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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

COUNCIL

Thirty-Eighth Ordinary Session
Geneva, October 21, 2004

ADDENDUM TO DOCUMENT C/38/10

PROGRESS REPORT ON THE WORK OF THE TECHNICAL COMMITTEE, THE TECHNICAL WORKING PARTIES AND THE WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR

Document prepared by the Office of the Union

1. This document is an addendum to document C/38/10, Section II "Progress report of the work of the Technical Working Parties and the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular" and presents a progress report on the work of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT).

Progress Report of the Work of the Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular (BMT)

2. The Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular (BMT) held its eighth session in Tsukuba, Japan, from September 3 to 5, 2003. The report is contained in document BMT/8/28.

Participation

3. The Session was attended by 62 participants from 15 member States, seven observer States and three observer organizations. The participants included the trainees from the three-month plant variety protection training course organized by the Japan International Cooperation Agency (JICA) from August 13 to October 25, 2003. The BMT noted that the Preparatory Workshop was attended by 12 experts.

BMT Review Group

4. The BMT noted documents TC/38/14-CAJ/45/5 and TC/38/14 Add.-CAJ/45/5 Add. explaining the recent developments in UPOV concerning the use of biochemical and molecular techniques for DUS testing. In particular, it noted the recommendations made by the BMT Review Group concerning the possible use of molecular techniques in DUS testing and the opinions of the Technical Committee (TC) and the Administrative and Legal Committee (CAJ).

Ad hoc *Crop Subgroups on Molecular Techniques*

5. The BMT received the reports on the work of the *Ad hoc* Crop Subgroups on Molecular Techniques for Mushroom, for Sugarcane and for Soybean.

6. The BMT noted that there were no proposals from the Technical Working Parties for new crop specific subgroups. With regard to the work of the existing Crop Subgroups, the BMT agreed that these Crop Subgroups should be encouraged to intensify their work and preferably use the forthcoming BMT Guidelines in their work (see paragraph 9 of this document).

New developments in biochemical and molecular techniques

7. The BMT heard oral reports from participants on new developments in biochemical and molecular techniques. It noted, in particular, that, although the United Kingdom retained an option to develop an Option 3 (Development of a new system) type approach, it reviewed its research project on molecular markers in Oilseed Rape and Wheat with a view to developing an Option 2 (Calibration of threshold levels for molecular characteristics against the minimum distance in traditional characteristics) type approach and was collaborating with France in the use of GAÏA and PREDIP. It noted that a project was underway in the Netherlands to characterize 90 varieties of tomato using AFLP, microsatellites, SNPs and morphological characteristics, with a view to developing an option 2 approach.

Work on molecular techniques on a crop-specific basis

8. The BMT received reports of work on molecular techniques on the following crops: Barley, Bean, Bunching Onion, Carnation, Maize, Cactus Pear, Oilseed Rape, Peach, Pear, Rice, Soybean, Strawberry, Sunflower, Tomato and Wheat.

Marker selection and database construction for variety characterization

9. The BMT concluded that there was an urgent need to harmonize methodologies for the generation of molecular data in order to ensure that the quality of the data produced would be universally acceptable for use in variety characterization. It was also noted that it would be useful to provide guidance on the planning of databases for molecular data based on different types of markers. On this basis, the BMT agreed that the Office of the Union should prepare a guidance document ("BMT Guidelines").

Review of the costs of molecular techniques

10. The BMT received a review of the costs of molecular techniques from the International Seed Federation (ISF). It noted, in particular, that the costs were dependent on throughput numbers. In case of a high throughput analysis, the cost per marker point is at an acceptable level, but then the quality assurance of these data points becomes of higher importance.

Statistical methods for data produced by biochemical and molecular techniques

11. With respect to statistical methods for data produced by biochemical and molecular techniques, the BMT noted that consultation between crop experts and the Technical Working Party on Automation and Computer Programs (TWC) would be desirable to achieve consensus on the choice of distance measurement method. The BMT also discussed the use of the PREDIP software.

Use of molecular techniques in examining essential derivation

12. Concerning the use of molecular techniques in examining essential derivation, the BMT noted that the ISF General Assembly in May 2004 would consider a proposed threshold, as a trigger point for starting a dispute on essential derivation in Butterhead lettuce. In particular, the ISF would consider three options concerning the use of the threshold as follows:

(a) allow the result to be used by breeders in whatever way they wished;
(b) establish a voluntary code of conduct in the same way as for ryegrass; or
(c) draft an agreement, to be signed by breeders, leading to binding ISF arbitration or settlement in court.

Date and place of next session

13. In response to the invitation received from the United States of America, the BMT agreed to hold its ninth session in the United States of America in June 2005.

Program for the next session

14. During its ninth session, the BMT planned to discuss: Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and

molecular specialists, and plant breeders; Reports from the BMT Review Group, Technical Committee and/or established Crop Subgroups; Report of work on molecular techniques on a crop-by crop basis; Recommendations on the establishment of new crop specific subgroups; BMT Guidelines; Construction and standardization of databases of molecular characteristics of plant varieties, Statistical methods for data produced by biochemical and molecular techniques; The use of molecular techniques in examining essential derivation; Date and place of next session; and Future program.

15. The Council is invited:

(a) to note the work of the BMT reported to the TC, as provided in this document, and

(b) to approve the work program of the BMT reported to the TC, as provided in this document.

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