UPOV

International Union for the Protection of New Varieties of Plants

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Technical Committee **TC/53/3**

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MATTERS ARISING FROM THE TECHNICAL WORKING PARTIES

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EXECUTIVE SUMMARY

1. This document summarizes matters arising from the 2016 sessions of the Technical Working Parties (TWPs) which are not expressly covered by specific agenda items. Matters arising are presented in two sections. The first section, "Matters for information and for a possible decision to be taken by the Technical Committee (TC)", identifies matters raised by the TWPs, which may require a decision to be taken by the TC. The Office of the Union (Office) has highlighted aspects where the TC may wish to take a decision by introducing a proposed decision paragraph. The second section, "Matters for information", is provided for the information of the TC but does not require decisions at this stage.

2. The TC is invited to:

(a) consider whether to investigate possible options to address the difficulty that PVP Offices sometimes have in obtaining plant material from breeders, especially when a variety is no longer in commercialization; and

(b) note developments in the TWPs concerning:

(i) Minimizing variation between observers;
(ii) Experience with new types and species;
(iii) Experience with the RHS Colour Chart and possible future addition of colors;
(iv) Vegetatively propagated varieties in a normally seed propagated species;
(v) Seed priming;
(vi) Use of disease and insect resistance characteristics in DUS examination;
(vii) Impact of endophytes on DUS characteristics in grasses;
(viii) Calibration book for harmonized variety description in apple;
(ix) DUS examination of mutant varieties of apple;
(x) Minimum distance between varieties; and
(xi) Method of observation for derived characteristics.

3. The following abbreviations are used in this document:

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

4. The structure of this document is as follows:

MATTERS FOR INFORMATION AND FOR A POSSIBLE DECISION TO BE TAKEN BY THE TECHNICAL COMMITTEE (TC)

Management of variety collections

5. The TWF, at its forty-seventh session, held in Angers, France, received a presentation from France on “DUS Reference Collection: French approach”. It noted the difficulty that PVP Offices sometimes had to obtain plant material from breeders, especially when a variety was no longer in commercialization (see document TWF/47/25 “Report”, paragraphs 45 and 46).

6. The TWF agreed to report this difficulty to obtain plant material from breeders to the TC, at its fifty-third session, during the discussion on management of variety collections, in order for the TC to consider whether to investigate possible options to address this issue.

7. The TC is invited to consider whether to investigate possible options to address the difficulty that PVP Offices sometimes have in obtaining plant material from breeders, especially when a variety is no longer in commercialization.

MATTERS FOR INFORMATION

Minimizing variation between observers

8. The TWC, at its thirty-fourth session, held in Shanghai, China, received a presentation by an expert from Finland on “Minimizing variation between observers – practical example from Finland”, a copy of which is reproduced in the Annex to document TWC/34/19.

9. The TWC noted the steps taken in Finland for minimizing variation between observers when more than one observer was used for the assessment of MS/VS characteristics in turnip rape, such as Leaf: undulation of margin, Leaf: dentation of margin; and Leaf: number of lobes. The TWC noted that Finland conducted training with the observers prior to beginning of work and calibration exercises in different occasions during the same day of data collection on the field.

Experience with new types and species

Technical Working Party on Automation and Computer Programs

10. The TWC noted the experience of Argentina with DUS examination of new varieties of the following genera and species: *Lippia integrifolia* (Gris.) Hieron, *Glandularia aristigera* (S. Moore) Tronc., *Macroptilum* spp., *Camelina sativa* L. Crantz, *Chenopodium quinoa* Willd. and *Nierembergia linariaefolia* (see document TWC/34/32 "Report", paragraph 121).

Technical Working Party for Ornamental Plants and Forest Trees

11. An expert from Japan reported on applications for plant variety protection of new varieties of *Lysimachia clethroides* and *L. barystachys* and *Stemona japonica* (see document TWO/49/25 "Report", paragraph 74).

Experience with the RHS Colour Chart and possible future addition of colors

12. The TWO received an oral report by the expert from the United Kingdom on the process to organize the compilation of examples of varieties without a matching color in the Sixth Edition of the RHS Colour Chart (gaps). The examples compiled would be submitted to the RHS with a view to propose new colors and possible harmonization on terminology for the Seventy Edition of the RHS Colour Chart. The TWO agreed to request the expert from the United Kingdom to report on developments to the TWO at its fiftieth session (see document TWO/49/25 "Report", paragraph 63).

