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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**TECHNICAL WORKING PARTY ON AUTOMATION AND  
COMPUTER PROGRAMS**

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**EXAMPLE VARIETIES**  
**(REVISION OF DOCUMENT TGP/7)**

*Document prepared by an expert from France*

**BACKGROUND**

1. Document TGP/7/2 Draft 2, considered by the Technical Committee (TC) at its forty-fifth session, held in Geneva from March 30 to April 1, 2009, indicated that experts from France would develop a document, based on GN 28 "Example varieties", for discussion at the TWP sessions in 2009. However, the Technical Working Party for Vegetables (TWV), held from April 20 to 24, 2009, was less than three weeks after the forty-fifth session of the TC, which meant that it was not feasible to prepare a document for consideration by the TWV in 2009. The TWV noted that it would not be able to review any proposed amendments to GN 28 before the TC considered the approval of document TGP/7/2 in 2010. The TWV noted the importance of example varieties in Test Guidelines for vegetable crops and generally supported the text in GN 28. Therefore, to avoid a delay in the adoption of document TGP/7/2, it proposed that document TGP/7/2 should be adopted in 2010 without amendments to GN 28 and that any proposed amendments should be considered in a future revision of document TGP/7, if appropriate. The Technical Working Party for Agricultural Crops (TWA), at its thirty-eighth session, held in Seoul, Republic of Korea, from August 31 to September 4, 2009, agreed with that proposal and also agreed to add an agenda item to

discuss example varieties at its thirty-ninth session (see document TWA/38/17 “Report”, paragraph 36).

2. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) and Technical Working Party for Fruit Crops (TWF), at their sessions in 2009, agreed that experts with suggestions concerning the document to be developed on example varieties should send those to Mr. Joël Guiard (France), or to the Office of the Union, which would forward the suggestions to Mr. Guiard. The expert from New Zealand explained that he would raise the matter of example varieties that were a matter of common knowledge, but did not have a denomination.

3. At its forty-sixth session, held in Geneva from March 22 to 24, 2010, the TC agreed that consideration be given to example varieties in a future revision of TGP/7 (document TGP/7/3) (see document TC/46/15 “Report on the Conclusions”, paragraph 31).

## DISCUSSION

4. UPOV Test Guidelines are essential tools to achieve harmonization of variety descriptions throughout UPOV members and to take good decisions on Distinctness, Uniformity and Stability (“DUS”).

5. Harmonization is based on different elements:

- Test design (plant material, number of plants, lay out ...)
- List of characteristics with states of expression, notes, example varieties ...
- Explanations of how observations should be made
- Decision rules on Distinctness, Uniformity and Stability.

6. Since the first Test Guidelines, example varieties for all or some of the states of expression of each characteristic in a Test Guidelines have been considered as an important element for the harmonization of variety descriptions. An example variety for at least some notes in a scale is essential to define more precisely the state of expression related to the corresponding note and, in principle, offers the possibility to compare descriptions established in different environments.

### Conditions to be fulfilled to have an efficient set of example varieties across UPOV members

7. The conditions can be listed as follows:

- (a) Example varieties must well-known across the member states, freely accessible and with plant material available on request by the examination offices;
- (b) As far as possible, for a given characteristic the set of example varieties must cover the full range of variation known in the species;
- (c) The expression of a given characteristic must not change too much in relation to the environment; and
- (d) Considering a set of example varieties for a characteristic, the rank of each of example variety must not change compared to the others across different environments.

In other words, the interaction between example varieties and the environment must not be significant.

#### Current situation in the Test Guidelines

8. When UPOV comprised only a few member States, only a small number of countries had a specific interest in the new or revised Test Guidelines for a particular crop or species. The preparation of the draft Test Guidelines included a significant amount of time to define the set of example varieties, including exchange of data, comparison of descriptions on a common set of potential example varieties and ring-tests to determine the best varieties with a broad consensus. That was already difficult and was not always achievable.

9. With the expansion of UPOV membership to cover all continents, this kind of approach became increasingly difficult for the following reasons:

(a) The range of variation of a characteristic in a species can be completely different depending on the agro-climatic areas and the breeding programs in the world: frequently only a part of this variability can be grown in certain parts of the world, due to physiological traits. As an example, soybean varieties grown in the Southern hemisphere cover a wide range of earliness and only the earliest ones can be grown in the Northern hemisphere;

(b) The interaction between variety and environment can be very important and leads to very different descriptions of varieties between different locations. As an example, the characteristic “Seasonal type” in wheat observed under cold or warm climates will not produce the same description and the expression of many other characteristics included in the Test Guidelines will be modified. The varieties do not reach a correct development; and

(c) The availability of plant material is increasingly difficult and sometimes impossible to obtain for phytosanitary reasons or due to the variety turnover.

This situation leads to more and more difficulties to determine a common set of example varieties for all characteristics in new or revised Test Guidelines.

