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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

ENLARGED EDITORIAL COMMITTEE**Geneva, January 8 and 9, 2014**

MOLECULAR TECHNIQUES

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I. BACKGROUND

1. The TC, at its forty-ninth session, held in Geneva from March 18 to 20, 2013, agreed that there was a need to provide suitable information on the situation in UPOV with regard to the use of molecular techniques to a wider audience, including breeders and the public in general. That information should explain the potential advantages and disadvantages of the techniques, and the relationship between genotype and phenotype, which lay behind the situation in UPOV (see document TC/49/41 "Report on the Conclusions", paragraphs 136).

2. The Consultative Committee, at its eighty-sixth session, held in Geneva on October 23 and on the morning of October 24, 2013, considered a series of answers to frequently asked questions. One of the questions included was "does UPOV allow molecular techniques (DNA profiles) in the DUS examination?" In that regard the Consultative Committee agreed that the answer should be developed via the Technical Committee. The Consultative Committee agreed to consider draft answers to this and other frequently asked questions at its eighty-seventh session, to be held in Geneva on April 11, 2014.

II. PROPOSAL

The following text is proposed in order to provide information on the situation in UPOV with regard to the use of molecular techniques (extracts from document TGP/15 and UPOV/INF/18/1 are highlighted):

Question: Does UPOV allow molecular techniques (DNA profiles) in the DUS examination?

Answer: "It is important to note that, in some cases, varieties may have a different DNA profile but be morphologically identical (e.g. if the difference is in a non-coding region of the DNA), whilst, in other cases, varieties which have a large phenotypic difference may have the same DNA profile (e.g. some mutations).

"In relation to the use of molecular markers that are not related to phenotypic differences, the concern is that it might be possible to use a limitless number of markers to find differences between varieties. In particular, differences could be found at the genetic level that are not reflected in morphological characteristics.

"On the above basis, UPOV has agreed the following uses of molecular markers in relation to DUS examination:

“(a) Molecular markers can be used as a method of examining DUS characteristics that satisfy the criteria for characteristics set out in the General Introduction if there is a reliable link between the marker and the characteristic.

“(b) A combination of phenotypic differences and molecular distances can be used to improve the selection of varieties to be compared in the growing trial if the molecular distances are sufficiently related to phenotypic differences and the method does not create an increased risk of not selecting a variety in the variety collection which should be compared to candidate varieties in the DUS growing trial.”

“The situation in UPOV is explained in documents UPOV/INF/18/1: “Possible use of Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)” and document TGP/15: “Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”.

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