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ENLARGED EDITORIAL COMMITTEE

Geneva, January 7 and 8, 2015

REVISION OF DOCUMENT TGP/7: PLANT MATERIAL SUBMITTED FOR EXAMINATION

Document prepared by the Office of the Union

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1. The purpose of this document is to report on developments concerning the possibility of providing guidance on plant material submitted for examination, for inclusion in a future revision of document TGP/7.

2. The following abbreviations are used in this document:

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

3. The structure of this document is as follows:

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BACKGROUND

4. The Technical Committee (TC), at its forty-ninth session held in Geneva from March 18 to 20, 2013, noted that information on the influence of the method of vegetative propagation and origin of propagating material, taken from within the plant, on future plant development and characteristic expression and how this might be addressed in Test Guidelines would be presented to the Technical Working Party for Fruit Crops (TWF) and Technical Working Party for Ornamental Plants and Forest Trees (TWO), at their sessions in 2013 by experts from the European Union (see document TC/49/41 "Report on the Conclusions", paragraph 81).

5. In response to the request of the TC, the drafter from the European Union (Mr. Jens Wegner) prepared a draft of guidance on source of propagating material, and agreed this document to be presented at all Technical Working Parties in 2013.

DEVELOPMENTS IN 2013

Technical Working Parties

6. The TWO, TWF, TWV, TWC and TWA considered the proposed guidance on source of propagating material, prepared by an expert from the European Union, as presented in Section IV "Guidance for drafting Test Guidelines" of the Annexes to documents TWO/46/10, TWF/44/10, TWV/47/10, TWC/31/10 and TWA/42/10 (see document TWO/46/29 "Report", paragraphs 22 and 23, document TWF/44/31 "Report", paragraphs 25 to 27, document TWV/47/34 "Report", paragraphs 25 to 27, document TWC/31/32 "Report", paragraphs 23 and 24, and document TWA/42/31 "Report", paragraphs 24 to 26).

7. The TWO agreed that it would not be appropriate to seek to insert additional standard wording on source of propagating material in the Technical Questionnaire, Section 9.2. However, the TWO noted that the document provided useful information on the effects of the source of propagating material and requested the preparation of a condensed version as a source of general guidance for drafters of Test Guidelines, for inclusion in document TGP/7.

8. The TWF noted that the document provided useful information on the effects of the source of propagating material as a source of general guidance for drafters of Test Guidelines, for inclusion in document TGP/7, and requested the expert from the European Union to prepare a condensed version of the wording to be presented to the TWF at its forty-fifth session in 2014.

9. The TWF invited an expert from Spain to make a presentation at the forty-fifth session of the TWF, on practical experience in the use of in vitro propagated material when submitted for DUS testing or certification schemes.

10. The TWV noted that the document provided useful information on the effects of the source of propagating material as a source of general guidance for drafters of Test Guidelines, for inclusion in document TGP/7, and requested the expert from the European Union, with the support of experts from France and Netherlands, to prepare a condensed version of the wording to be presented to the TWV at its forty-eighth session, in 2014.

11. The TWV requested to add examples for vegetatively propagated vegetables.

12. The TWC noted that the document provided useful information on the effects of the source of propagating material, and agreed with the request for the preparation of a condensed version as a source of general guidance for drafters of Test Guidelines, for inclusion in document TGP/7.

13. The TWC requested the drafter to avoid the reference to Wikipedia in order to make sure to refer to a reliable information source.

14. The TWA agreed with the TWO that it would not be appropriate to seek to insert additional standard wording on source of propagating material in the Technical Questionnaire, Section 9.2. The TWA noted that the document provided useful information on the effects of the source of propagating material as general guidance for drafters of Test Guidelines, for inclusion in document TGP/7, and requested the expert from the European Union, with the support of experts from France and the Netherlands, to prepare a condensed version of the wording to be presented to the TWA at its forty-third session in 2014. The TWA noted the effects of source of propagating material on agricultural crops, such as potato, which need to be taken into account for the assessment of DUS.

