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|  |  | E  TWF/46/29 Rev.  **ORIGINAL:**  English  DATE:  December 20, 2015 |
| INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS | | |
| Geneva | | |

Technical working party for fruit cropS

Forty-Sixth Session  
Mpumalanga, South Africa, August 24 to 28, 2015

Revised Report

adopted by the Technical Working Party for Fruit Crops  
  
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## Opening of the session

The Technical Working Party for Fruit Crops (TWF) held its forty-sixth session in Mpumalanga, South Africa, from August 24 to 28, 2015. The list of participants is reproduced in Annex I to this report.

The session was opened by Mr. Katsumi Yamaguchi (Japan), Chairman of the TWF, who welcomed the participants and thanked South Africa for hosting the TWF session.

The TWF was welcomed by Mr. Julian Jaftha, Chief Director, Plant Production & Health, Department of Agriculture, Forestry and Fisheries. A copy of the welcome address of Mr. Jaftha is provided in Annex II to this report.

The TWF received a presentation on the Plant Breeders’ Rights (PBR) system in South Africa by Mr. Luvuyo Khoza, Senior Scientific Technician Production, Directorate Genetic Resources, Department of Agriculture, Forestry and Fisheries. A copy of the presentation is provided in Annex III to this report.

The TWF received a presentation on breeding and commercialization of citrus and sub-tropical crops in the Agricultural Research Council (ARC) by Mr. Arthur Sippel, Research Team Manager Plant Breeding, ARC. A copy of the presentation is provided in Annex IV to this report.

## Adoption of the agenda

The TWF adopted the agenda as reproduced in document TWF/46/1 Rev.

## Short reports on developments in plant variety protection

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

The TWF noted the information on developments in plant variety protection from members and observers provided in document TWF/46/22 Prov. The TWF noted that reports submitted to the Office of the Union after August 14, 2015, would be included in the final version of document TWF/46/22.

### (b) Reports on developments within UPOV

The TWF received a presentation from the Office of the Union on the latest developments within UPOV, a copy of which is provided in document TWF/46/21.

## TGP documents

### Matters for adoption by the council in 2015

The TWF considered document TWF/46/3.

The TWF noted the revisions to documents TGP/0, TGP/5, TGP/9 and TGP/14 to be put forward for adoption by the Council at its forty‑ninth ordinary session, as set out in paragraphs 6 to 18 of document TWF/46/3.

### Future Revision of TGP Documents

#### Future revisions under development

The TWF noted that the proposals for future revisions of TGP documents to be discussed by the TWPs at their sessions in 2015 would be dealt with under separate documents.

#### Matters agreed by the TC concerning future revisions

The TWF noted that the TC had agreed that it would not be necessary to develop further guidance to address issues relating to plant material submitted for examination beyond that already provided in documents TG/1/3, TGP/7 and TGP/9.

The TWF noted that the TC had agreed that authorities should provide guidance on the requirements of material submitted for DUS examination to avoid the possible effect of the method of propagation (e.g. micropropagation) in the expression of DUS characteristics.

The TWF noted that the TC had agreed to add new standard wording in the TG template, Chapter 4.2 “Uniformity”, and amend ASW 8 (c) to provide guidance for Test Guidelines that are developed on the basis of varieties with one type of propagation when varieties may be developed in the future with other types of propagation, for future revision of document TGP/7, as set out in paragraph 24 of document TWF/46/3.

The TWF noted that the TC had agreed that the existing guidance in documents TGP/8: Part I: “DUS trial design and data analysis” and TGP/9 “Examining distinctness” was sufficient to address guidance for blind randomized trials.

The TWF noted that the TC had agreed to include guidance on “Examining characteristics using image analysis”, for future revision of document TGP/8, as presented in paragraphs 26 and 27 of document TWF/46/3.

### Program for the development of TGP documents

The TWF noted the program for the development of TGP documents, as set out in the Annex to document TWF/46/3.

### TGP/7: Development of Test Guidelines

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

The TWF considered document TWF/46/12.

The TWF agreed with the proposal to revise document TGP/7 to reflect the introduction of the web‑based TG Template after Version 1 is finalized.

The TWF agreed with the proposal to standardize the format of the Table of Characteristics in all Test Guidelines with a structure as set out in paragraph 15 of document TWF/46/12.

The TWF agreed that different colors could be used to differentiate elements in the Table of Characteristics, such as categories of characteristics, types of expression, explanations and recommendations for conducting the examination.

The TWF noted that all Leading Experts had prepared the draft Test Guidelines for discussion during the TWPs at their sessions in 2015 using the web-based TG Template.

The TWF noted that all Interested Experts had been required to provide their comments on draft Test Guidelines for discussion during the TWPs at their sessions in 2015 using the web-based TG Template.

The TWF noted the issues being addressed in response to the comments by Leading and Interested Experts that participated in the testing of the 2015 prototype of the web‑based TG Template, as set out in paragraphs 13 and 14 of document TWF/46/12.

The TWF received a demonstration of the planned resolution of the issues being addressed in the 2015 prototype of the web‑based TG Template, as set out in paragraphs 13 and 14 of document TWF/46/12.

The TWF agreed that Leading Experts should be able to make comments on their draft Test Guidelines in order to provide further information during the period for comments by the Interested Experts.

The TWF noted the timetable for development of the web-based TG Template, as set out in paragraphs 17 to 19 of document TWF/46/12.

The TWF agreed that more user accounts should be created to allow other experts to provide comments on draft Test Guidelines within the Web-based TG Template, in agreement with the designated TWP persons.

#### Revision of document TGP/7: Use of Proprietary Photographs and Illustrations in Test Guidelines

The TWF considered document TWF/46/13.

The TWF agreed with the proposed guidance in relation to text, photographs, illustrations or other material that could be subject to third party rights, as set out in paragraph 7 of document TWF/46/13, for inclusion in a future revision of document TGP/7, as follows:

“In the case of text, photographs, illustrations or other material that is subject to third party rights, it is the responsibility of the author of the document, including Test Guidelines, to obtain the necessary permission of the third party. Material must not be included in documents where such permission is required but has not been obtained.”

The TWF agreed with the TWV that a disclaimer should be added in relation to text, photographs, illustrations or other material that is subject to third party rights in the web-based TG template.

The TWF agreed that acknowledgment of the third party granting permission for any material used in UPOV documents should be made according to the terms of permission.

#### Revision of document TGP/7: Regional Sets of Example Varieties

The TWF considered document TWF/46/14.

The TWF considered whether to include guidance in document TGP/7 that a “region” should be comprised of more than one country in order to justify a regional set of example varieties in Test Guidelines and agreed that, in some cases, it could be useful to have regional sets of example varieties developed on the basis of countries that represented different geographical regions.

The TWF agreed with the TWV that the purpose of the UPOV Test Guidelines was international harmonization and therefore was not in favor of regional sets of example varieties as a common practice. However, the TWF agreed that when example varieties were not available or suitable for cultivation in a particular geographical region the information on example varieties used in different regions facilitated the interpretation of DUS test results and the use of variety descriptions for the purposes of distinctness.

The TWF noted that currently Test Guidelines were drafted on the basis of example varieties provided by the Leading Expert. The TWF agreed that regional sets of example varieties could be provided by a single country if there was a sufficient number of example varieties for each characteristic in order to illustrate the range of variation.

The TWF agreed with the proposal to include guidance in document TGP/7 to explain that the TWP should determine the basis on which the region would establish an agreed regional set of example varieties (e.g. by an exchange of information, or by a ring-test).

