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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

Associated Document
to the
General Introduction to the Examination
of Distinctness, Uniformity and Stability and the
Development of Harmonized Descriptions of New Varieties of Plants (document TG/1/3)

DOCUMENT TGP/9
“EXAMINING DISTINCTNESS”

**Section TGP/9.4.1: Examining Distinctness in Different
Types of Variety: General**

*Document prepared by experts from Germany
to be considered by the*

*Technical Working Party on Automation and Computer Programs (TWC), at its twentieth
session to be held in Texcoco, Mexico, from June 17 to 20, 2002*

*Technical Working Party for Vegetables (TWV), at its thirty-sixth session to be held in
Tsukuba, Japan, from September 9 to 13, 2002*

*Technical Working Party for Agricultural Crops (TWA), at its thirty-first session to be held in
Rio de Janeiro, Brazil, from September 23 to 27, 2002*

*Technical Working Party for Ornamental Plants and Forest Trees (TWO), at its thirty-fifth
session to be held in Quito, from November 18 to 22, 2002*

*Technical Working Party for Fruit Crops (TWF), at its thirty-third session to be held in
San Carlos de Bariloche, Argentina, from November 25 to 29, 2002*

SECTION 9.4.1**EXAMINING DISTINCTNESS IN DIFFERENT TYPES OF VARIETY: GENERAL****9.4.1 Examining Distinctness in Varieties with Different Types of Propagation**

1. The appropriate method for examining distinctness depends on the methods of recording the expression of a characteristic in a specific crop. If the plant to plant variation within varieties is very small relative to the variation between varieties, the characteristic can be recorded using a single observation for a variety. In the case of greater plant to plant variation it is necessary to take records from individual plants and to calculate the mean expression of the variety.

2. The variation within varieties has both genotypic and environmental components. The level of genotypic variation is determined by the features of propagation. The recommended method of observation, based among other considerations on the level of variation within varieties, is provided in the Test Guidelines in Chapter 3 (including the number of individual plants to be observed, if applicable) and, if appropriate, also in Chapter 7 for each characteristic.

3. Vegetatively propagated, truly self-pollinated and mainly self-pollinated varieties normally have very little variation within varieties. The same situation may occur in qualitative characteristics in cross-pollinated varieties (including synthetic varieties). A lack of significant variation within varieties allows examination of distinctness based on a single observation per variety, year and location. In general, a minimum distance of one or more than one states is recommended to consider a variety to be distinct. In the case of a single observation for each variety, the application of a statistical analysis is not possible or necessary.

Remark: In which chapter of TGP/9 guidance will be provided for the handling of quantitative characteristics which are observed with a single plot score (measured or visually assessed, see TG/1/3 par. 5.4.3)?

4. Within variety variation is normally greater for quantitative characteristics in cross-pollinated varieties, including synthetic varieties, due to genotypic variation. In this case, the expression of a variety should be recorded using more than one observation. Usually, records are taken from a number of individual plants. Distinctness can then be assessed by comparing the differences in variety means with a measure of random variation inherent in the variety means (see TGP/9.7 “Recommended Statistical Methods”). If a characteristic in a vegetatively propagated, truly self-pollinated or mainly self-pollinated variety is recorded by observation of individual plants, the same methods can be applied. This situation might occur where there is considerable plant to plant variation within varieties due to environmental effects is observed. However, in general, a single observation for each variety is sufficient in vegetatively propagated, truly self-pollinated and mainly self-pollinated varieties.

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