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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**WORKING GROUP ON BIOCHEMICAL AND MOLECULAR
TECHNIQUES AND DNA PROFILING IN PARTICULAR**

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**ESSENTIALLY DERIVED VARIETIES (EDV) IN THE AREA OF ASEXUALLY
REPRODUCED ORNAMENTAL AND FRUIT VARIETIES**

Document prepared by experts from CIOPORA



CIOPORA
International Community of
Breeders of Asexually
Reproduced Ornamental and
Fruit Varieties

Essentially Derived Varieties (EDV)
in the area of asexually reproduced
ornamental and fruit varieties

CIOPORA Position January 2008

Two Groups of EDV

CIOPORA has identified **two groups of EDV** of different characteristics and of different preconditions and methods

- **Mutations, GMO and Apomicts**
- **Me-too-varieties**

Mutants ...

Mutations, GMO and Apomicts are EDV

without a limit to the number of phenotypic differences to the initial variety.

Mutants ...

CIOPORA has determined a **general threshold** of 0.90 Jaccard for the shift of **burden of proof**

The 0.90 threshold is no differentiator between EDV and non-EDV

It serves only for the **shift of burden of proof**

Mutants ...

1. **Step:** DNA-Analysis and comparison of the genomes of the two varieties in dispute
2. **Step:** Jaccard Index between 0.90 und 1.00 furnishes *prima facie proof* for the existence of a mutation or GMO
3. **Step :** The breeder of the supposed EDV has to prove that his variety is not a mutation / GMO of the initial variety but a product of cross selection.

Mutants ...

If the threshold of 0.90 does not fit for a given species, the breeders of the species may agree on a different threshold. Failing this, the general threshold shall be used.

Me-too-variety

- Varieties which
 - may be a result of crossing and selection (by using the initial variety)
 - are clearly distinguishable from the initial variety
 - are predominantly derived from the initial variety
 - retain all essential characteristics of the initial variety

Mee-too-variety

Must be clearly distinguishable from the initial variety

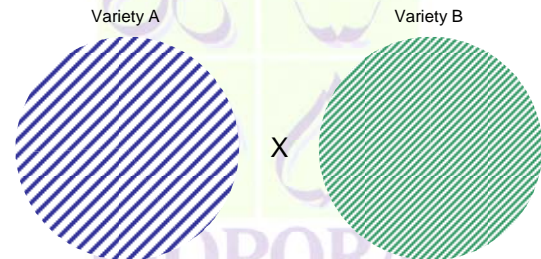
A variety which does not meet the "minimal distance" cannot be an EDV

Me-too-variety

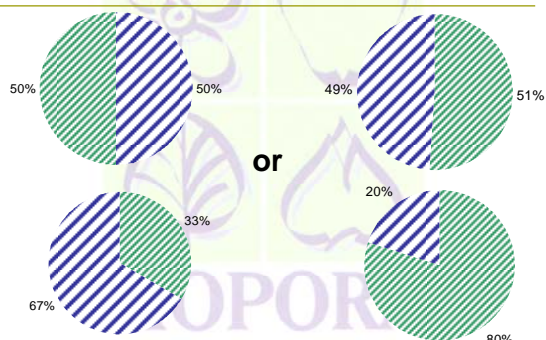
Must be **predominantly** derived from the initial variety?

➤ The threshold of “predominant derivation” has to be determined by the breeders of the species in question on the basis of the genome.

Predominant derivation



Predominant derivation



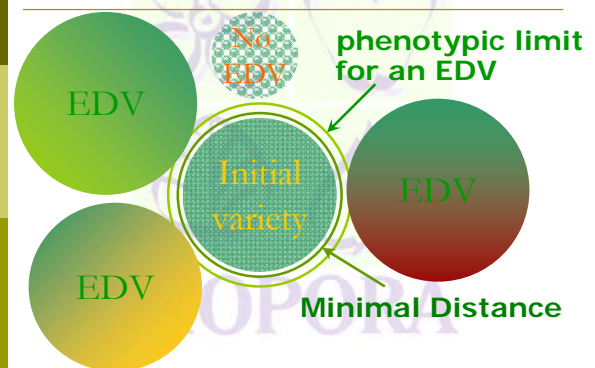
Me-too-varieties

Must **retain all essential phenotypic characteristics** of the initial variety (in terms of exploitation)

Me-too-varieties

- The essential characteristics are being selected from the list of botanical characteristics of the UPOV Test- Guideline
- The breeders have to decide on what are the essential characteristics and what not

Me-too-varieties



EDV

- Up till now no group of breeders has proposed a crop-specific threshold for the shift of burden of proof for mutations.
- For some crops breeders have asked CIOPORA to facilitate a discussion about a threshold for predominant derivation and essential characteristics

Thank you
for your attention

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