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

#### Revision of document TGP/8: Part I: DUS Trial Design and Data Analysis, New Section: Minimizing the Variation due to Different Observers

The TWF considered document TWF/46/15 and received an explanation by the drafter, Mr. Nik Hulse (Australia), on the proposed guidance on “minimizing variation due to different observers of the same trial.”

The TWF agreed with the draft guidance in the Annex to document TWF/46/15, for inclusion in a future revision of document TGP/8 on minimizing the variation due to different observers, subject to the following editorial change:

“However, the method has not been ~~used on~~ developed for PQ characteristics ~~to our knowledge~~ and ~~PQ characteristics~~ may also require extra information on calibration”.

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

The TWF considered document TWF/46/16.

The TWF noted that participants of the exercise to test the software on the new method for the calculation of COYU should:

(i) seek to define probability levels to match decisions using the previous COYU method;

(ii) run the test for rejection probabilities of 1, 2 and 5% levels; and

(iii) assess whether the results are consistent in all crops

The TWF noted that the expert from the United Kingdom had distributed the software module for calculation of COYU and the guidance document to the participants of the exercise.

The TWF noted that the experts from Czech Republic, France, Finland, Germany, Kenya, Poland and United Kingdom would participate in the exercise to test the new software on COYU.

The TWF noted that a report on the practical exercise and the development of DUST module was presented at the thirty-third session of the TWC by an expert from the United Kingdom.

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

The TWF considered document TWF/46/17.

The TWF noted that the TC, at its fifty-first session, had agreed that further information on fulfilling the requirements of a DUS characteristic should be provided in the example of a characteristic examined on the basis of a bulk sample, and in that regard, had considered a discussion paper provided by an expert from the Netherlands on uniformity requirements in bulk characteristics, as reproduced Annex I to document TWF/46/17.

The TWF noted that the TC, at its fifty-first session, had agreed to consider further whether the analysis of individual plants to validate characteristics examined on the basis of bulk samples was necessary, and the possible cost implications, and had invited to propose alternative approaches for the examination of uniformity.

The TWF noted that the TC, at its fifty-first session, had agreed that the determination of states of expression should be based on existing variation between varieties and considering environmental influence.

The TWF considered whether characteristics examined on the basis of bulk samples should be assessed on the basis of the number of plants recommended in the Test Guidelines under Chapter 4.1.4 and noted that in some members visual observations of fruits from vegetatively propagated fruit crops were usually made on 20 fruits and the assessment of characteristics such as acidity, degrees brix and firmness of flesh, which resulted in destruction of the plant sample, was made on 10 fruits.

The TWF agreed that sampling for the assessment of characteristics that resulted in destruction of the plant sample was usually made by harvesting typical fruits from the same part of each tree (same stage of development, middle part of tree) and mixing them together. The appropriate number of fruits (10 or 20) would then be randomly selected for the assessment of each of the characteristics.

#### 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 TWF considered document TWF/46/18.

The TWF noted that the TWC and the TWA had agreed that the guidance on “Different forms that variety descriptions could take and the relevance of scale levels”, as reproduced in Annex I to document TWF/46/18, should be used as an introduction to future guidance to be developed on data processing for the assessment of distinctness and for producing variety descriptions.

The TWF noted that the TWC had agreed to compare the results of the practical exercise presented by the different participants to identify differences in the results obtained for further understanding of the different methodologies, at the thirty-third session of the TWC, held in Natal, Brazil, from June 30 to July 3, 2015.

The TWF noted that the European Union had reported to the Technical Committee that the project on a ring test on Apple for the management of variety description to be launched in 2015 had been suspended.

### 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 TWF considered document TWF/46/9.

The TWF received an oral report by an expert from New Zealand on the assessment of uniformity using more than one growing cycle: New Zealand’s experience for apple varieties originating as mutations.

The TWF also received an oral report by an expert from France on assessing uniformity by off types on basis of more than one growing cycle or on the basis of sub samples: considerations on Uniformity, Distinctness and description.

The TWF agreed that the authority in charge of DUS examination should be able to refuse a candidate because of a lack of uniformity after the first growing cycle, in particular for fruit crops where number of growing cycles was normally two.

The TWF considered the draft guidance for inclusion in a future revision of document TGP/10, as presented in Annexes I and II to document TWF/46/9. The TWF agreed that it should be clarified in the document whether the guidance in Annex I was meant for combining the results of two growing cycles of the same plant material (perennial crops). The TWF agreed that the document should continue to be discussed at its next session.

The TWF agreed to propose the following amendment to clarify the decision rule in Annex I, Approach 2: “…a variety is considered uniform if the total number of off‑types at the end of the two growing cycles does not exceed the number of allowed off-types for the ~~combined~~ sample size of growing cycles 1 and 2 combined.”

## Statistical Methods for Visually Observed Characteristics

The TWF considered document TWF/46/20 and agreed that statistical methods were not routinely used for fruit crops.

The TWF noted that the TC, at its fifty-first session, had agreed to remove the document “Statistical methods for visually observed characteristics” from the program for the revision of document TGP/8, and to consider the matter under a separate agenda item.

The TWF noted that the TWC had invited an expert from China to make a presentation at the thirty‑third session of the TWC on the analysis of visually observed characteristics using the DUST China (DUSTC) software package using the data set of meadow fescue provided by Finland.

## Matters concerning variety descriptions

The TWF considered document TWF/46/10 and received a presentation by an expert from the European Union on “Experience with regard to variety descriptions and verifying the maintenance of the variety at the Community Plant Variety Office (CPVO)”. A copy of the presentation is provided in document TWF/46/10 Add.

The TWF agreed that the plant material used as the basis for DUS examination was representative of the protected variety. The TWF agreed that, whenever possible, authorities should maintain a reference sample of the plant material of a protected variety. The TWF agreed that the description of a variety had limitations due to its link to the circumstances of the DUS examination but was an important element of the plant variety protection system and a useful tool for the analysis of distinctness.

## Molecular techniques

The TWF considered document TWF/46/2.

The TWF noted the report on developments in the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT), as set out in paragraphs 7 to 10 of document TWF/46/2.

The TWF noted that the Technical Committee (TC), at its fifty-first session, had agreed to develop a joint document explaining the principal features of the systems of Organization for Economic Co-operation and Development (OECD), UPOV and International Seed Testing Association (ISTA), subject to the approval of the Council and in coordination with the OECD and ISTA, as set out in paragraph 18 of document TWF/46/2.

The TWF noted that the TC, at its fifty-first session, had agreed to develop an inventory on the use of molecular marker techniques, by crop, with a view to developing a joint OECD/UPOV/ISTA document containing that information, in a similar format to UPOV document UPOV/INF/16 “Exchangeable Software”, subject to the approval of the Council and in coordination with the OECD and ISTA, as set out in paragraph 20 of document TWF/46/2.

The TWF noted that the TC, at its fifty-first session, had agreed the proposal for the BMT, at its fifteenth session, to develop lists of possible joint initiatives with OECD and ISTA in relation to molecular techniques for consideration by the TC, as set out in paragraph 21 of document TWF/46/2.

The TWF noted that the OECD/UPOV/ISTA Joint Workshop on Molecular Techniques had agreed that it would be useful to repeat the joint workshop at relevant meetings of the OECD and ISTA, as set out in paragraph 19 of document TWF/46/2, and, in that regard, that the Technical Working Group Meeting of the OECD Seed Schemes, had agreed that another OECD/UPOV/ISTA Joint Workshop on Molecular Techniques should be organized either back-to-back with the Annual Meeting of the OECD Seed Schemes or in conjunction with the OECD Technical Working Group Meeting.