15. The TWA noted that the issues raised in document TWA/42/10 were different from the intentional use of chemicals (e.g. growth retardants) on all varieties included in the DUS trial. It recalled that the general issues were covered by the following section of document TG/1/3 "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, Chapter 2, Section 2.5.3):

"The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides) effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc. In some cases (e.g. disease

resistance), reaction to certain factors is intentionally used (see TG/1/3 Chapter 4, Section 4.6.1) as a characteristic in the DUS examination. However, where the factor is not intended for DUS examination, it is important that its influence does not distort the DUS examination. Accordingly, depending on the circumstances, the testing authority should ensure either that:

- (a) the varieties under test are all free of such factors or,
- (b) that all varieties included in the DUS test, including varieties of common knowledge, are subject to the same factor and that it has an equal effect on all varieties or,
- (c) in cases where a satisfactory examination could still be undertaken, the affected characteristics are excluded from the DUS examination unless the true expression of the characteristic of the plant genotype can be determined, notwithstanding the presence of the factor.”

The TWA also recalled the guidance provided in document TGP/12 “Guidance on Certain Physiological Characteristics”.

DEVELOPMENTS IN 2014

Technical committee

16. The TC, at its fiftieth session, held in Geneva from April 7 to 9, 2014, considered document TC/50/17: “Revision of document TGP/7: Source of Propagating Material”, including a new condensed version of draft of guidance on source of propagating material, prepared by the expert from the European Union, which is presented in Annex I to this document (see document TC/50/36 “Report on the Conclusions”, paragraph 43)..

16. The TC, at its fiftieth session, encouraged experts to present to the TWPs, at their sessions in 2014, their experiences with regard to plant material submitted for examination, and how they had addressed the problems that could arise, which could be developed into guidance that would reflect good practice. It also agreed that the title of the document should be amended accordingly (see document TC/50/36 “Report on the Conclusions”, paragraph 44).

17. On April 25, 2014, the Office of the Union, issued Circular E14/105 inviting experts to provide their experiences with regard to plant material submitted for examination, and how they had addressed the problems that could arise. Copies of presentations received in response to the Circular were posted on the relevant TWPs website.

Technical Working Parties

17. The TWO, TWF, TWC, TWV and TWA considered documents TWO/47/12, TWF/45/12, TWC/32/12, TWV/48/12, TWA/43/12 “Revision of document TGP/7: Plant Material Submitted for Examination” (see document TWO/47/28 “Report”, paragraphs 32 and 35, document TWF/45/32 “Report”, paragraphs 20 to 23, document TWC/32/28 “Report”, paragraphs 64 and 65, document TWV/48/43 “Report”, paragraphs 21 to 26 and document TWA/43/27 “Report”, paragraphs 18 to 23).

18. The TWO received presentations by the experts from the European Union and the Netherlands on experiences with regard to plant material submitted for examination, and the solutions that had been developed to address problems. It noted that a copy of the presentations would be provided as an addendum to document TWO/47/12 (see document TWO/47/28 “Report”, paragraph 33).

19. The TWO noted that plant material of vegetatively propagated varieties submitted for examination could be adversely affected by factors such as: transportation handling; inappropriate use of chemicals; different methods of micro-propagation; adverse effects of tissue culture, etc., resulting in variability within the material that could present problems for the examination of uniformity. The TWO observed that such problems would normally appear during the establishment phase of the variety and might, as appropriate, require a new submission of material, testing for an additional growing cycle, or rejection of the application. It clarified that such problems, which arose prior to receipt of material by the examining authority, needed to be addressed by the breeder. The TWO agreed that such problems only concerned a small proportion of plant material received for examination (see document TWO/47/28 “Report”, paragraph 34).

20. The TWO agreed that authorities in charge of receiving plant material for examination should provide guidance on the requirements of material submitted such as quality and age (see document TWO/47/28 “Report”, paragraph 35).

21. The TWF considered the examples presented by the experts from the European Union and Germany, on their experiences with regard to plant material submitted for examination, and the solutions that had been developed to address problems. The TWF noted in case of the examination of fruit species, the "cyclophysis" effect, which means the effect of the place where the scion is taken from within the mother plant, due to different degrees of maturity, that may have a specific impact on the expression of a particular characteristic. If for example, graftwood material is taken from older trees of one authority's reference collection, in order to produce young trees for comparing them with the plants of a new candidate variety at same age, the fresh grafting, the scion of which represents generative but not vegetative material, subsequently needs removing their immediately occurring inflorescences. This needs to be done during the establishment period, in order to produce a proper tree, with a central leader and sufficient side shoots attached to it (see document TWF/45/32 "Report", paragraph 21).

