

TWA/29/8

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### INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

# TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS

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PROCESS FOR ESTABLISHING DISTINCTNESS

Document prepared by experts from France

## PROCESS FOR ESTABLISHING DISTINCTNESS

During the last TWA session in Ottawa, the group had a detailed discussion about the process for establishing Distinctness of a candidate variety. It has been agreed that a paper describing the main steps of this process would be prepared by France, The Netherlands and Australia. The following text has been prepared by France and, due to shortage of time, only sent for comments few days before the deadline to the colleagues of the two other countries. So, it means that in its actual status, it represents only the French view on this topic.

The description of the process is essentially based on a chronological enumeration of the main steps on which the Distinctness assessment is based upon.

Different situations have to be considered depending on the species (way of reproduction, genetic structures of varieties, ...), the way of management of the reference collection and how the DUS test is achieved (centralized testing or on the basis of breeder's description).

In order to present a rather simple process and to provide a case which will offer an opportunity to discuss some general questions under consideration in the UPOV context, we considered the case of an annual species, with homogeneous varieties and a large reference collection which has not to be systematically observed each year.

The process is described in a table with description of the main steps and the conditions which can improve/hinder the efficiency.

#### Process for establishing Distinctness for an annual species

#### with homogeneous varieties and a large reference collection

| MAIN STEPS       | DESCRIPTION  | CONDITIONS  |
|------------------|--|---|
| In the office    | - Study of the Technical Questionnaire (TQ)  | <ul> <li>Full information on the origin and the structure of the variety</li> <li>Correct description of all requested characteristics</li> </ul>   |
| Pre-DISTINCTNESS |  | <ul> <li>Reference to well-known varieties</li> <li>Any additional information on a specific trait of the variety</li> </ul>  |
|                  | <ul><li>Use of grouping characteristics</li><li>Selection of a set of comparable varieties</li></ul> | <ul> <li>Possible use of a morphological distance combining the TQ characteristics</li> <li>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</li> </ul> |
|                  |  | . Possible structuration of reference collection using additional tools like molecular markers  |

| MAIN STEPS                       | <u>DESCRIPTION</u>  | CONDITIONS   |
|----------------------------------|---|--|
| First growing cycle  DESCRIPTION | <ul> <li>First official full description of the variety based on UPOV guidelines plus national characteristics if relevant</li> <li>Check of the breeder's description</li> </ul>   | <ul> <li>Good trials with 2 locations when possible</li> <li>Observation of any particularity of the variety along the cycle</li> </ul>  |
| In the office                    | - Study of the first official description   | - Possible use of a morphological distance   |
| DISTINCTNESS                     | <ul> <li>Comparison with the reference varieties:         <ul> <li>grown in the same cycle</li> <li>not grown in the same cycle</li> </ul> </li> <li>Elimination of the clearly distinct varieties</li> <li>Selection of the closest varieties</li> <li>Organisation of the next cycle lay-out</li> </ul> | <ul> <li>Rejection (or new first cycle) for any variety with a wrong TQ description</li> <li>Contact with the applicant to get any information on the distinctness from the closest varieties</li> </ul> |

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| MAIN STEPS   | <u>DESCRIPTION</u>   | CONDITIONS   |
|--|--|--|
| MAIN STEPS  Second growing cycle  DESCRIPTION  DISTINCTNESS  In the office  DISTINCTNESS  DECISION | DESCRIPTION  - 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)  . positive report  . final description  - The variety is not clearly distinct from one or several reference varieties   | <ul> <li>Possible use of specific lay-out to compare the varieties (side by side, row plots,)</li> <li>Possible use of a panel of experts</li> <li>Visit of the trials by the applicant</li> </ul> |
|  | <ul> <li>With no difference observed and no claim from the applicant  → rejection</li> <li>With no difference observed and claim from the applicant with additional reliable information  → third growing cycle</li> <li>With a set of small differences but not consistent over the two first cycles and experts convinced that the candidate variety is original  . If supporting evidence → acceptation  . If no supporting evidence → third growing cycle</li> </ul> |  |

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

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