



TC/40/3

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

TECHNICAL COMMITTEE

Fortieth Session
Geneva, March 29 to 31, 2004

MATTERS ARISING FROM THE TECHNICAL WORKING PARTIES

Document prepared by the Office of the Union

1. This document summarizes certain matters arising from the 2003 sessions of the Technical Working Parties (hereinafter referred to as "the TWPs"), which are not covered by specific agenda items and which are provided for the information of the Technical Committee (hereinafter referred to as "the TC"). It is not anticipated that these matters will require a decision to be taken by the TC.

2. The following codes are used in this document:

CAJ: Administrative and Legal Committee

TWA: Technical Working Party for Agricultural Crops

TWC: Technical Working Party on Automation and Computer Programs

TWF: Technical Working Party for Fruit Crops

TWO: Technical Working Party for Ornamental Plants and Forest Trees

TWV: Technical Working Party for Vegetables

BMT: Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular

Project for Exchanging Seed of Selected Varieties Between Interested Countries

3. The TWA considered document TWA/32/4 and received an oral report from Mr. Chukichi Kaneda, Association for International Cooperation of Agriculture and Forestry (AICAF), Japan, concerning the project for exchanging seed of selected rice varieties between interested countries. In addition, the participants viewed the demonstration trial of rice varieties obtained from different countries during the technical visit on September 10, 2003. Mr. Chukichi Kaneda agreed to prepare a document for the thirty-third session of the TWA, comparing the descriptions of the varieties grown in the trial in Tsukuba, Japan, with the descriptions produced in the countries providing the seed. It was agreed that the participating countries would provide their variety descriptions, for the listed characteristics, to Mr. Kaneda as soon as possible. The TWA also agreed that the project should be repeated with interested countries in 2004, with the aim of identifying the minimum number of example varieties which could constitute an "East Asian" set of example varieties.

4. In the absence of the expert from New Zealand, the Chairman reported that there had been an exchange of seed of White Clover varieties in Autumn 2002, between New Zealand, South Africa and the United Kingdom. The intention had been that these would all be planted in all the participating countries, but he had not been able to confirm if this had occurred. He reported that the varieties had been selected from the characteristics included in the Technical Questionnaire of the Test Guidelines for White Clover.

5. The expert from Germany reported that there had been an exchange of seed in 2002 to examine flower color in Lupins. A similar exchange of seed between France and Germany in 2003 had been successfully used to clarify the different growth types in Lupins and had revealed that it was necessary to provide a separate explanation of growth type for winter and spring types of Lupins.

6. The Test Guidelines subgroup for *Amaranthus* agreed to form a group for exchanging seeds of selected varieties. It agreed that the expert from Mexico would be the coordinator of the group and that experts from Brazil, Hungary, Japan and Mexico would exchange seeds, with the results being reported to the thirty-third session of the TWA.

GAÏA software: Calculation of Phenotypic Distances

7. The TWC received a presentation on the GAÏA software and reviewed document TWC/21/4, both having been prepared by experts from France. The TWC noted that the use of the GAÏA software required careful consideration by crop experts and, in particular, attention was needed in the weighting attributed to differences in each characteristic and the combination of data from different years and locations. The TWC agreed that the Office of the Union should issue a questionnaire to all recipients of the GAÏA software, requesting information on the crops to which the software was being applied, with the outcome to be reported to the TWC at its twenty-second session.

8. The TWC agreed that methods used in GAÏA were to be viewed as methods under development and that this should be clarified in the UPOV Website. It noted that a Website hotline might be established by the experts from France if the uptake of the software justified such a feature.