Vegetatively propagated varieties in a normally seed-propagated species

13. The TWV, at its fiftieth session, held in Brno, Czech Republic, received a presentation by an expert from the Netherlands, on "Vegetatively propagated varieties in a normally seed-propagated species" a copy of which is provided in document TWV/50/23 Add. Rev.. The TWV noted that no other members of TWV had experience on this matter and that it required more cost and labor (see document TWV/50/25 "Report", paragraph 57).

Seed priming

14. The TWV received a presentation by an expert from the European Union on "Seed priming", as reproduced in document TWV/50/23 Add. Rev. and noted that the trial has demonstrated no influence of seed priming on the expression of morphological or resistance characteristics. The TWV noted that, on the basis of these results, CPVO Examination Offices now had the possibility to accept primed seeds for tomato rootstocks and eggplant DUS examination. The TWV noted that in relation to storage of reference material it would be necessary to note that it needs special attention. It was also agreed that seed priming was not a universal formula and was kept confidential by seed companies; therefore it was difficult to foresee if the results from this trial could be extrapolated to all primed seeds. The TWV agreed that the information on whether seeds had been primed should be indicated when submitting the seeds, in order to pay special attention to any variation which could occur in the examination (e.g. earliness, height of plants…)[1] (see document TWV/50/25 "Report", paragraph 58).

Use of disease and insect resistance characteristics in DUS examination

15. The TWV considered documents TWV/50/21 and TWV/50/21 Add. Rev. (see document TWV/50/25 "Report", paragraphs 61 to 67)

16. The TWV noted that the use of a characteristic for DUS purposes did not mean that it would need to become a breeding aim, and vice-versa. The use of a disease or insect resistance characteristic for DUS purposes did not require breeders to select for that characteristic in their breeding programs, but would

[1] Office of the Union note: See document TGP/7 "Development of Test Guidelines", Annex 1: TG Template, model Technical Questionnaire, Section 9 "Information on plant material to be examined or submitted for examination"

require them to ensure varieties were uniform and stable for the characteristic, in the same way as for other DUS characteristics.

17. The TWV noted the approach by the European Union for their Test protocols, and considered the proposal with regard to the idea of phasing-in asterisked characteristics (which lead to obligatory testing in CPVO Protocols over a period of time) in UPOV Test Guidelines, as presented in document TWV/50/21. The TWV agreed that more time was needed for members of the Union to consider if such an approach would be appropriate.

18. The TWV welcomed the information provided on “MatRef: a national network managing seeds and strains for disease resistance tests”, by the expert from France, and “Harmonization of resistance tests to diseases for DUS testing: Harmores 2”, by the expert from the Community Plant Variety Office of the European Union (CPVO), as reproduced in document TWV/50/21 Add. Rev.. It agreed that it would be useful to have an update on those projects at its fifty-first session and also to present information to the Technical Committee (TC), at its fifty-third session, under the discussion item “Use of disease and insect resistance characteristics in DUS examination”.

19. The TWV noted that the approach presented in document TWV/50/21 Add. Rev. was based on the use of molecular data obtained by the DUS examination office to verify information on disease resistance provided by the applicant in the Technical Questionnaire. If the molecular data was consistent with the information provided by the applicant, the DUS examination would be based on the molecular data but if there was a discrepancy, or the applicants did not test, a bioassay would be used for the DUS examination. The TWV considered that it might be necessary to request confirmation from the applicant that the information provided on disease resistance was based on a bioassay and, if that was not the case, a bioassay would need to be used for the DUS examination. Such an approach could then be proposed for inclusion in the UPOV Test Guidelines.

20. The TWV noted that the above approach was consistent with the model “Characteristic-Specific Molecular Markers”, as set out in TGP/15 “Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”. It further noted that the above approach verified the reliability of the link between the molecular marker and the disease resistance characteristic for every candidate variety.

21. The TWV agreed that it would be valuable for the above approach to be presented to the Technical Committee (TC), at its fifty-third session, under the discussion item “Use of disease and insect resistance characteristics in DUS examination”.

Impact of endophytes on DUS characteristics in grasses

22. The TWA, at its forty-fifth session, held in Mexico City, 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 European Union (CPVO), a copy of which is provided in the Annex to document TWA/45/24 (see document TWA/45/25 “Report”, paragraphs 67 to 70).

