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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**

First Session

Geneva, April 19 and 20, 1993

TASKS OF THE WORKING GROUP
ON BIOCHEMICAL AND MOLECULAR TECHNIQUES
AND DNA-PROFILING IN PARTICULAR

Document prepared by the Office of the Union

1. At its twenty-eighth session, held in Geneva from October 21 to 23, 1992, the Technical Committee, after several years of discussions on new methods, techniques and equipment in the examination of varieties in both the Technical Committee and the Technical Working Parties, finally recommended to the Council that a Working Group or Working Groups be formed to study DNA-profiling in connection with plant breeders' rights and to coordinate the development and harmonization of DNA analysis in the UPOV member States. The Technical Committee expressed the wish that breeders be involved in the work of the Working Group(s) as well as registration authorities for the admission of varieties for marketing. The meetings of the Group(s) should be organized without interpretation and the first meeting could be held, under the chairmanship of the Chairman of the Technical Committee, in the same week as the sessions of the Administrative and Legal Committee and the Consultative Committee planned in April 1993. The relative extract from the draft report on the twenty-eighth session of the Technical Committee (paragraphs 49 to 54 of document TC/28/6 Prov.) is reproduced in the annex to the present document.

2. At its twenty-sixth ordinary session, held in Geneva on October 29, 1992, the Council of UPOV agreed to the above-mentioned recommendation and decided to set up a Working Group on biochemical and molecular techniques, and DNA-profiling in particular. It furthermore fixed the dates for the first session of that Working Group as April 19 and 20, 1993. The relative extract from the draft report on the twenty-sixth ordinary Council session (paragraph 27 of document C/26/15 Prov.) is also reproduced in the annex to the present document.

[Annex follows]

ANNEX

Extracts from the draft reports
of the last Technical Committee and Council sessions

1. Extract from document TC/28/6 Prov.:New Methods, Techniques and Equipment in the Examination of Varieties

49. The Committee noted the introduction to document TC/28/4 as well as a revised version of attachment 1 on page 10 of that document, circulated during the session and reproduced in Annex IV to this report. The document briefly considered the nature and development of DNA-based analysis and its application to the characterization of varieties; discussed the complementary role for DNA-based analysis in the testing for distinctness; determined the validity of using DNA profile characteristics for establishing distinctness of a variety under the 1991 Act of the Union; and recommended to the Committee to expedite the adoption of DNA-based analysis for varietal characterization within UPOV.

50. The Committee had a lengthy discussion on the ideas expressed in document TC/28/4. It finally came to the conclusion that it could not refuse new methods in general. Each method had to be checked critically and especially the consequences of its application to the whole plant variety system had to be analyzed. The methods had not only to be studied with respect to their technical aspects, but also the philosophy behind the method needed discussion. UPOV should learn from history and not repeat the error made with respect to electrophoresis where it started harmonizing the methods too late and, moreover, did not discuss the philosophy. With respect to DNA profiling, UPOV should not lose the opportunity of starting immediately to develop a harmonized method before the member States had gone in different directions. The breeder should be involved in this attempt to harmonize, as well as the registration authorities, to ensure that all work along the same lines.

51. The DNA profiling method was a good tool to identify varieties: it was a fingerprint. However, whether it would be valid alone for distinctness purposes, would have to be discussed in the same way as for electrophoresis. The advantage of the method would be that it looked at the variety as a whole, at the whole genome. Whether this was a real advantage, would still have to be decided as it would not distinguish between the expressed genome and the unexpressed genome. Small changes in the unexpressed genome could easily lead to differences which, if accepted for distinctness purposes, could erode existing rights and could lead to intentional infringement by the insertion of a gene in the unexpressed part of the genome. Therefore, in addition to the RAPD method, it should also be studied whether there were other methods which would look at the expressed part of the genome. In addition, the RAPD method would introduce a random element into the testing. It would have to be studied whether this was acceptable and also whether other methods existed which would avoid that random element. Finally, the question would have to be studied whether, according to Article 1(vi) as well as Article 7 of the 1991 Act of the Convention, the method would be legally applicable with respect to the expression of a characteristic and clear distinctness. Several experts took the position that this was indeed the case.

52. As a result of the observations on DNA profiling techniques, the Committee recommended to the Council that a Working Group or Working Groups be formed to study DNA profiling in connection with plant breeders' rights and to coordinate the development and harmonization of DNA analysis in the UPOV member States. The Committee expressed the wish that breeders be involved in the work of the Working Group(s) as well as registration authorities for the admission of varieties for marketing. The meetings of such Group(s) should be organized without interpretation and the first meeting could, under the chairmanship of the Chairman of the Technical Committee, be held in the week of the planned sessions of the Administrative and Legal Committee and the Consultative Committee, in April 1993. [During its session on October 29, 1992, the Council agreed to establish a Working Group on Biochemical and Molecular Techniques (BMT) which would meet in Geneva on April 19 and 20, 1993.]

53. The Committee also proposed to the Council that the item on DNA profiling be made the subject of the next UPOV Symposium. [During its session on October 29, 1992, the Council agreed to postpone such an item until the newly established working group had made some progress.]

54. The Committee noted document TC/28/5 on identification and distinctness as introduced by the expert from France. In view of the short time available during the session and the creation of the above-mentioned working group, the Committee agreed to transfer that document to the new working group for further discussion, as well as to the Technical Working Parties for discussion during their coming sessions. Because of lack of time, the Committee also transferred document TC/28/7, AFLP: A practical solution to measurement of genetic distance and dependency issues, to the new working group.

2. Extract from document C/26/15 Prov.:

27. The Council further agreed to set up a Working Group on biochemical and molecular techniques, and DNA-profiling in particular, and noted that the Consultative Committee had requested further preliminary studies on the proposed central computerized data base on plant variety protection and related matters.

[End of annex and of document]