22. The TWF noted the actions taken to avoid the influence of the method of propagation on the outcome of the DUS examination in certain crops. It was also noted that, in the case of blueberry and grapevine, plant material resulting from meristematic tissue could not be accepted for examination due to the risk of somaclonal variation (see document TWF/45/32 "Report", paragraph 22).

23. The TWF agreed that authorities in charge of receiving plant material for examination should provide guidance on the requirements of material submitted such as quality and age (see document TWF/45/32 "Report", paragraph 23).

24. The TWC noted that the TWO, TWF, TWV and TWA would consider the presentations of experts, on their experiences with regard to plant material submitted for examination, and the solutions that had been developed to address problems, and would consider how those experiences and solutions could be developed into guidance that reflected good practice (see document TWC/32/28 "Report", paragraph 65).

25. The TWV considered the example presented by the experts from the Netherlands on their experiences with regard to plant material submitted for examination, particularly the case of vegetatively propagated leek, and the solutions that had been developed to address problems as reproduced in the addendum of document TWV/48/12 (document TWV/48/43 "Report", paragraph 22).

26. The TWV noted the report by the expert from the European Seed Association (ESA) on a current project organized by the Community Plant Variety Office of the European Union (CPVO) on the effect of seed priming on the development of plants and if it would influence the phenotype of the plant in TG characteristics. The TWV invited the European Union to make a report on the development of this project at its forty-ninth session of the TWV document TWV/48/43 "Report", paragraph 23).

27. The TWV agreed that measures should be taken to ensure that the method of propagation did not influence the expression and observation of characteristics. It agreed that there was insufficient guidance for vegetable varieties at present, especially when an authority received an application for vegetatively propagated varieties in a seed propagated species. The TWV therefore agreed that further guidance reflecting good practice should be developed document TWV/48/43 "Report", paragraph 24).

28. In relation to propagation of plant material for the maintenance of the variety collection, the TWV noted that, in some cases, the authority requested that the applicant submit new material, whilst in other cases the authority propagated the material itself. It recalled that TGP/11 "Examining Stability" states as follows (see document TWV/48/43 "Report", paragraph 25):

"2.2 Practical aspects to consider for the examination of stability"

"Where considered appropriate, the testing of stability should be conducted by either: (i) testing a new seed or plant stock, or (ii) testing a seed or plant stock obtained from propagation of the initial sample. In the case of (i), the examination authority should request the applicant to provide the sample of plant material to be tested for stability. In the case of (ii) the propagation cycle can be undertaken by the examination authority as long as it can ensure the safety and reliability of the propagation procedure; this should nonetheless be an exceptional situation."

29. The TWV agreed that experts from France, Germany, Italy, Netherlands, United Kingdom, CropLife International, ESA and the International Seed Federation (ISF) would help the expert from the European Union to draft guidance for vegetable varieties that reflects good practice to be included in document TGP/7 as well as in document TGP/4 "Constitution and Maintenance of Variety Collections", as appropriate document TWV/48/43 "Report", paragraph 26).

30. The TWA received a presentation by an expert from France on problems experienced with regard to plant material submitted for examination and how they had addressed those problems as reproduced in the addendum of document TWA/43/12 (see document TWA/43/27 "Report", paragraph 19).

31. The TWA noted that the CPVO was conducting a study in collaboration with some examination offices and ESA to assess the possible effects of endophyte infection in ryegrass and tall fescue on the expression of DUS characteristics (see document TWA/43/27 "Report", paragraph 20).

32. The TWA noted the experience of Australia with plant material of sugar cane submitted for examination and the effect of different methods of propagation (cuttings and tissue culture) in the expression of some DUS characteristics, for example culm: zig-zag and bud: shape. The TWA noted that the problem had been addressed by using comparison varieties propagated by the same method for the assessment of those characteristics (see document TWA/43/27 "Report", paragraph 21).

33. The TWA noted there were many factors that could affect plant material submitted for examination and agreed that documents TG/1/3 "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of new Varieties of Plants" and TGP/9 "Examining Distinctness" provided a good basis for authorities to prevent and address most of the problems (see document TWA/43/27 "Report", paragraph 22).

34. The TWA agreed that there would be no need to develop further guidance on plant material submitted for examination and agreed with the TWO and TWF that authorities in charge of receiving plant material for examination should provide guidance on the requirements of material submitted, for example with regard to quality and age (see document TWA/43/27 "Report", paragraph 23).

35. The TC-EDC is invited to note the information in this document to be presented to the TC and propose any improvements to the document in that regard.

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