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

**COUNCIL**

**Thirtieth Ordinary Session**  
**Geneva, October 23, 1996**

PROGRESS REPORT ON THE WORK OF THE TECHNICAL COMMITTEE  
AND THE TECHNICAL WORKING PARTIES

*Document prepared by the Office of the Union*

TECHNICAL COMMITTEE

1. The Technical Committee (hereinafter referred to as "the Committee") held its thirty-second session in Geneva, from October 18 to 20, 1995, immediately after the ordinary session of the Council. The detailed report on that session appeared in document TC/32/7. The main results achieved during that session are set forth below.

Progress Reports on the Work of the Technical Working Parties

2. The Committee noted the usual reports on the progress of the work of the Technical Working Parties and approved their programs for the coming year.

Questions Presented by the Technical Working Parties

3. The Committee endeavored to answer the various questions that individual Technical Working Parties had submitted to it in documents TC/32/3 and TC/32/3 Add.

New methods, techniques and equipment in the examination of varieties, including progress report on the work of the Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular

4. The Committee noted the report on the progress of the work of the Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular (BMT), approved its programs for 1997 and discussed subjects on new methods resulting from that report.

Test Guidelines

5. During the session, the Committee adopted the following Test Guidelines after having agreed on changes proposed orally by the Editorial Committee.

TG/14/7(proj.)	Apple/Pommier/Apfel
TG/22/8(proj.)	Strawberry/Fraisier/Erdbeere
TG/35/5(proj.)	Cherry/Cerisier/Kirsche
TG/42/5(proj.)	Rhododendron/Rhododendron/Rhododendron
TG/45/5(proj.)	Cauliflower/Chou-fleur/Blumenkohl
TG/53/5(proj.)	Peach/Pêcher/Pfirsich
TG/57/5(proj.)	Flax/Linseed/Lin/Lein
TG/86/4(proj.)	Anthurium/Flamingoblume
TG/96/3(proj.)	Norway Spruce/Epicea Commun/Gemeine Fichte
TG/151/2(proj.)	Broccoli/Brocoli/Brokkoli
TG/152/2(proj.)	Chamomile/Anthémis/Kamille.

Program for the Thirty-Third Session

6. The thirty-third session of the Committee is planned to take place in Geneva from October 16 to 18, 1996, in the week immediately preceding the ordinary session of the Council. It is planned that the following items be discussed during the session: progress reports and questions presented by the Technical Working Parties, new methods, techniques and equipment in the examination of varieties. In addition, the Committee will take decisions on the Test Guidelines which will be submitted by the Technical Working Parties for final adoption.

TECHNICAL WORKING PARTIES INCLUDING THE BMT

Progress Report on the Work of the Technical Working Party for Agricultural Crops (TWA)

7. The Technical Working Party for Agricultural Crops held its twenty-fifth session in Thessaloniki, Greece, from June 11 to 14, 1996, under the chairmanship of Mr. H. Ghijsen (Netherlands). The full report on that session appears in document TWA/25/13 Prov. During its session the TWA completed, for presentation to the Committee for adoption, draft Test Guidelines for Rape Seed (Revision). It also completed, for presentation to the professional organizations for comments, draft Test Guidelines for Soya Bean (Revision). It also discussed, but will have to continue to discuss in its next session, draft Test Guidelines for

Bromus, Cotton (Revision), Lotus, Opium Poppy, Rice (Revision), Subterranean Clover, Sunflower (Revision) and Tobacco. In addition to the discussions on Test Guidelines, the Working Party discussed or rediscussed the following subjects:

(a) It noted that applications for protection for GM varieties had been received or were expected in a few States.

(b) It noted the new procedure for the establishing of Test Guidelines and the stage of preparation of the UPOV-ROM Plant Variety Database.

(c) It discussed the possible use of electrophoresis in potato, Kentucky Bluegrass, Ryegrass and Timothy. It will present the problems raised during the discussions to the Committee and some legal questions also to the Administrative and Legal Committee.