The TWF considered the initial 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, discussed during the TC, at its fifty-first session as reproduced in paragraph 32 of document TWF/46/2, and agreed with the TWA that it should read as follows:

“Is it possible to obtain protection of a variety on the basis of its DNA-profile?

“A variety cannot be protected on the basis of DNA profiles. For a variety to be protected, it needs to be clearly distinguishable from all existing varieties on the basis of characteristics that are physically expressed, e.g. plant height, time of flowering, fruit color, disease resistance etc. ~~[Molecular techniques (DNA profiles) may be used as supporting information].~~

The TWF noted that molecular marker techniques were being used by many UPOV members for variety identification and were an important tool in cases of enforcement of plant breeder’s rights (PBR). The TWF agreed that it would be useful to provide information to a wider audience that molecular marker techniques were widely used in the context of PBR for variety identification and enforcement of the breeder’s rights.

The TWF noted that France had been using molecular distances in combination with phenotypical distance for optimizing the size of trials in fruit crops since 2000. The TWF agreed that molecular markers also provided useful information on species which the authorities did not hold standard samples of living material.

The TWF noted that in many UPOV members breeders were requesting authorities to accept molecular marker information with applications for plant breeder’s rights. The TWF noted that authorities did not require molecular marker information with the application for plant breeder’s rights although some authorities accepted it as complementary information. The TWF noted the concern expressed by some members on matters relating to the confidentiality of molecular marker information and whether such information could be made available to the public.

## Variety denominations

The TWF considered document TWF/46/4.

The TWF noted that the TC, at its fifty-first session, and the CAJ, at its seventy-first session, had 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), including the test study. The TWF noted that the result of the test study had been reported to the second meeting of the WG-DST and that the most effective search tools had been described and documented, as set out in paragraphs 6 to 13 document TWF/46/4.

The TWF noted that the TC, at its fifty-first session, and the CAJ, at its seventy-first session, had noted the proposed revision of document UPOV/INF/12 in relation to changes of registered variety denominations, as set out in paragraph 18 document TWF/46/4, and that the CAJ had approved the presentation of that guidance for adoption by the Council at its forty-ninth ordinary session.

The TWF noted that the CAJ, at its seventy-first session, had agreed to invite the WG-DST to consider the comments by the CAJ-AG, at its ninth session, on the proposals in document UPOV/INF/12/5 Draft 2 concerning Sections 2.2.2 (b), 2.3.1 (c) and (d), and 2.3.3, in conjunction with the development of an effective UPOV similarity search tool, and any conclusions by the WG-DST to revise document UPOV/INF/12, if appropriate, as set out in paragraph 24 document TWF/46/4.

The TWF noted that the CAJ, at its seventy-first session, had agreed to consider the proposals of the CAJ-AG under Sections 2.2.2 (c), 4(a) and 4(e)(i) at its seventy‑second session, as set out in paragraph 25 of document TWF/46/4.

## Definition of color groups from RHS Colour Charts

The TWF considered document TWF/46/19.

The TWF noted that color charts were not routinely used for fruit crops and that varieties were allocated to color groups using the color groups in the Test Guidelines (Technical Questionnaire). The TWF agreed that growing trials for fruit crops were organized using varieties from the same color group and other color groups close to that of the candidate variety (“broad approach to color”).

The TWF noted that the 50 UPOV Color Groups, as set out in document TGP/14, were currently being used by some authorities for the purpose of grouping varieties for DUS trials and agreed to request clarification on the reason for the explanation provided in document TGP/14 that “It is important to note that these color ‘groups’ were not created for the purpose of grouping varieties for DUS trials and should not be used for that purpose.”

## Experiences with new types and species

The TWF received a presentation by an expert from Morocco on experience with new varieties of Argania (*Argania spinosa* (L.) Skeels). A copy of the presentation is presented in document TWF/46/26 Add.

## Management of variety collections

The TWF noted that in some UPOV members reference varieties of fruit crops were not managed directly by the authority and were kept by the breeders under different forms of partnerships.

## Duration of DUS tests in the fruit sector

The TWF considered the information provided in document TWF/46/25 Rev.

The TWF noted that the total duration of DUS testing for fruit crops for some authorities would include the period required for establishment of the plants. The TWF agreed that over the establishment period it should be possible to conclude the DUS testing when the examining authority was certain of a negative outcome. The TWF also agreed that the DUS examination and the variety description could be completed after the first growing cycle.

The TWF considered the following proposal to amend document TGP/7:

“ASW 2 (TG Template: Chapter 3.1) – Number of growing cycles

“The duration of tests should be (a single/two) independent growing cycle(s) for the purpose of observation of characteristics following an adequate number of growing cycles for establishment of plants; at the end of each growing cycle(s) for the purpose of observation of characteristics the competent authority will determine whether or not the following growing cycle(s) is required. As soon as it can be established with certainty that the outcome of the DUS test will be negative, it can be stopped independently from the number of growing cycles carried out so far.”

The TWF agreed to invite the European Union to continue drafting a proposal for reduction of duration of DUS tests in the fruit sector taking into consideration the comments received and agreed to continue discussions at its next session.

## Harmonized example varieties for Apple: historical data and possible new development

The TWF considered document TWF/46/27.

The TWF agreed that it would be useful to develop guidance on minimizing variation between authorities and agreed to study the possible development of a calibration book for the harmonization of variety descriptions.

The TWF agreed that Mr. Jean Maison (European Union) would coordinate the project and would search varieties that had been described by different UPOV members using the current version of the Test Guidelines for Apple.

The TWF agreed that the different descriptions for the same varieties should be compared and the causes of variation identified (environment and/or observer). The TWF agreed that participants to the development of the calibration book for harmonized variety descriptions in apple could meet by electronic means and provide information on developments to the TWF, at its next session.

## Discussion on draft Test Guidelines

*\*Apricot (*Prunus armeniaca *L.) (Partial revision)*

The subgroup discussed document TWF/46/23, presented by Mr. Hendrik Venter (South Africa), and agreed that a full revision of the Test Guidelines for Apricot be considered by TWF, at its forty-seventh session.

### Avocado rootstock (Persea Mill.)

The subgroup discussed document TG/PERSE(proj.2), presented by Mr. Alejandro F. Barrientos‑Priego (Mexico), and agreed the following:

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| Cover page | to replace current UPOV code with UPOV code PERSE (*Persea* Mill.) |
| 1. | to read “These Test Guidelines apply to all varieties of *Persea* Mill. used as rootstock.” |
| Char. 4 | to read “Young shoot: anthocyanin coloration” |
| Char. 7 | to delete (b) |
| Char. 9 | to have state “green” as state 1 and “yellow” as state 2 |
| Char. 21 | - to have states “low” to “high”  - to be indicated as VG/MS |
| Char. 24 | to add more example varieties |
| Char. 29 | to read “at level” |
| Char. 31 | to read “Leaf blade: density of pubescence of the lower surface on main vein” |
| Char. 34 | - to have states “absent or sparse”, “medium” and “dense”  - to read “Petiole: density of pubescence on upper side” |
| Char. 36 | to delete MS |
| Char. 37 | to be indicated as VG/MS |
| 8.1 | to add new label (c) for characteristics to be observed on upper third and to check throughout table of characteristics whether to be indicated as (b) and (c) |
| Ad. 7 | to be deleted |
| Ads. 21, 22 | to update grid according to TGP/7 |
| Ad. 23 | to improve formatting of illustration for state 2 (delete border) |
| Ad. 24 | to replace illustration for state 3 |
| Ad. 25 | to improve formatting of illustration for state 3 (delete border) |
| Ad. 32 | to read “…the leaf and smelling.” |
| 9. | to complete reference to TG/97 “Avocado” |
| TQ 5 | to include all even states of expression |

