

**TGP/12 Section 1.1 Draft 1****ORIGINAL:** English**DATE:** October 11, 2005**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**

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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/12**“SPECIAL CHARACTERISTICS”****Section 1.1: Characteristics Expressed in Response to External Factors: Introduction**

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to be considered by the
Technical Working Party for Agricultural Crops at its thirty-fourth session to be held in
Christchurch, New Zealand, from October 31 to November 4, 2005

1. The General Introduction (document TG/1/3 Chapter 2, section 2.5.3) states that “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.”
2. The General Introduction (document TG/1/3 Chapter 4, section 4.6.1) further states that “Characteristics based on the response to external factors, such as living organisms (e.g. disease resistance characteristics) or chemicals (e.g. herbicide resistance characteristics), may be used provided that they fulfil the criteria specified in [document TG/1/3 Chapter 4] section 4.2. In addition, because of the potential for variation in such factors, it is important for those characteristics to be well defined and an appropriate method established which will ensure consistency in the examination. More details can be found in document TGP/12, “Special Characteristics.”
3. The following table presents the basic requirements that a characteristic should fulfill before it is used for DUS testing or producing a variety description together with some particular considerations with regard to characteristics based on the response to external factors:

Basic requirements that a characteristic should fulfill (document TG/1/3 Chapter 4, section 4.6.1)	Particular considerations with regard to characteristics based on response to external factors
<i>The basic requirements that a characteristic should fulfill before it is used for DUS testing or producing a variety description are that its expression:</i>	
<i>(a) results from a given genotype or combination of genotypes;</i>	knowledge of the nature of genetic control of the response is important
<i>(b) is sufficiently consistent and repeatable in a particular environment;</i>	(i) important to standardize, as far as possible, the conditions in the field, greenhouse or laboratory, as appropriate, and the methodology used; (ii) the methodology should be validated, e.g. by a ring-test; and (iii) the key requirements should be set out in a protocol.
<i>(c) exhibits sufficient variation between varieties to be able to establish distinctness;</i>	the response and suitable states of expression should be described (see (d) below)
<i>(d) is capable of precise definition and recognition;</i>	(i) the external factor should be clearly defined and characterized (e.g. disease inoculum, chemical, race of insect etc.); (ii) the type of response to the external factor (e.g. resistant, tolerant, susceptible etc.) and suitable states of expression (e.g. resistant or susceptible (qualitative characteristic); or levels of resistance / susceptibility (quantitative or pseudo-qualitative characteristic)) should be clearly defined
<i>(e) allows uniformity requirements to be fulfilled;</i>	the uniformity requirements for characteristics based on the response to external factors are the same as for other characteristics. In particular, it is necessary for the method to allow the examination of individual plants.
<i>(f) allows stability requirements to be fulfilled, meaning that it produces consistent and repeatable results after repeated propagation or, where appropriate, at the end of each cycle of propagation.</i>	the stability requirements for characteristics based on the response to external factors are the same as for other characteristics.