



TGP/9.1.1 Draft 1

ORIGINAL: English

DATE: August 7, 2002

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/9.1.1: General Procedures for Determining
Distinctness: Official Testing**

Document prepared by experts from France and the Netherlands

to be considered by the

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

*Technical Working Party for Agricultural Crops (TWPAC), 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 (TWPOT), at its thirty-fifth
session to be held in Quito, from November 18 to 22, 2002*

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

Process for establishing Distinctness for different categories of varieties

MAIN STEPS	DESCRIPTION	<u>CONDITIONS</u>
<p>In the office</p> <p>Pre-DISTINCTNESS</p>	<ul style="list-style-type: none"> - Study of the Technical Questionnaire (TQ) - Selection of current version of UPOV Test Guidelines to plan the DUS trial <ul style="list-style-type: none"> • Where no UPOV Test Guidelines exists, national guideline to be utilized. • In the case of a first application for a variety of a species which has never previously been examined for DUS, literature review to be undertaken, and based upon the main botanical characteristics of the pertinent species national guideline to be formulated. - Use of grouping characteristics - Selection of a set of comparable varieties ¹⁾ 	<ul style="list-style-type: none"> - Full information on the origin, breeding scheme and the method of propagation of the variety - Correct description of all requested characteristics, including color photographs for fruit and ornamental candidate varieties - Comparisons between the candidate variety and varieties of common knowledge - Possible use of a morphological distance combining the TQ characteristics - Possible structuring of variety collection using additional tools like variety descriptions, photo databases and biochemical markers. - Depending on the species, possibility to consider firstly the reference varieties which are largely used or known as having good performance in the area where the application is made - If suitable reference varieties are not available in a living variety collection, request to be made to another examination office or the breeder/maintainer of the reference variety to send a sample of this for use in the technical examination. In the case of a first application for a variety of a species which has never previously been examined for DUS, any relevant varieties of common knowledge or wild types to be obtained from a botanic garden/germplasm bank, or via the applicant

¹⁾ In some species the submitted plant material can be observed before any sowing or planting to select comparable varieties

<u>VARIETY CATEGORY</u>	PLANT TYPE	NORMAL NUMBER OF INDEPENDENT GROWING CYCLE				<u>BASIS FOR DISTINCTNESS</u> ¹⁾	
		0 (pre)	1	2	3	<u>Main Type of Char. Assessment</u>	<u>Criterion for Distinctness</u>
Vegetatively propagated	Annual	-	Obs	Obs ²⁾	(Obs)	Visual	A clear difference ³⁾
Self-pollinated	Annual	-	Obs	Obs	(Obs)	Visual	A clear difference ³⁾
Inbred line / hybrid (homogeneous)	Annual	-	Obs	Obs	(Obs)	Visual	A clear difference ³⁾
Partly self-pollinated	Annual	-	Obs	Obs	(Obs)	Measured	Lsd (COYD) (t-test) or a clear difference ³⁾
Cross-pollinated ²⁾	Annual	-	Obs	Obs	(Obs)	Measured	Lsd (COYD) (t-test) or a clear difference ³⁾
Vegetatively propagated	Perennial	Planting	Obs	Obs ²⁾	(Obs)	Visual	A clear difference ³⁾
Self-pollinated	Perennial	Sowing	Obs+Sow	Obs+Sow	(Obs)	Visual	A clear difference ³⁾
Inbred line / hybrid (homogeneous)	Perennial	Sowing	Obs+Sow	Obs+Sow	(Obs)	Visual	A clear difference ³⁾
Partly self-pollinated	Perennial	Sowing	Obs+Sow	Obs+Sow	(Obs)	Measured	Lsd (COYD) (t-test) or a clear difference ³⁾
Cross-pollinated	Perennial	Sowing	Obs+Sow	Obs+Sow	(Obs)	Measured	Lsd (COYD) (t-test) or a clear difference ³⁾

¹⁾ Basis for distinctness describes the generalized situation, taking into account uniformity. Exceptions and more detailed guidance may be found in the crop specific Test Guidelines.

²⁾ For some varieties (mainly ornamental) this is not necessary

³⁾ This can be obtained by a combination of small differences (multivariate approach)

Obs = observation cycle; (obs) = optional additional observation cycle. Further observation cycles may be undertaken if the competent authority decides that no decision on distinctness can be taken after the normal number of independent growing cycles.

Perennial crops usually need a planting and development period before full crop establishment. Juvenile characteristics may be observed during this planting cycle (preceding each independent growing cycle)

Uniformity standards are included in this table as they are linked to the criteria for distinctness.

Lsd = least significant difference; COYD = combined over year distinctness

MAIN STEPS	DESCRIPTION	<u>CONDITIONS</u>
<p>Second growing cycle</p> <p>DESCRIPTION</p> <p>DISTINCTNESS</p> <p>In the office</p> <p>DISTINCTNESS</p> <p>DECISION</p>	<ul style="list-style-type: none"> - Second official description as for the first cycle plus any additional characteristic mentioned by the applicant - Direct comparison of the candidate and the closest varieties - The variety is clearly Distinct (plus U and S) upon analysis of trial data results <ul style="list-style-type: none"> . positive report . final description - The variety is not clearly distinct from one or several reference varieties <ul style="list-style-type: none"> ➤ With no difference observed and no claim from the applicant ∏ rejection ➤ With no difference observed and claim from the applicant with additional reliable information ∏ third growing cycle ➤ With a set of small differences but not consistent over the two first cycles and experts convinced that the candidate variety is original <ul style="list-style-type: none"> . If supporting evidence ⁽¹⁾ ∏ acceptance . If no supporting evidence ⁽¹⁾ ∏ third growing cycle 	<ul style="list-style-type: none"> - Possible use of specific lay-out to compare the varieties (side by side, row plots, ...) - Possible use of a panel of experts - For varieties experiencing problems with D, U or S, invitation to the applicant to visit the trial - Possible further propagation to ensure that the candidate and the reference varieties have been issued under the same conditions

⁽¹⁾ Based on characteristics which are generally not recommended by UPOV like proteins polymorphism, performance characteristics, etc.

MAIN STEPS	DESCRIPTION	<u>CONDITIONS</u>
<p>Third growing cycle</p> <p>DISTINCTNESS</p> <p>DESCRIPTION (complement)</p> <p>In the office</p> <p>DECISION</p>	<p>- Direct comparison of the candidate and the similar reference varieties</p> <p>- If clearly distinct based on . consistent differences among the 3 cycles . or a set of small differences + positive judgement of experts + “supporting evidence” characteristics ∏ acceptance</p> <p>- If none of these conditions ∏ rejection</p>	<p>As for the second growing cycle :</p> <p>- Direct comparison in different locations</p> <p>- Possible use of mixtures and coded samples in the applicant’s premises</p> <p>- Possible use of morphological distance</p> <p>- Possible use of “supporting evidence” characteristics</p> <p>- Contact with other DUS services</p>

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