### Black Walnut (Juglans nigra L.)

The subgroup discussed document TG/JUGLA(proj.2), presented by Ms. Victoria Colombo (Spain), and agreed the following:

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| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| 1. | to specify the hybrids covered in the Test Guidelines |
| 2.3 | las sentence to read “The rootstock to be used is the progeny ‘Ng209’ x ‘Ra’ or any other commercial hybrid specified by the authority” |
| 3.3.3 | to be deleted |
| Table of Chars. | - to review allocation of (a) and (b)  - to check example varieties (all commercial or available?) |
| Char. 2 | - to add explanation where to observe (in the season)  - to check whether to reduce scale to 5 notes (according to the scale of numbers in Ad. 2) |
| Char. 3 | - to check whether to have states “absent” and “partially or fully developed” or to have a QN characteristic with states “absent”, “partially developed” and “present”  - to add explanation |
| Char. 4 | - to check whether to be indicated as QN with states “smaller”, “same size” and “larger”  - to read “lateral leaflets” |
| Char. 5 | - to clarify time of observation  - to check whether to add more states (e.g. “brownish”) |
| Chars. 6, 7, 8, 9 | to remove explanation on the time of observation of the characteristic from heading (“before Df”, “Ff2”) and move to explanation |
| Char. 6 | - to check whether really QL  - to read “conspicuousness” |
| Char. 7 | - to add explanation/illustration  - state “mostly isolated” to read “one”  - to delete the word “mostly” from states 2 to 5 |
| Char. 8 | - to check whether really QL under different environmental conditions  - to read “…anthocyanin…” |
| Char. 9 | - to read “…length…”  - to check whether to be indicated as MS  - to check whether to reduce number of states of expression (in order to keep it as VG) |
| Char. 11 | - to check whether really QL  - what is the meaning of “well”? (fully developed?)  - to add explanation/illustration  - states to read “absent” and “present” |
| Char. 12 | to check whether to have states broad oblong (1), narrow oblong (2), ovate (3) (see illustrations in Ad. 12) |
| Char. 13 | to have states transverse elliptic (1), oblate (2), ovate (3), circular (4), medium elliptic (5), broad elliptic (6), transverse oblong (7) |
| Char. 14 | - to delete (b)  - to complete state 5  - to check wording (see TGP/14)  - to read “Nut: shape of base” and to add explanation that observation should be made facing the suture |
| Char. 15 | - to delete (b)  - to check wording of states of expression (see TGP/14) |
| Char. 19 | - to be indicated as QN  - to replace words in brackets by “protrandric”, “homogamic”, “protandric” |
| 8.1 (a) | to clarify growth stages in order to avoid overlapping of periods/stages |
| 8.1 (e) | to remove “… from each tree” |
| 8.2 | General: to add full stop at the end of sentences |
| Ad. 1 | - to delete the wording and keep illustration  - to delete repeated title on top of illustrations |
| Ad. 2 | - to have same states as in Char. 2 (“few”, “medium”, “many”)  - to add “Number of leaflets to be assessed in growing season when leaves are completely developed.” |
| Ad. 6 | to delete photographs and keep text explanation only |
| Ad. 10 | to delete repeated title below illustrations |
| Ad. 12 | is there a clear difference between states 2 and 3? |
| Ad. 13 | to be presented in a grid according to TGP/14 |
| Ad. 16 | to read “Observations should be made when…” |
| Ad. 17 | to read “Observations should be made when anthers are completely dehiscent during the period of pollen emission (Fm2).” |
| Ad. 20 | to delete “between” |
| 9. | literature references to be ordered alphabetically |
| TQ 4.2 | to be clarified (to have alternative options (in vitro or micropropagated or…) |
| TQ 5 | to complete scale with all the even states of expression for 5.2 and 5.3 |
| TQ 6 | to add example |

### Blueberry (Revision)

The subgroup discussed document TG/137/5(proj.1), presented by Mr. Nik Hulse (Australia), and agreed the following:

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| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| Cover page | to check whether to include *V. darowii* |
| 1. | to check whether any changes are necessary in order to include ornamental varieties in the scope of the Test Guidelines |
| 3.1.1 | to read “The minimum duration of tests should normally be one independent growing cycles.” |
| 3.1.2 | to read “In particular, it is essential that the plants produce a satisfactory crop of fruit in the season prior to test and in the growing cycles.” |
| 3.3.1 | to check whether to add explanation on the particular requirements for high and low chilling varieties |
| 4.1.4 | to read “Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 3.” |
| 4.2.2 | to read “…, no off-types are allowed” |
| Char. 2 | - to check whether to add illustration  - to be indicated as QN |
| Char. 3 | - to check whether to reduce number of colors  - to check whether characteristic should be observed on sunny side of shoot |
| Char. 7 | - to add illustration  - to be indicated as MG/VG  - to have states of expression from “low” to “high” |
| Char. 8 | to add illustration (grid) |
| Char. 9 | - to be combined with Char. 10  - to be indicated as PQ  - to have states “light green”, “medium green” and “dark green”, “blue green” and “yellow” |
| Char. 11 | to check whether really QL |
| Char. 12 | - to replace (a) by (c)  - to correct spelling “anthocyanin” |
| Char. 13 | - to add explanation or illustration  - to be indicated as MG/VG |
| Char. 14 | - to add illustrations  - to include example varieties for low chilling |
| Char. 15 | - to have 5 states of expression  - to add explanation on how to be observed  - to check whether to split into length, width and ratio length/width |
| Char. 16 | to add explanation to be observed at anthesis (and remove “c”) |
| Char. 17 | - to have notes 1, 2, 3  - to add explanation |
| Char. 18 | to replace “fruit cluster” by “infructescence” |
| Char. 19 | - to delete (\*)  - to have notes 1, 3, 5 |
| Char. 21 | - to replace “round” with “circular”  - to add grid |
| Char. 22 | - to add illustration  - to add state of expression “horizontal” |
| Char. 23 | - to check whether to add illustration (check TG Pear)  - to check whether to be deleted |
| Char. 24 | - to add illustration  - to have notes 1, 3, 5 |
| Char. 25 | - to check wording of characteristic name and states of expression  - to have 3 notes only |
| Char. 27 | to add states of expression “pink” and “blackish blue” |
| Char. 28 | - to delete (\*)  - to check spelling example variety “O’Neil” (“O’Neal”?) |
| Char. 29 | - to delete (\*)  - to have notes 1, 3, 5  - to add explanation on time of assessment |
| Char. 32 to 36 | to be indicated as MG/VG |
| Char. 37 | to replace “cream” with “yellowish white” |
| New char. | to check whether to add new characteristics  - “Leaf: glaucosity on upper side” with states 1 “absent or weak” to 3 “strong”  - “Leaf: color of edge” with states “red” and “green”  - “Leaf: blistering with states “absent” and “present”  - “Leaf: glossiness” with states “absent” and “present”  - “Flower: ground color of corolla tube” with states “white”, “greenish white” and “yellowish white”  - “Flower: color of receptacle” with states “green”, “pink”, “red”, “blue”  - “Fruit: ratio height/width” |
| 8.1 (c) | to check whether to replace “full flowering” by “anthesis” |

