanations for *Fusarium oxysporum* f. sp. *pisi* race 1 (Ad. 51), *Ascochyta pisi* race C (Ad. 60)) | AR, AU, BR, CA, CZ, DE, DK, ES, FR, IT, JP, NZ, PL, QZ, ZA, CLI |

## Date and place of the next session

At the invitation of Germany, the TWA agreed to hold its forty-sixth session in Hannover, from June 19 to 23, 2017, with the preparatory workshop on June 18, 2017.

## Chairperson

The TWA agreed to propose to the TC that it recommend to the Council to elect Ms. Cheryl Turnbull (United Kingdom), as the next chairperson of the TWA.

## Future program

The TWA agreed to discuss the following items at its next session:

1. Opening of the Session

2. Adoption of the agenda

3. Short reports on developments in plant variety protection

(a) Reports from members and observers (written reports to be prepared by members and observers)

(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. TGP documents (documents to be prepared by the Office of the Union)

6. Variety denominations (document to be prepared by the Office of the Union)

7. Information and databases

(a) UPOV information databases (document to be prepared by the Office of the Union)

(b) Variety description databases (document to be prepared by the Office of the Union and documents invited)

(c) Exchangeable software (document to be prepared by the Office of the Union)

(d) Electronic application systems (document to be prepared by the Office of the Union and documents invited)

8. Uniformity assessment by off-types (documents to be prepared by France, Germany, the Netherlands, Poland and the United Kingdom)

9. Experiences with new types and species

10. Impact of endophytes on DUS characteristics in grasses (documents to be prepared by the European Union, Mexico and New Zealand and documents invited)

11. Regional set of example varieties in Wheat for South America (document to be prepared by Brazil)

12. Number of growing cycles in DUS examination (documents to be prepared by France, Germany, the Netherlands, Poland and the United Kingdom)

13. Minimum distance between varieties (documents to be prepared by the European Union and the Republic of Korea)

14. Use of disease and insect resistance characteristics in DUS examination (documents to be prepared by Australia, Brazil, the European Union and France)

15. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee (if appropriate)

16. Discussion on draft Test Guidelines (Subgroups)

17. Recommendations on draft Test Guidelines

18. Guidance for drafters of Test Guidelines

19. Date and place of the next session

20. Future program

21. Adoption of the Report on the session (if time permits)

22. Closing of the session

## Visit

On July 13, 2016, the TWA visited the International Maize and Wheat Improvement Center (CIMMYT). The TWA was welcomed by Ms. Isabel Vianey Peña Mendoza, Institutional Relations for Latin America, and received three presentations: “CIMMYT – An overview”, presented by Mr. Bram Govaerts, Regional Representative for Latin America; “CIMMYT Global Program for Wheat”, presented by Mr. Matthew Reynolds, Distinguished Scientist, Global Program for Wheat; and “Working with the Private Sector”, presented by Mr. Arturo Silva Hinojosa, Lead, International Consortium for the Improvement of Maize. The presentations are reproduced in Annex IV to this report. The TWA visited CIMMYT’s germplasm bank and was welcomed by Mr. Thomas Payne, Head, Genetic Resources Center. The TWA also visited castor bean and quinoa trials at the Autonomous University of Chapingo, and was welcomed by Mr. Augustín López Herrera, Professor Researcher, and Ms. María Antonieta Goytia Jiménez, Director General of Administration.

The TWA adopted this report at the end of the session.

[Annexes follow]

TWA/45/25

ANNEX I  
  
LIST OF PARTICIPANTS

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[Annex II follows\

TWA/45/25

ANNEXES II TO IV

*[Annexes II to IV are available in the pdf version of this document]*

[Annex V follows]

TWA/45/25

ANNEX V

LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED   
TO THE TECHNICAL COMMITTEE IN 2017**

All requested information to be submitted to the Office of the Union

**before August 26, 2016**

| Species | Basic Document(s) | Leading expert |
| --- | --- | --- |
| \*Cassava (*Manihot esculenta* Crantz.) | TWA/45/19 and TG/CASSAV(proj.6) | Mr. Simeon Kibet (KE),  Mr. Fabrício Santos (BR) |
| \*[[3]](#footnote-4)Scorpion Weed (*Phacelia tanacetifolia* Benth.) | TG/PHACE(proj.4) | Ms. Bogna Kowalczyk (PL) |
| \*Urochloa(*Urochloa*) | TWA/45/20 and TG/UROCH(proj.9) | Mr. Fabricio Santos (BR) |
| \*Wheat (*Triticum aestivum* L.emend. Fiori et Paol*.*) (Revision) | TG/3/12(proj.5) | Ms. Virginie Bertoux (FR) |

DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWA/46

**(\* indicates possible final draft Test Guidelines)**

Guideline date for Subgroup draft to be circulated by Leading Expert:  **March 10, 2017**

Guideline date for comments to Leading Expert by Subgroup:  **April 7, 2017**

New draft to be submitted to the Office of the Union

**before May 5, 2017**

| Species | Basic Document | Leading expert | Interested experts (countries/organizations) [[4]](#footnote-5) |
| --- | --- | --- | --- |
| \*Barley (*Hordeum vulgare* L. *sensu lato*) (Revision) | TG/19/11 (proj.1) | Ms. Beate Ruecker (DE) | AU, AR, CA, CZ, DK, ES, FI, FR, GB, JP, IT, NL, NZ, KR, PL, QZ, SK, CLI, ESA, ISF |
| Castor Bean (*Ricinus comunis* L.) | TG/RICIN(proj.2) | Mr. Adriaan de Villiers (ZA) | AR, AU, BG, BR, FR, IT, MX, QZ, UA, ESA, ISF, Office |
| \*Cotton (*Gossypium* L.) (Revision) | TG/88/7(proj.2) | Mr. Jesús Mérida (ES) | AR, AU, BR, CN, CO, ES, JP, KE, MX, QZ, TZ, US, VN, ZA, CLI, ESA, ISF, Office |
| \*Elytrigia (*Elytrigia elongata* (Host) Nevski), (*Agropyron elongatum* (Host) P. Beauv.) | TG/ELYTR(proj.6) | Mr. Alberto Ballesteros (AR) | CZ, HU, MX, PL, QZ, ESA, ISF, Office |
| \*Field Bean (*Vicia faba* L. var. *minor*) (Revision) | TG/8/7(proj.2) | Ms. Cheryl Turnbull (GB) | AR, AU, CA, CO, CZ, DE, DK, ES, FR, GB, IT, MX, NL, PL, QZ, ZA, CLI, ESA, ISF, Office |
| Ginseng (*Panax ginseng* C.A. Mey) (Revision) | TG/224/1 | Mr. Wonsig Lee (KR) | JP, ISF, Office |
| Oats (*Avena sativa* L. & *Avena nuda* L.) (Revision) | TG/20/8(proj.2) | Mr. Antonio Escolano (ES) | AR, AU, BR, CA, CN, CO, CZ, DE, DK, ES, FI, FR, GB, IT, JP, KR, NL, NZ, PL, QZ, SK, UY, ZA, ESA, ISF, Office |
| Quinoa (*Chenopodium quinoa* Willd.) | TG/CHENO(proj.3) | Mr. Erik Lawaetz (DK) | AR, BR, CA, CL, CO, ES, FR, IT, MX, NL, NZ, QZ, ZA, ESA, ISF, Office |
| Red Clover (*Trifolium pratense* L.) (Revision) | TG/5/8(proj.1) | Ms. Robyn Hierse (ZA) | AR, AU, BR, CA, CZ, DE, DK, ES, FI, FR, GB, IT, JP, NZ, PL, QZ, SK, UY, ZA, CLI, ESA, ISF, Office |
| Rice (*Oryza sativa* L.) (Revision) | TG/16/8 | Mr. Yoshiaki Takamatsu (JP) | AR, AU, BR, ES, FR, IT, KE, KR, MX, QZ, CLI, ISF, Office |
| Soya Bean (*Glycine max* (L.) Merrill) (Revision) | TG/80/7(proj.2) | Mr. Alberto Ballesteros (AR) | AR, AU, BR, CA, CN, CO, ES, FR, IT, JP, KR, NL, PY, QZ, SK, US, UY, VN, ZA, CLI, ESA, ISF, Office |
| Tea (*Camellia sinensis* (L.) Kuntze) (Revision) | TG/238/1 Corr. | Mr. Simeon Kibet Kogo (KE) | AR, BR, JP, ISF, Office |

**DRAFT TEST GUIDELINES TO POSSIBLY BE DISCUSSED IN 2018**

| Species | Basic Document(s) |
| --- | --- |
| Finger millet (*Eleusine coracana* (L.) Gaertn.) | New |
| Rape Seed (*Brasica napus* L. *oleifera*) | TG/36/6 Corr. |
| Rye (*Secale cereale* L.) | TG/58/6 |
| Sunflower (*Helianthus annuus* L.) | TG/81/6 |
| Triticale (x*Triticosecale* Witt.) | TG/121/3 |

[End of Annex V and of document]

1. \* possible final draft Test Guidelines [↑](#footnote-ref-2)
2. for name of experts, see list of participants [↑](#footnote-ref-3)
3. \* possible final draft Test Guidelines [↑](#footnote-ref-4)
4. for name of experts, see list of participants [↑](#footnote-ref-5)