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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

DRAFT

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/11

“EXAMINING STABILITY”

Document prepared by an expert from the European Community

to be considered by the

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1. INTRODUCTION

The General Introduction (document TG/1/3) explains the following with regard to Stability:

“7.1 Requirements of the UPOV Convention

Article 6 (1)(d) of the 1961/1972 and 1978 Acts of the UPOV Convention require that a variety “must be stable in its essential characteristics, that is to say, it must remain true to its description after repeated reproduction or propagation or, where the breeder has defined a particular cycle of reproduction or multiplication, at the end of each cycle.” Similarly, Article 9 of the 1991 Act of the UPOV Convention requires that a variety “shall be deemed to be stable if its relevant characteristics remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle.”

“7.2 Relevant / Essential Characteristics

The relevant or essential characteristics include at least all characteristics used for the examination of DUS or included in the variety description established at the date of grant of protection of that variety. Therefore, all obvious characteristics may be considered, irrespective of whether they appear in the Test Guidelines or not.”

2. EXAMINATION OF STABILITY

2.1 Introduction

The General Introduction explains the following with regard to the examination of Stability:

“7.3.1.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable. Furthermore, if the variety is not stable, material produced will not conform to the characteristics of the variety, and where the breeder is unable to provide material conforming to the characteristics of the variety, the breeder’s right may be cancelled.

“7.3.1.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied. Further guidance on the examination of stability is considered in document TGP/11, “Examining Stability.” ”

2.2 References to uniformity

2.2.1 The assessment of distinctness and uniformity is not possible without the assumption that the variety is stable in its characteristics.

2.2.2 The assumption is made that if a variety has shown to be sufficiently uniform in the technical examination, then it can also be considered to be stable.

2.2.3 The aforesaid implies that a certain number of off-type plants are still permissible when assessing stability, but their number is based upon the prescribed uniformity standards, which are dependent upon the species concerned and the method of propagation of the variety in question:

- (a) vegetatively propagated and truly self-pollinated varieties;
- (b) mainly self-pollinated varieties and inbred lines of hybrid varieties;
- (c) cross-pollinated varieties (including synthetic varieties);
- (d) hybrid varieties:
 - (i) single-cross hybrids resulting from inbred parent lines;
 - (ii) single-cross hybrids not resulting exclusively from inbred parent lines;
 - (iii) multiple-cross hybrids.

(Further explanation on the standards for the above can be found in document TGP/10 “Examining Uniformity”).

2.2.4 In some cases, a candidate variety may demonstrate some problems in uniformity during the DUS examination which require a further growing period to ascertain whether it is below the stipulated thresholds in the uniformity standards; therefore one should also be mindful on how this problem correlates with the stability of the variety. The real reason as to why the variety is deemed being not uniform resulting from the higher than tolerable numbers of off-types may be due to its genetic make up: the variety is inherently not stable.

2.3 General and particular aspects of testing stability

2.3.1 These additional (one or more) independent growing periods would not require the utilisation of reference varieties, nor so great an emphasis being placed on the observation of the expression of the relevant characteristics since this has already been established in the “D” and “U” part of the examination. The greater part of the work has in fact to be dedicated to the correct propagation of the candidate variety. This is usually undertaken by the examination authority, although in some doubtful case, in order to respect a specific manner of the reproduction or propagation of the candidate variety, the examination authority should request the applicant to provide the sample which is obtained after the subsequent cycle of reproduction or propagation.

2.3.2 The stability issue can be of particular significance with mutation varieties. Mutations might have a high degree of instability, and this increases the more a variety is vegetatively propagated because of the absence of the enshrined meiotic division. This is particularly the case in varieties with a chimeric structure and with non-uniform phenotype, for instance variegated plants. It might then be necessary to multiply the various parts of the plants with a different phenotype, and to check that the patterns found in the original variety can be found again.

2.3.3 In the case of hybrid varieties, when its plant material does not conform to the variety description and consequently the stability criterion is questionable, then in addition to an examination of the hybrid variety itself, one can also try to draw a conclusion by assessing the stability of its parent lines if these are made available by the applicant during the DUS test.

2.4 Methods for the examination of stability

2.4.1 In order to ascertain directly whether the stability criterion has been met, the candidate variety would have to continue its DUS examination once its distinctness and uniformity had been provisionally established.