### Chestnut (Castanea sativa Mill.) (Revision)

The subgroup discussed document TG/124/4(proj.2), presented by Mr. Takeshi Esaki and Mr. Katsumi Yamaguchi (Japan), and agreed the following:

|  |  |
| --- | --- |
| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| Table of Chars. | - to add more example varieties  - What does (C) and (B) behind the names of example variety mean? To add explanation in Chapter 6.5 and/or 6.4 |
| Char. 3 | to have notes 1, 3, 5 |
| Char. 5 | - to be indicated as QL  - to add explanation/illustration (phyllotaxis?)  - to read “Current season's shoot: phyllotaxis”  - to delete MS |
| Char. 6 | - to check whether really QL  - to check whether to delete |
| Char. 7 | to read “Current season's shoot: color of upper side of stem” |
| Char. 8 | - to read “season’s” and “lenticels”  - to have notes 1, 3, 5 |
| Char. 11 | - to delete MS  - to move wording in brackets to 8.2 |
| Chars. 13 to 16 | - to delete (\*)  - state 2 to read “outwards” |
| Char. 14 | - state 1 to read “symmetric to slightly asymmetric”  - state 2 to read “moderately asymmetric” |
| Char. 18 | to check whether really QL |
| Char. 22 | to check wording of states of expression (see Ad. 22) |
| Char. 24 | to be indicated as QL |
| Char. 25 | to check wording |
| Char. 26 | - to check whether to read “Bur: shape” or whether to split in two characteristic  - to check wording of states of expression in TGP/14 |
| Char. 27 | to check whether “spines” is the appropriate term (Could it be hair?; see TGP/14) |
| Char. 29 | - to check whether 9 notes are appropriate  - state 3 to read “weak” |
| Chars. 30, 31 | - to combine with char. 31 and have states absent or very weak (1), weak (2), medium (3), strong (2)  - to check whether to have 5 or 9 notes  - to delete MS |
| Char. 32 | - state 2 to read “broad ovate”  - to revise order of states according to TGP/14 |
| Char. 33 | to clarify “extend of pubescence” |
| Char. 34 | to read “Nut: area of hilum” |
| Char. 35 | to clarify difference between “curved” and “wavy” and check terms (TGP/14) |
| Char. 36 | to check whether to be indicated as QN (add state 3 “strongly conspicuous” or QL (state 2 to read “inconspicuous” |
| Char. 37 | - to check whether to be indicated QN (add state 3 “strong” or QL (to have states 1 “absent”, 9 “present” |
| Char. 39 | to check method of observation |
| Char. 40 | to check “fresh fruit” versus (g) |
| Char. 42 | to check whether really QL |
| New chars. | - to check whether to add new characteristic “Plant: number of male inflorescences” with states “few”, “medium”, ”many”  - to check whether to add characteristic on female flowers  - to check whether to add new characteristic on sugar content/sweetness |
| 8.1 | to have labels (a) to (f) instead of (b) to (g) |
| 8.1 (b) | to read “Plant: Observations…” |
| 8.1 (c) | to read “…on middle third shoots” |
| 8.1 (d) | to clarify “bearing shoots” |
| 8.1 (g) | to read “Nut: Observations on the nut should be made on nuts mature for consumption. In case of burs containing three nuts, the middle one should be disregarded.” |
| Ad. 1 | to correct spelling to “abundance” and “vegetative” |
| Ad. 8 | - to be improved  - to become Ad. 10 |
| Ad. 13 | to be improved |
| Ad. 15 | to provide ratio illustration for this char. only and move current illustration applying to several chars. to 8.1 |
| Ad. 16 | to add sentence “Observations should be made on current season’s shoots held upright.” |
| Ad. 28 | to be improved |
| Ads. 29, 30, 31 | to be moved to 8.1 |
| Ad. 32 | - to use standard grid according to TGP/14  - states to correspond to Char. 32 |
| Ad. 34 | to only have one illustration indicating the hilum without states/proportions |
| Ad. 40 | to check whether to improve |
| Ads. 44, 45, 46 | to check whether to be improved |
| 9. | to be completed |
| TQ 5, TQ 6 | to be completed |

### \*Coconut (Cocos nucifera L.)

The subgroup discussed document TG/COCOS(proj.4), presented by Ms. Vera Machado (Brazil), and agreed the following:

|  |  |
| --- | --- |
| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| 1. | second paragraph to be deleted |
| 4.2.3 | to be deleted |
| 5.3 | - to delete (c) (characteristic 8)  - (e) to read “Fruit: shape” |
| 6.5 | to delete last sentence “The petiole…” or to move to correct place in TG |
| T.o.C. | to delete example varieties “BRS 001”, “BRS 002” and “BRS 003” |
| Char. 2 | to read “Young plant:…”  to delete “A” |
| Char. 6 | to read “Stem: width of bole” |
| Char. 7 | to add (\*) (the char. is used for grouping)  to have states from “short” to “tall” |
| Char. 12 | to remove capital letter in state “Yellow” |
| Char. 19 | to have states from “narrow” to “broad” |
| Char. 20 | to have states from “short” to “long” |
| Chars. 21, 22 | to delete VG |
| Char. 26 | - to be moved after Char. 27  - to correct spelling “elliptic”  - to read “Fruit: shape” |
| Char. 28 | to correct spelling “elliptic” |
| 8.1 (a) | to read “(a) Tree, stem, petiole, leaf and leaflet: Observations should be made when the eleventh leaf scar appears (see photo of a plant with leaf scars). Observations on petiole, leaf and leaflet should be made on a mature leaf. Observations on leaflets should be made on 2 opposite leaflets in the middle of the rachis.” |
| Ad. 1 | - to delete photograph  - to read “Should be observed 6 months after germination.” |
| Ad. 2 | to delete text and keep photograph only |
| Ad. 6 | to read “The width of the bole should be assessed at its widest part.” |
| Ad. 9 | to replace photograph with illustration |
| Ad. 10 | - to replace photograph with illustration  - to read “The petiole thickness should be observed at the insertion of the first leaflet.” |
| Ad. 11 | - to read “The petiole width should…”  - to replace photograph with illustration |
| Ad. 13 | - to read “The length of the rachis should be assessed from the most proximal leaflet to the tip of the rachis.”  - to delete second illustration (right side) |
| Ad. 15 | to read “The length of a leaflet should be assessed in the middle part of the rachis.” |
| Ad. 16 | to add “The width of leaflet should be observed at the widest point of a leaflet in the middle of the rachis” |
| Ad. 18, 19 | - to check whether to be combined  - to check whether to replace illustrations |
| Ad. 22 | - to indicate only female flowers (remove arrows indicating spikelets)  - to delete second photograph |
| Ad. 23 | to read “The length of first spikelet with female flowers should be assessed on the first spikelet with female flowers from the base of the inflorescence.” |
| Ad. 26 | to improve grid |
| Ad. 28 | to improve grid |
| Ad. 29 | - to delete the table  - to keep only indication of shell in the photograph |
| TQ 4.1 | to select appropriate standard wording |
| TQ 5 | to add even notes to all characteristics |
| TQ 6 | to add example “Fruit: color” with states “green” and “yellow” |

