

Updated Position

Brussels, September 2024

Concept of essentially derived variety (EDV)

Article 14(5) of the 1991 Act of the Convention for the Protection of New Varieties of Plants (UPOV 91) establishes that the scope of protection of a plant variety also extends to

a) i) varieties which are essentially derived from the protected variety, where the protected variety is not itself an essentially derived variety.

Moreover, Article 14 (5) provides for the following:

b) For the purposes of subparagraph (a)(i), a variety shall be deemed to be essentially derived from another variety ("the initial variety") when

(i) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety,

(ii) it is clearly distinguishable from the initial variety and

(iii) except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety.

This concept of an "essentially derived variety" (EDV concept) has been transposed into the European legislation on plant variety protection (Regulation (EC) no. 2100/94 – Community PVP Regulation) and into the plant variety protection acts of the magnitude of EU Member States.

In view of this EDV concept Euroseeds takes the following positions:

- 1. In the light of the increased use of modern breeding techniques, it has become much more likely that a variety bred from an existing variety (initial variety) still conforms to the initial variety in its essential characteristics and should be considered as an essentially derived variety. The extension of the scope of breeders' rights from a protected initial plant variety to such essentially derived plant varieties provides effective protection to breeders who develop an original genotype (the initial variety) from crossing and selection. Therefore, Euroseeds supports the EDV concept as an important tool for ensuring not only a balanced, but also an efficient protection of plant variety rights.
- 2. The selection methods named in Article 14 (5) (c) UPOV 1991 (selection of a natural or induced mutant, or of a somaclonal variant, the selection of a variant individual from plants of the initial variety, backcrossing, or transformation by genetic engineering) do indeed very often result in an essentially derived variety. This list of methods is an open list which does not exclude that also other methods may likely result in essentially derived varieties provided that such methods include in any case the physical use of the initial variety.
- 3. To bring more clarity to what methods lead to EDVs, Euroseeds considers that varieties resulting from mutagenesis of, or repeated backcrossing¹ with, an initial variety, typically being EDV's. In these cases more of the genome of the initial variety is retained than would be retained by normal crossing and selection with different parents. Further, in these cases all differences between the initial variety and the essentially derived variety , result only from the act of derivation.

¹ Repeated backcrosses means 2 backcrosses or more. As a consequence, one cross of variety B with variety A, followed by one back cross with variety A, does not lead to an EDV. If the next step is again a backcross to variety A (so 2 backcrosses to variety A), then this would result in an EDV.

- 4. The term 'monoparental' as used in latest UPOV Explanatory Note on Essentially Derived Varieties² means that a variety is derived from only one parent as is the case with mutations, genetic modification or genome editing. However, the creation of a new variety by inbreeding from a hybrid should not be considered as monoparental: although a single initial variety used as parent, i.e. the hybrid, the very genetic nature of a hybrid makes that the segregation of genes in the progeny necessarily leads to the development of lines that are very different from the hybrid itself; the criterion that more of the genome should be retained than in case of normal crossing, is therefore not fulfilled (example 1 in the Annex). "Multiparental" in the same Explanatory Note means that a variety has 2 parents³ as is the case with crossing (example 2 in the Annex), including repeated backcrossing (example 3 in the Annex).

- 5. Euroseeds supports the reversal of the burden of proof in favour of the holder of the plant breeders' right of the initial variety once a certain degree of genotypic similarity between the initial variety and a suspected essentially derived variety is reached.

- 6. A scientific threshold of genotypic similarity triggering such reversal of the burden of proof needs to be determined for each species or group of species. Such thresholds should not be set at too low a level to avoid that derivation is deemed too easily, as this would lead to an increased number of unjustified EDV court cases. Breeders taken to court would of course still have the chance to prove that they did not predominantly derive their variety from a protected initial variety. But still these breeders would have to take time and cost to defend themselves in court. This could lead to greater reluctance of breeders in the use of germplasm of their competitors' varieties and thereby to a factual limitation of the breeders' exemption. The validity of the scientific thresholds for individual species or groups of species should be

² UPOV/EXN/EDV/3; www.upov.int/edocs/expndocs/en/upov_exn_edv.pdf

³ 2 parents should be regarded as 2 genetically different parents

regularly reviewed in the light of the most recent technical developments and if necessary be revised.