2.4.2 The testing authority should then decide whether to continue testing for a further growing period once D and U are established based on the same sample (but after the propagation cycle) or by testing a new seed or plant stock to ensure that it exhibits the same characteristic as those shown by the previous plant material supplied. By this stage the testing authority should have already established an unofficial variety description of the candidate variety, so that in the judgement of stability there is a clear and fixed idea of what constitutes a representative plant of that variety.

2.5 Conclusion

2.5.1 The stability criterion can be tested directly or concluded on based upon an assumption on the uniformity.

2.5.2 Once the relevant authority is satisfied that the candidate variety fulfils the stability criterion subsequent to the finalising of the DUS test, then on technical grounds it can be awarded plant breeders' rights.

2.5.3 If the plant material does not conform to the characteristics of the candidate variety then it has to be considered that the variety is not stable and the breeders' rights shall not be granted.

3. VERIFICATION

3.1 Introduction

3.1.1 The concept of 'verification' and confirmation of Uniformity and Stability defines an exercise carried out by some authorities subsequent to the award of plant breeders' rights on a protected variety. It is conducted along similar lines of a DUS examination **to verify the continuing existence unaltered of a protected variety** – i.e. it aims to establish that the variety remains uniform and stable, and that it still corresponds to its variety description.

3.1.2 Verification is not outlined in any article of the 1961, 1978 or 1991 Acts, and is not therefore an obligatory process which has to be undertaken by signatories to the UPOV Convention. However some Member States or international organisations (e.g. the European Union) include this procedure in their legislation on plant breeders' rights.

3.2 Reasons for verification

A certain period of time after the granting of plant breeders' rights, an authority may carry out technical verification out of:

- (i) an (e.g. legal) obligation imposed upon it once a variety remains protected for a certain number of years;
- (ii) its own decision, possibly resulting from a justified complaint received from a third party that the variety in trade no longer conforms to its official description;
- (iii) its own observations, as in the case of a variety with plant breeders' rights being requested for use as a reference variety in a DUS examination, and this variety is found to be no longer available or that this variety no longer fulfils the uniformity and stability criteria.

3.3 Carrying out of verification

3.3.1 Cooperation with title holders

The holder of the title of a protected variety shall be required

- (i) to provide all the information necessary to assess to continuing existence unaltered of the variety to the pertinent authority;
- (ii) to submit plant material of the variety to permit to verify whether appropriate measures have indeed been taken to maintain the variety as originally registered;
- (iii) to permit inspection of material of the variety concerned and of the location where the variety is preserved, in order to furnish the information necessary for assessing the continuance of the variety in its unaltered state;
- (iv) to keep written records in order to facilitate the verification exercise.

3.3.2 Comparison of plant material from the different sources

3.3.2.1 Once the holder has submitted plant material of the protected variety, the pertinent authority may further verify the submitted material by inspecting other material which has been taken

- (i) from holdings where material is produced by the holder, or with his consent;
- (ii) from material being marketed by him, or with his consent;
- (iii) by other official bodies by virtue of their powers (e.g. in the auspices of seed certification, national listing, etc.).

3.3.2.2 It would also be useful to grow a number of plants from the standard sample (from the original submission of seeds/plants utilised for the original DUS test) if these are still available in the reference collection, in order that a direct visual comparison can be made.

3.4 Utilisation of test guidelines

The technical verification growing trial of the protected variety shall be conducted in accordance with the version of the test guidelines utilised and in force at the time of the original DUS examination, to establish that the expression of each characteristic conforms to that of the official variety description. As in the case of the original assessment of uniformity and stability, a certain number of off-type plants are permissible in the sample, as long as these are below the thresholds of the pertinent uniformity standards.

3.5 Conclusions

3.5.1 If the variety proves to be uniform and stable, then its protection remains in force, and the plant material submitted for the technical verification could usefully be utilised for replenishing the standard sample kept in the reference collection.

3.5.2 If as a result of the technical verification, the existing protected variety is found to be altered by not conforming to the characteristics of the registered variety (and therefore not uniform or stable), then the holder shall be informed of the results and the plant breeders' rights may be cancelled by the pertinent authority.

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