### Macadamia (Revision)

The subgroup discussed document TG/111/4(proj.1), presented by Mr. Nik Hulse (Australia), and agreed the following:

|  |  |
| --- | --- |
| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| 2.2 | to read “The material is to be supplied in the form of grafted plants on a rootstock specified by the authority.” |
| 2.3 | to replace “12 plants” with “10 plants” |
| 3.1.2 | to replace “fruit bodies” with “plants” |
| Table of Chars. | - to check whether to add more (\*)  - to add more example varieties  - to revise order of characteristics |
| Char. 1 | to have states upright (1), semi upright (2), spreading (3) and drooping (4)  - to add illustration (see TGP/14) |
| Char. 2 | - to delete MS  - to check example varieties for state 1  - state 3 to read “tall” |
| Char. 3 | to be deleted |
| Char. 4 | - to add explanation on when to observe  - to check whether to be deleted |
| Char. 5 | - to read “Stem: texture of surface”  - to check wording of states of expression (to have states smooth (1), medium (2), rough (3)?) |
| Char. 6 | to have states absent (1) and present (9) |
| Char. 7 | - to delete part in brackets  - to check whether 9 notes are necessary  - to have the following example varieties:  state short (1): KMB-3, MRG-20, MRG-25  state medium (2): EMB-1  state long (3): KRG-15 |
| Char. 10 | to add illustration (grid) |
| Char. 11 | - to read “Leaf blade: shape of apex”  - to have states apiculate (1), acuminate (2), acute (3), obtuse (4) |
| Char. 12 | to check whether to read “obtuse” |
| Char. 13 | - to add state 1 “very weak” and check example varieties  - to check whether to have 9 notes |
| Char. 14 | - to read “Leaf blade: incisions of margin”  - to add illustration |
| Char. 15 | - to read “Leaf blade margin: number of spines on margin”  - to add explanation |
| Char. 16 | to be deleted |
| Char. 17 | - to move before leaf blade characteristics  - to add explanation |
| Char. 18 | - to read “Leaf blade: …”  - to have notes 1, 2, 3 |
| Char. 22 | - to check whether really QL  - to add explanation |
| Char. 23 | - to delete MS  - to have notes 1, 2, 3  - to add example varieties  - to check whether to reword characteristic |
| Char. 24 | to add illustration |
| Char. 26 | to check whether a fruit or nut characteristic |
| Char. 28 | - to delete MS  - to add example varieties |
| Char. 30 | - to delete “predominant”  - check states and type of expression |
| Char. 32 | - to add explanation  - to delete MS |
| Char. 33 | to add explanation where to be observed |
| Char. 34 | - to add state partially open (2)  - to be indicated as QN |
| Chars. 35, 36 | to add explanation/illustration |
| 8. | to add explanation covering several characteristics on which leaves observations should be made |
| Ad. 30 | - to read “Observations should be made …”  - to clarify “mature tree” |
| Ad. 31 | - to read “Observations should be made …” |
| 9. | to be completed |
| TQ 5 | to be completed |
| TQ 6 | to be completed |

### Pear, Japanese Pear

The subgroup discussed document TG/PYRUS(proj.1), presented by Mr. Chris Barnaby (New Zealand), and agreed the following:

|  |  |
| --- | --- |
| General | - Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected  - to delete *Pyrus communis* L., *Pyrus pyrifolia* (Burm. f.) Nakai, *Pyrus pyrifolia* (Burm. f.) Nakai var. *culta* (Mak.) Nakai from the Test Guidelines  - main common name of Test Guidelines to read “Pear Hybrids”  - to check whether to reduce number of characteristics |
| Table of Chars. | to add example varieties |
| Char. 2 | to be deleted |
| Char. 6 | reorder states of expression according to TGP/14 |
| Char. 10 | to check whether to be combined with Char. 11 |
| Char. 12 | - to add illustration |
| Char. 13 | to read “One-year-old shoot: number of spurs” |
| Char. 15 | - to add explanation on where to propose  - to be moved before Characteristic 14 |
| Char. 19 | - to add illustration  - to have states from “low” to “high” |
| Char. 20 | illustrations to be presented in the grid |
| Char. 24 | to check wording of states 3 and 4 (see TGP/14) |
| Char. 28 | to be deleted |
| Char. 29 | - to check method of observation  - to add illustration |
| Char. 30 | - to check whether really QL  - to clarify “long shoots”  - to check whether the characteristic is determined by the age of the tree |
| Char. 33 | - to check method of observation  - to check whether to have states “few”, “medium”, “many” |
| Char. 34 | to add illustration |
| Char. 36 | to add illustration |
| Char. 38 | to be indicated as QN |
| Char. 40 | to be indicated as QN |
| Char. 41 | to add grid with illustrations |
| Char. 42 | to add illustrations |
| Char. 48 | - to check method of observation  - to add explanation  - to have states of expression from “very low” to “very high” |
| Char. 50 | to clarify “maximum” |
| Char. 53 | to add explanation on ground color (see TGP/14) |
| Char. 54 | to add explanation on over color (see TGP/14) |
| New char. | to check whether to add a new characteristic describing pattern of over color |
| Char. 58 | to be indicated as QN |
| Char. 61 | to be indicated as QN |
| Char. 62 | to add illustration |
| Char. 63 | to explain how to assess |
| Char. 65, 66, 70, 71 | to have notes 1, 3, 5 |
| Char. 73 | to explain how to assess |
| Char. 74 | to add explanation |
| Char. 75 | to add explanation |
| Char. 76 | to add explanation |
| Char. 77 | - to add explanation  - to check whether to add VG |
| Char. 78 | - to have notes 1 to 5  - to have states from “very low” to “very high” |
| Char. 79 | to check whether to reduce scale |
| Char. 80 | - to check whether really QL  - to check whether to be deleted |
| Chars. 81, 82, 83 | to be indicated as MG/VG |
| Char. 83 | to add explanation |
| 8.1 | to check whether to add explanations on where to observe flower and fruit characteristics |
| Ad. 28 | to clarify where to observe |
| Ads. 65, 66, 70, 71, 78 | to be moved to 8.1 |
| Ad. 67 | to review wording (approximately, almost) |
| Ad. 68 | to explain where to observe |
| TQ 5 | to complete scale for Chars. 45, 54,82, 83 |
| TQ 6 | to be completed |

### Walnut (Juglans regia L.) (Revision)

The subgroup discussed document TG/125/7(proj.3), presented by Ms. Dong Pei and Mr. Qing‑guo Ma (China), and agreed the following:

|  |  |
| --- | --- |
| General | Leading Expert to confirm that all IP rights on photos, illustrations and text have been respected |
| Char. 2 | to add illustration |
| Char. 3 | - to delete “predominantly” from all states of expression  - to be indicated as PQ  - to add illustrations |
| Char. 4 | - to replace state of expression “elliptic” with “narrow elliptic”,  - to add states “medium elliptic” and “broad elliptic” |
| Char. 5 | to be deleted |
| Char. 6 | - to read: “Plant: second flowering”  - to have states of expression absent (1) and present (9)  - to add (\*) and add characteristic to TQ 5  - to add explanation |
| Char. 7 | - to be indicated as MG  - to read “Female flower: …”  - state 5 to read “more than 20” |
| Char. 16 | to check whether to have notes 1 to 5 |
| Char. 18 | to be indicated as VG |
| Char. 21 | state 3 to read “medium brown” |
| Char. 22 | to be indicated as MG/VG |
| Char. 23 | - to read “Nut: thickness of dividing membranes”  - to add explanation that “primary and secondary dividing membranes should be observed” |
| Char. 26 | - to delete (e)  - to be indicated as MG |
| Char. 27 | - to delete (e)  - to read “Kernel: ease of removal from shell” |
| Char. 28 | - to be indicated MG/VG  - to be moved after Char. 24 |
| Char. 29 | to be indicated as MG |
| Char. 30 | to be deleted |
| Char. 31 | to be indicated as MG |
| Char. 32 | - to read “Time of…”  - to be indicated as MG |
| Char. 33 | to be indicated as MG |
| 8.1 (b) | to replace “developmental branches” with “vegetative branches” |
| 8.1 (c) | to read “Observations on leaflets should be made on leaves…” |
| 8.1 (d) | to read “…during full-blossom…” (delete “its”) |
| Ad. 4 | add a grid (to clarify difference in ration between “lanceolate” and “ovate”) |
| Ad. 5 | to be deleted |
| Ad. 10, 11, 12 | to be presented in grid |
| Ad. 27 | second sentence to read “Assess the ease of…” |
| 9. | - to delete reference “GB/T…”  - to revise literature according to TGP/7 |
| TQ. 5 | to complete even states for all characteristics |

Guidance for drafters of Test Guidelines

The TWF considered document TWF/46/11.

The TWF agreed with the plan to update the TG drafters’ webpage to provide the information as set out in paragraph 11 of document TWF/46/11:

Web-based TG Template

Additional characteristics

Summary information on quantity of plant material required on adopted Test Guidelines

Test Guidelines under development (reference to document TC/[xx]/2)

Shapes extract from document TGP/14

## Definition of “recurved”

The TWF considered document TWF/46/28.

The TWF noted the current extent of use of the term “recurved” in UPOV documents and agreed that further clarification and botanical references would be needed for possibly replacing the term “recurved”. The TWF agreed to request the drafter from Israel to continue drafting the document to be presented for the TWF at its next session.

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

### Test Guidelines for Pecan Nut (document TG/PECAN(proj.12))

The TWF considered document TWF/46/24 and agreed with the new illustrations proposed by the Leading Expert.

## Information and databases

### (a) UPOV information databases

The TWF considered document TWF/46/5.

#### GENIE database

The TWF noted the information on allocation of crop type(s) for UPOV codes used in the PLUTO database as of June 26, 2014.

The TWF noted that information on crop type(s) had been introduced in the GENIE database and the GENIE database had been modified to show the crop type(s) for each UPOV Code.

The TWF noted that a standard report for TWP allocations for UPOV codes had been introduced on the GENIE webpage.

The TWF noted that allocation of crop type(s) for further UPOV codes would occur when UPOV codes are used in the PLUTO database for the first time.

The TWF agreed to check the UPOV codes used in the PLUTO database for the first time, since June 26, 2014, which are provided in Annex III, part C to document TWF/46/5 (available on the TWF/46 website) and to submit comments to the Office of the Union by September 30, 2015.

The TWF noted a comment by an expert from New Zealand that the genus *Neotyphodium* had been revised and renamed *Epichole.*

#### UPOV code system

The TWF agreed to check the amendments to UPOV codes, which are provided in Annex III part A, to document TWF/46/5.

The TWF agreed to check the new UPOV codes or new information added for existing UPOV codes, which are provided in Annex III, part B, to document TWF/46/5.

The TWF agreed to submit comments on Annex III, parts A “UPOV codes amendments to be checked” and B “New UPOV codes or new information”, to the Office of the Union by September 30, 2015.

#### PLUTO database

The TWF noted the summary of contributions to the PLUTO database from 2012 to 2014 and the current situation of members of the Union on data contribution, as presented in Annex II to document TWF/46/5.

The TWF noted that an additional column in the PLUTO search screen, showing the date on which the information was provided, had been introduced.

The TWF noted that both the “Denomination” and “Breeder’s Ref” fields had been made searchable, independently or in combination, by denomination search tools on the “Denomination Search” page of the PLUTO database.

The TWF noted the information concerning the training course “Contributing data to the PLUTO database”, held in Geneva in December 2014 and the plans to organize three further courses, in English, French and Spanish, from September 7 to 9, 2015, from November 23 to 25, 2015, and from October 5 to 7, 2015, respectively (dates to be confirmed).

### (b) Variety description databases

The TWF considered document TWF/46/6.

The TWF noted that the TWC had invited an expert from China to present the analysis of variance for the interaction “variety x location” (environment) of the QN characteristics considered in the study using the statistical module of the new software “DUSTC” developed by China for presentation at its thirty-third session.

The TWF noted that the TC had agreed to include a discussion item on facilitating the development of databases at its fifty-second session.

The TWF noted the experiences of members on management and use of databases and agreed that databases for fruit crops containing morphological and/or molecular data could be useful for grouping varieties and organizing the growing trials and for the analysis of distinctness. The TWF noted the variation due to different locations on the expression of characteristics and agreed that this variation should be taken into consideration when using variety descriptions.

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

The TWF considered document TWF/46/7.

The TWF noted that the Council, at its forty-eighth ordinary session, had adopted the revision of document UPOV/INF/16 “Exchangeable Software” (document UPOV/INF/16/4 on the basis of document UPOV/INF/16/4 Draft 1).

The TWF noted that discussions on the inclusion of the SISNAVA software in document UPOV/INF/16 would be continued in the TWC, subject to the conclusion on discussions on the variation of variety descriptions over years in different locations.

The TWF noted that the TC, at its fifty-first session, and the CAJ, at its seventy-first session, had agreed the proposed revision of document UPOV/INF/16/4 concerning the inclusion of information on the use of software by members of the Union in conjunction with the comments of the TC, as set out in Annex I to document TWF/46/7 and a draft of document UPOV/INF/16/5 “Exchangeable Software” would be presented for adoption by the Council at its forty-ninth ordinary session.

The TWF noted that the Council, at its forty-eighth ordinary session, had adopted document UPOV/INF/22 “Software and equipment used by members of the Union” (document UPOV/INF/22/1).

The TWV noted that the TC, at its fifty-first session, and the CAJ, at its seventy-first session, had agreed the proposed revision of document UPOV/INF/22/1 concerning software and equipment used by members of the Union in conjunction with the comments of the TC, as set out in Annex II to document TWF/46/7, and a draft of document UPOV/INF/22 would be presented for adoption by the Council at its forty‑ninth ordinary session.

### (d) Electronic application systems

The TWF considered document TWF/46/8.