- 7. The term “essential characteristics” in Art 14 (5) b) i) and iii) must not be limited to characteristics relevant for the marketing of the variety, no matter how essential characteristics may appear commercially. Any such limitation would give rise to a very subjective evaluation of such essentiality, and thus legal uncertainty. In the UPOV 1991 Convention the adjectives essential, important and relevant in relation to variety characteristics are to be regarded as synonyms. This is revealed by the discussions reflected in paragraphs 516—525 and 545 - 547 including the relevant proposals DC/91/56 and DC/91/57 as mentioned in the minutes of the Diplomatic Conference. This conclusion is further supported by the UPOV technical guidelines, more precisely, the general introduction to DUS testing (TG/1/3) in paragraphs 2.4.4, 7.1 and 7.2. Euroseeds believes that, to avoid multiple interpretations of the EDV concept potentially resulting in diverging court decisions, the adoption of the same wording for the definition of EDV would be preferable in the legislation of all UPOV member states. Against that background, Euroseeds is convinced that the difference between the text of Article 13(6) of the EU PVP regulation and Article 14(5) of the UPOV Convention does not mean that under the EU PVP regime other requirements would apply than under UPOV.



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Annex

Example 1: Inbreeding from a hybrid

Crop	General description of initial Variety A	General description of Variety B	Method to obtain variety B	Difference(s) between Variety A and Variety B	Do you consider Variety B to be essentially derived from Variety A?	Explanation/ Rationale
Tomato	<p>Cocktail tomato hybrid with 35-45 g fruit weight, round shape, high productivity and good taste. Deep red fruits on a perfect truss.</p> <p>Resistance ToMV:0-2/Ff:A-E/Fol:0,1/For/Va:0/Vd:0/Si</p> <p>On (ex OI)</p>	<p>Tomato pure line variety with 30-40 g fruit weight, round shape, medium productivity and deep red fruits.</p> <p>Resistance ToMV:0-2/Fol:0,1/For/Va:0/Vd:0</p>	<p>Variety B is an inbred line obtained from variety A, used as one of the parent lines to produce a new tomato hybrid C. The other parent line is a proprietary line from another breeding program.</p>	<p>Variety A is a hybrid, variety B is a pure inbred line with smaller fruits, less productivity, and no resistance to Ff:A-E and Si On (ex OI)</p>	No	<p>A homozygous inbred line has a very different genetic composition than the hybrid from which it is derived: during repeated inbreeding the genomes of the hybrid first mix and then heterozygosity is reduced by repeated selfing. In the inbred line only half of the genomes of the hybrid</p>

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						<p>is retained and half of the alleles that are heterozygous in the hybrid are lost. Therefore, an inbred from a hybrid variety, although monoparentally derived, can not be considered to be an EDV.</p>

Example 2: Crossing

Crop	General description of initial Variety A	General description of Variety B	Method to obtain variety B	Difference(s) between Variety A and Variety B	Do you consider Variety B to be essentially derived from Variety A?	Explanation/ Rationale
Lettuce	Small cos type, cylindrical head shape, slow bolting, vigorous plant type, quick heart filling, intense green leaf color, resistance: Bl:16-34EU/Nr:0	Small cos type, cylindrical head shape, slow bolting, vigorous plant type, quick heart filling, intense green leaf color, resistance: Bl:16-37EU/Nr:0	Variety A is crossed with a proprietary line and the resulting line is backcrossed once to variety A	Variety B has a broader resistance to Bremia lactucae (downy mildew)	No	Just one backcross is made, so this is not a case of repeated backcrossing.

Example 3: repeated backcrossing

Crop	General description of initial Variety A	General description of Variety B	Method to obtain variety B	Difference(s) between Variety A and Variety B	Do you consider Variety B to be essentially derived from Variety A?	Explanation/ Rationale
Lettuce	Butterhead lettuce type for greenhouse production Resistance level for Isolate Bl: 16: 1	Butterhead lettuce type for greenhouse production Resistance level for Isolate Bl: 16: 9.	B is a backcross product (BC5) of A, aiming at the introgression of a single gene downy mildew (Bremia) resistance	Resistance to Bremia lactucae (Bl) Isolate Bl: 16 A: 1 vs. B: 9	Yes	B is a repeated backcross product of A, aiming at the introgression of a single gene Bremia resistance