Incomplete Block Design

9. The TWC considered document TWC/21/6, prepared by experts from Denmark and Poland, concerning the use of incomplete block design in DUS trials. The document explained that one benefit of using incomplete block designs was the possibility of comparing many varieties in one design with a precision that was about as good as a complete block design comparing few varieties. Compared to randomized complete block designs with many varieties, the incomplete block design was considered to be superior for characteristics that are sensitive to soil fertility. For characteristics that are less sensitive to soil fertility the gain in precision would be smaller or zero and only in a few cases slightly negative. The document noted that the construction, layout in the field and analysis of incomplete block designs would be slightly more complicated than for randomized complete block designs, but observed that efficient programs for PCs were available to address these matters. It was also explained that the use of incomplete block designs, as described in document TWC/21/6, prevented the user imposing “restricted randomizations” in order to let groups of varieties be located close to each other. An example trial layout, based on α -designs comparing 40 varieties split into four groups, allowed the varieties within groups to be compared with a precision that was expected to be similar (or slightly better) than if four separate trials were used and compared varieties in different groups with a lower precision.

10. The TWC also considered an interim report on the efficiency of incomplete block designs in DUS herbage trials, prepared by experts from the United Kingdom and presented in document TWC/21/8.

11. The TWC concluded that incomplete block designs could be used for DUS testing. It agreed that further studies were necessary to make a more detailed recommendation and that a paper on recommendations for the use of α -designs in DUS testing would be prepared for the following TWC session.

Uniformity Standards for COYU

12. The TWC considered the results of a survey on LSD values, used by members of the Union in COYU, as presented in document TWC/21/7. It was agreed that a new document on probability levels for COY should be prepared for its following session and the Office of the Union was requested to collect the information and to prepare the document. The TWC agreed that an explanation on the way decisions are taken when using the COY approach should be included in the request and that the replies should be organized by type of decision. With regard to the possibility of developing recommendations for probability levels, the TWC agreed that the first step would be to make recommendations for those crops where there was already a harmonized level. For other crops, the different levels could be presented and the possibility to develop a recommended level discussed by the TWC.

13. The TWC considered that, once agreed, this information would be included in the relevant sections of TGP/9 and TGP/10.

Uniformity Requirements for Variegated Varieties

14. The TWO received a presentation from an expert from the Community Plant Variety Office on issues concerning uniformity requirements for variegated varieties, which was based on document TWO/36/5. It was agreed that the Office of the Union, in conjunction with the Chairman of the TWO, would prepare and issue a questionnaire seeking information on the proportion of plants which would need to be affected by a mutation or variation in order to be considered to be an off-type, e.g. whether a single atypical leaf or petal would render the plant an off-type. The TWO agreed that, if acceptable to the TWF, this questionnaire should also be sent to the members of the TWF to obtain information on how the matter is handled for fruit crops. The results of the survey would be presented to the TWO at its thirty-seventh session in 2004 and would be used as a basis for further discussion on how to consider variegated varieties in the examination of uniformity.

Chi Square Distribution

15. The TWC considered document TWC/21/2, prepared by experts from France and the United Kingdom, on the use of the Chi Square test in the assessment of distinctness. The document proposed that the Chi Square test might be considered where the plants of a given variety have different states of expression for a qualitative or pseudo-qualitative characteristic, i.e. they are heterogeneous in their expression of the characteristic. It noted that such characteristics might be important for distinctness purposes because the frequency with which plants expressing the different states occurred in a variety might be very consistent and so helpful in determining distinctness. For example, in Lucerne, the frequency of occurrence of plants with the different states of the "flower color" characteristic (white or yellow (1), violet (2), very dark violet (3), variegated (4)) is used to show distinctness between varieties. The document explained that the Chi Square test compares the frequencies with which plants expressing the different states of the characteristic occur in different varieties, but noted that the characteristics could not be assessed for uniformity using an off-type approach.

16. The TWC agreed that a revised version of document TWC/21/2, which would address the uniformity issue, would be prepared for its following session. It proposed that the revised version should include a comparison of Chi Square and exact tests. It also agreed that the expert from Kenya would prepare a document on the use of generalized linear models in cases described in document TWC/21/2.

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