23. 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 on DUS characteristics due to the possibility of positive interaction between other endophytes and the expression of DUS characteristics.

24. 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.

25. 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.

Calibration book for harmonized variety description in apple

26. The TWF considered document TWF/47/23 and received a presentation by an expert of the European Union (see document TWF/47/25 “Report”, paragraphs 49 to 55).

27. The TWF recognized the use of Test Guidelines as a means of facilitating harmonization among members of UPOV in DUS examination. It further agreed:

- on the importance, during the Test Guidelines discussion, to agree between experts on the clarity of the states of expression and the scale to be used, in order to limit the risk of discrepancies in interpretation by examiners;
- that each 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), and this should be kept under review;
- on the need to revise some adopted Test Guidelines and adjust states and notes accordingly;
- on the importance of example varieties allocated to each state;
- on the importance of the method of observation and its explanation, to clarify for the examiners when and where to measure/observe in order to reduce variation between observers/ observation;
- on the potential influence of the environment on the expression of the characteristic.

28. The TWF recalled the presentation made by an expert from Germany under agenda item "Number of growing cycles in DUS examination" (see document TWF/47/15 Add.) illustrating the variation that may be recorded for characteristics in the Test Guidelines between years for a range of varieties.

29. The TWF noted that the work done by the expert from the European Union, as reproduced in document TWF/47/23, illustrated differences in variety descriptions between authorities for the same variety. It further agreed that this information would be interesting to be considered for each characteristic in any future revision of the Test Guidelines, an in particular in this case for apple.

30. The TWF agreed on the proposal made by the expert from the European Union, to study the discriminating power of characteristics on the basis of a model study developed previously by the TWV for peas (see document TWV/47/25 "Pea Database Study"). This information would be useful to review each characteristic in a possible future revision of the Test Guidelines for Apple. The TWF also noted that some characteristics are less effective than others in examining distinctness taking into account their variation according to the environment. The study would aim to clarify the use of each characteristic in DUS examination and its ability to describe the variety and/or to assess distinctness in an efficient way.

31. The TWF requested the expert from the European Union to coordinate the study. The TWF noted that experts from Australia, Canada, Czech Republic, France, Germany, Hungary, New Zealand and Poland were willing to contribute to this study and provide their data by April 2017.

32. The TWF agreed on the need to exchange more information among PVP Offices and suggested to organize, when relevant, ring tests for DUS experts in order to harmonize the way to assess characteristics. The TWF suggested further discussing the topic of a harmonized way of describing varieties during the technical visit to be organized during the forty-eighth session of the TWF.

DUS examination of mutant varieties of apple

33. The TWF received a presentation on "DUS examination of mutant varieties of apple" by an expert from the European Union. A copy of the presentation is provided in the Annex to document TWF/47/21 (see document TWF/47/25 "Report", paragraphs 67 to 69).

34. The TWF agreed on the importance of exchanging information among PVP Offices about applications received at national level, especially for some apple mutation groups where similar varieties might be submitted in various countries. Such an exchange would help to allow all relevant varieties of common knowledge to be taken into consideration and, if appropriate, included in the growing trial for the examination of distinctness. It further agreed on the importance of exchanging information about rejected varieties, which might be the subject of ongoing procedures in other UPOV members.

35. The TWF agreed with the proposal made by the expert from the European Union to collect information on applications under process and existing varieties for certain apple mutation groups among UPOV members and to report to the next session of the TWF how this data had been/ could be used and what could be the possible next steps and solution.

Minimum distance between varieties

36. The TWF noted the report by an expert from the European Union that it was too early to provide any results on the trial organized in relation to minimum distance between varieties (see document TWF/47/25 “Report”, paragraphs 70 and 71).

37. The TWF requested the expert from the European Union to report on developments at its next session.

Method of observation for derived characteristics

38. The TWF considered document TWF/47/22 and noted the presentation made by the expert from New Zealand (see document TWF/47/25 “Report”, paragraphs 72 and 73).

39. The TWF agreed that the example given was very useful and demonstrated that the method of observation of the components of a derived characteristic could be treated independently from the method of observation of the derived characteristic.

40. The TC is invited to note developments in the TWPs concerning:

(i) Minimizing variation between observers;

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