10. We can observe that for many UPOV members, specific sets of example varieties are used (see the UPOV Seminar on DUS Testing, held in Geneva, from March 18 to 20, 2010 [http://www.upov.int/en/documents/dus\\_seminar/dus\\_seminar\\_index.html](http://www.upov.int/en/documents/dus_seminar/dus_seminar_index.html)) and in some parts of the world, efforts have been made to develop regional sets of example varieties (Rice in Asian countries (see TG/16, Annex “Example Varieties: North East Asia”), Maize in European countries).

#### PROPOSAL TO IMPROVE THE SITUATION

11. Based on current experience, we observe that generally the sets of example varieties in new or revised Test Guidelines are only partially complete or, when required for asterisk characteristics, only based on proposals made by the Leading Expert. Except for a few characteristics, no systematic efforts are made to check if they are adequate in other UPOV members. Therefore, the question of example varieties might be tackled by another approach.

12. The following points will consider the different steps which must be considered and the solutions which can be adopted:

Firstly: check if example varieties are useful or not for each characteristic.

13. Two elements must be considered to evaluate the necessity to establish a set of example varieties:

(a) The type of expression (QL, QN, PQ) of the characteristic as defined in the General Introduction to the Examination of DUS and Development of harmonized Descriptions of new Varieties of Plants (see document TG/1/3, Chapter 4.4 “Types of Expression of Characteristics”);

(b) The susceptibility of characteristic’s expression to environmental effect.

14. In case of qualitative (QL) characteristics and, to a certain extent Pseudo-qualitative (PQ) characteristics, descriptions can be made without any reference to a set of example varieties even if they are not so difficult to obtain. Illustrations, drawings, international references (e.g. color chart) or explanations are generally sufficient to guide the observer. This solution could avoid the need for a list of example varieties, which are not always available for all interested UPOV members, and would save time when developing Test Guidelines.

15. Chapter 8 of the Test Guidelines (Explanations on the Table of Characteristics”) and document TGP/14 “Glossary of Terms Used in UPOV Documents” are useful tools to develop descriptions for these types of characteristics. The development of digital pictures is also available to provide illustrations of levels of expression without indication of the variety name.

16. Recommendations could be made to the drafters of Test Guidelines (Leading Experts) to use these tools as much as possible, including the possibility to refer to a specific paragraph of document TGP/14.

Secondly: refer to regional sets of example varieties

17. For Quantitative (QN) characteristics and some PQ characteristics, we must admit that it is not possible to develop a universal set of example varieties for a characteristic in the Test Guidelines that is applicable for all UPOV members.

18. It must be emphasized that a variety description for quantitative characteristics greatly depends on the location and the time when it is established. A stable set of example varieties for a country or region is a good tool to control the interaction between variety and environment but, at the worldwide level, it is not possible to establish a universal set of example varieties that would be useful and applicable for all interested UPOV members.

19. The UPOV Test Guidelines do not promote real harmonization for quantitative characteristics if sets of example varieties are only used in a few countries.

20. It would be better to promote the development of regional sets of example varieties as already done for certain crops. UPOV could further develop the system of registering these sets with the indication of their origin and the agro-climatic area covered.

21. With such a system, any UPOV member willing to develop a DUS test on a species, or to get more information on a variety description, could refer to the most appropriate set of example varieties according to its own agro-climatic conditions. If no set was available, it could develop its own set according to rules which could be established by UPOV in document TGP/7 “Development of Test Guidelines”.

#### COMMENTS OF THE TECHNICAL WORKING PARTIES AT THEIR SESSIONS IN 2010

22. At its thirty-ninth session, held in Osijek, Croatia, from May 24 to 28, 2010, the Technical Working Party for Agricultural Crops (TWA) considered document TWA/39/18 (see document TWA/39/27 “Report”, paragraphs 55 to 60).

23. The TWA agreed that the matters raised in document TWA/39/18 were of particular importance and that measures to improve the situation should be considered.

24. The TWA agreed that the development of regional sets of example varieties would be an appropriate way to provide members of the Union with useful example varieties. In cases where it was agreed that regional sets of example varieties would be appropriate, it was agreed that the Test Guidelines might be adopted without example varieties, on the basis that regional sets of example varieties would be added at a later stage. The TWA noted that it would be necessary for the relevant members of the Union to share their data and to conduct ring tests in order to develop regional sets of example varieties.

25. It was agreed that the sharing of respective lists of example varieties by members of the Union with other members of the Union would, in itself, provide a valuable source of information and would also provide a valuable step towards harmonization of example varieties by indicating the extent to which example varieties were relevant for different members of the Union.

26. The TWA noted that, as explained in document TGP/7/2 Draft 5, Section 4.1.7, the inclusion of example varieties in individual authorities’ test guidelines was an important means of ensuring that variety descriptions produced in the territory concerned were harmonized as far as possible and agreed that further guidance on that aspect might be useful. It was noted that the use of “calibration books”, containing, for example, example varieties, illustrations and explanations of characteristics, as reported by the expert from the Netherlands, were a very useful means of increasing the harmonization of descriptions produced by DUS experts and by breeders.

27. An expert from the Republic of Korea proposed that the leading experts should provide the measured values for the notes of quantitative characteristics corresponding to the example varieties in their growing conditions, for publication on the UPOV website, in order to help experts from other UPOV members.