The TWF 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 TWF agreed that the following draft Test Guidelines should be submitted to the TC for adoption at its fifty-second session, to be held in Geneva from March 14 to 16, 2016, on the basis of the following documents and the comments in this report:

|  |  |
| --- | --- |
| Subject | Relevant document(s) |
| Avocado rootstock (*Persea* Mill.) | TG/PERSE(proj.2) |
| \*Coconut (*Cocos* *nucifera* L.) | TG/COCOS(proj.4) |

### (b) Test Guidelines to be discussed at the forty‑seventh session

The TWF agreed to discuss the following draft Test Guidelines at its forty‑seventh session:

|  |
| --- |
| Apricot (*Prunus armeniaca* L.) (Revision) |
| Argania (*Argania spinosa* (L.) Skeels) |
| Blueberry (*Vaccinium angustifolium* Aiton; *V. corymbosum* L.; *V. formosum* Andrews; *V. myrtilloides* Michx.; *V. myrtillus* L.; *V. virgatum* Aiton; *V. simulatum* Small) (Revision) |
| Black Walnut (*Juglans nigra* L.) |
| Chestnut (*Castanea sativa* Mill.) (Revision) |
| Date palm (*Phoenix dactylifera*) |
| Macadamia *(Macadamia integrifolia* Maiden et Betche, *Macadamia tetraphylla* L.A.S. Johnson) (Revision) |
| Papaya (*Carica papaya* L.) (Revision) |
| Pear Hybrids (*P. xbretschneideri* Rehder; *P. xlecontei* Rehde; *P. ussuriensis* Maxim.) |
| Pistachio (*Pistacia* L.) |
| Physic Nut (*Jatropha curcas* L.) |
| Walnut (*Juglans regia* L.) (Revision) |

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

### (c) Possible Test Guidelines to be discussed in 2017

The TWF expressed its interest to consider drafts for revision of the Test Guidelines for Sweet Cherry and Sour Cherry (documents TG/35/7 and TG/230/1, respectively) in 2017.

## Date and place of the next session

At the invitation of the European Union, the TWF agreed to hold its forty-seventh session in Angers, France, from November 14 to 18, 2016, with the preparatory workshop on November 13, 2016.

## Future program

The TWF proposed 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 (documents to be prepared by the Office of the Union)

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

(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)

8. Uniformity assessment (document to be prepared by the Office of the Union)

9. Experiences with new types and species (oral reports invited)

10. Management of variety collections (oral reports invited)

11. Duration of DUS tests in the fruit sector (document to be prepared by the European Union)

12. Calibration book for harmonized variety description in apple (document to be prepared by the European Union)

13. Matters concerning variety descriptions (document to be prepared by the Office of the Union and documents invited)

14. Proposal for revision of the term “recurved” (document to be prepared by Israel)

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

16. Proposals for partial revision/corrections of Test Guidelines

17. Discussion on draft Test Guidelines (Subgroups)

18. Recommendations on draft Test Guidelines

19. Guidance for drafters of Test Guidelines

20. DUS examination of mutant varieties of apple (document to be prepared by the European Union)

21. Minimum distance between varieties (document to be prepared by the European Union)

22. Method of observation for derived characteristics (document to be prepared by New Zealand and documents invited)

23. Date and place of the next session

24. Future program

25. Adoption of the Report of the session (if time permits)

26. Closing of the session

## Visit

On the afternoon of August 26, 2015, the TWF visited the Agricultural Research Council for Tropical and Subtropical Crops (ARC-ITSC) in Mbombela, Mpumalanga Province, where it was welcomed by Mr Mduduzi Ngcobo, Research Team Manager, Horticulture and Postharvest Division, ARC‑ITSC, who provided an overview of the ARC-ITSC. The TWF also received a presentation on avocado breeding and production by Mr. Theo Bekker, Technical Manager, Westfalia Technological Services; and a presentation on Marula by Mr. Dudley McKnight, General Manager, Mirma Products. Copies of these presentations are provided in Annex V to this report. The TWF also visited the variety collections and breeding programs of passion fruit, litchi, avocado and macadamia of the ARC-ITSC.

*The TWF adopted this report at the close of the session.*

[Annexes follow]

TWF/46/29 Rev.

ANNEXES I to V

[Annexes I to V only available in the pdf version of the document]

[Annex VI follows]

TWF/46/29 Rev.

ANNEX VI

LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED  
TO THE TECHNICAL COMMITTEE IN 2016**

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

**by October 9, 2015**

| Species | Basic Document(s) | Leading expert(s) | Interested experts (States/Organizations)[[1]](#footnote-2) |
| --- | --- | --- | --- |
| Avocado rootstock (*Persea* Mill.) | TG/PERSE(proj.2) | Mr. Alejandro Barrientos‑Priego (MX) | AU, BR, IL, NZ, QZ, ZA, Office |
| \*Coconut (*Cocos nucifera* L.) | TG/COCOS(proj.4) | Mrs. Machado (BR) | CN, ID, MX, MY, OM, PH, TH, VN, Office |

**DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWF/47**

(\* indicates possible final draft Test Guidelines)

**(Guideline date for Subgroup draft to be circulated by Leading Expert: August 5, 2016**

**Guideline date for comments to Leading Expert by Subgroup: September 2, 2016)**

New draft to be submitted to the Office of the Union

**before September 30, 2016**

| Species | Basic Document(s) | Leading expert(s) | Interested experts (States/Organizations) [[2]](#footnote-3) |
| --- | --- | --- | --- |
| Apricot (*Prunus armeniaca* L.) (Revision) | TG/70/4 Rev., TWF/46/23 | Mr. Venter (ZA) | CN, ES, FR, HU, IL, JP, KR, MA, NZ, RO, QZ, Office |
| Argania (*Argania spinosa* (L.) Skeels) | New | Ms. Ibtihaj Belmehdi (MA) | IL, Office |
| Blueberry (*Vaccinium angustifolium* Aiton; *V. corymbosum* L.; *V. formosum* Andrews; *V. myrtilloides* Michx.; *V. myrtillus* L.; *V. virgatum* Aiton; *V. simulatum* Small) (Revision) | TG/137/5(proj.1) | Mr. Nik Hulse (AU) | BR, CA, JP, NZ, PL, PT, QZ, RO, ZA, Office |
| Chestnut (*Castanea sativa* Mill.) (Revision) | TG/124/4(proj.2) | Mr. Takeshi Esaki (JP) | CN, ES, FR, HU, KR, NZ, QZ, ZA, Office |
| Black Walnut (*Juglans nigra* L.) | TG/JUGLA(proj.2) | Ms. Victoria Colombo (ES) | CN, KR, QZ, ZA, Office |
| Date Palm (*Phoenix dactylifera* ) | New | Mr. Rashid Al-Yahyai (OM) | AU, BR, IL, MA, MX, TN, Office |
| Macadamia *(Macadamia integrifolia* Maiden et Betche, *Macadamia tetraphylla* L.A.S. Johnson) (Revision) | TG/111/4(proj.1) | Mr. Nik Hulse (AU) | BR, KE, MX, ZA, Office |
| Papaya (*Carica papaya* L.) (Revision) | TG/264/2(proj.7) | Mr. Alejandro Barrientos‑Priego (MX) | BR, CN, IL, JP, KE, MY, OM, PH, QZ, TH, VN, ZA, CIOPORA, Office |
| Pear Hybrids (*P. xbretschneideri* Rehder; *P. xlecontei* Rehde; *P. ussuriensis* Maxim.) | TG/PYRUS(proj.1) | Mr. Chris Barnaby (NZ) | AU, BR, CN, DE, ES, FR, HU, JP, MA, QZ, RO, ZA, Office |
| Pistachio (*Pistacia* L.) | New | Ms. Urszula Braun-Mlodecka (QZ) | IT, MX, ZA, Office |
| Physic Nut (*Jatropha curcas* L.) | New | Mr. Alejandro Barrientos‑Priego (MX) | BR, IL, QZ, Office |
| \*Walnut (*Juglans regia* L.) (Revision) | TG/125/7(proj.3) | Ms. Dong Pei (CN) | ES, FR, HU, JP, KR, QZ, ZA, Office |

[End of Annex VI and of report]

1. for name of experts, see List of Participants [↑](#footnote-ref-2)
2. for name of experts, see List of Participants [↑](#footnote-ref-3)