(d) It will apply the method prepared by the Technical Working Party on Automation and Computer Programs (TWC) for visually-assessed characteristics to the revision of the Test Guidelines for Sunflower.

(e) It proposed to amend the annexes to the Test Guidelines for Barley, Maize and Wheat in the electrophoretic characteristics by adding new alleles or correcting some of the alleles indicated. Some further alleles will require another ring test.

(f) It took note of the completion or improvement of the latest documents on COYD (Combined Over-Years Distinctness Analysis), COYU (Combined Over-Years Uniformity Analysis). It agreed that the COYD and COYU analyses were prepared in principle for cross-fertilized species only, although nothing prevented their application also to self-fertilized crops if all other conditions were fulfilled. Likewise, nothing prevented the application of document TWC/11/16, in principle prepared for self-fertilized crops, to cross-fertilized crops if all other conditions were fulfilled.

(g) It agreed that it was important to work on the harmonization of methods of image analysis and the interpretation of the data recorded and it will follow the work of the Subgroup on image analysis of the Technical Working Party for Ornamental Plants and Forest Trees (TWO).

(h) It held detailed discussions on the different degrees of involvement of the breeder in the testing of varieties and noted that COMASSO (Association of Plant Breeders of the European Economic Community) had expressed its preference for testing done by government authorities.

(i) It recommended to the Committee to propose to the Council that it elect Mr. Aubrey Bould (United Kingdom) as Chairman of the Technical Working Party for Agricultural Crops (TWA) for the coming three years.

8. The twenty-sixth session of the TWA will be held in Montevideo, Uruguay, from November 10 to 14, 1997. During its twenty-sixth session the Working Party plans to complete, for presentation to the Committee for adoption, the Test Guidelines for Soya Bean (Revision) and to discuss or rediscuss working papers on Test Guidelines for Rice (Revision), Cotton (Revision), Bromus, Subterranean Clover, Sunflower (Revision), Tobacco and Lotus.

On Opium Poppy, it hopes to be able to reach agreement with the Technical Working Party for Vegetables (TWV) by correspondence. In addition to Test Guidelines, it is planned to discuss the following items: UPOV-ROM Plant Variety Database, prescreening of varieties, use of electrophoresis in ryegrass, new alleles for maize, ear rows versus drilled plots, sequential analysis, image analysis and cooperation with breeders in the testing of varieties.

Progress Report on the Work of the Technical Working Party on Automation and Computer Programs (TWC)

9. The Technical Working Party on Automation and Computer Programs (TWC) held its thirteenth session in Hanover, Germany, from June 4 to 6, 1996, under the chairmanship of Mr. S. Grégoire (France). The full report on that session appears in document TWC/14/19 Prov. The main elements arising from the session are as described below.

(a) UPOV-ROM Demonstration Disc: It appreciated the progress made in the preparation of the UPOV-ROM Demonstration Disc and answered some open questions.

(b) DUST program from the United Kingdom: It noted the inclusion of the DUST program prepared by Mr. C. Weatherup, United Kingdom, in the computer systems of several member States, its translation into their national languages and its application. It will ask more experts to check whether the translations have kept the original functions unchanged.

(c) Possibilities of biometry in the establishing of Test Guidelines: It discussed the different methods available to evaluate the usefulness of given characteristics in Test Guidelines and offered its help to other Technical Working Parties.

(d) Population standard: It held lengthy discussions and will continue discussing the selection of the correct population standard and the difficulties experienced by certain crop experts in choosing a population standard.

(e) Improvement of communication: It discussed the possibilities of improving the perception of statistical documents and the improvement of communication. It approved the rewritten documents on the COYD method, and on the testing of uniformity according to document TWC/11/16. It approved the document on the COY analysis for presentation to the Committee for approval. The rewritten document TWC/11/16 will require further changes. It updated information on telecommunication and exchangeable software and the list of documents prepared by the TWC.

(f) Items resulting from the BMT: It discussed several methods resulting from a request made during the last session of the BMT. As a result three documents will be pursued at the next session of the BMT on the following subjects: (i) review of the cluster analysis; (ii) statistical methods to distinguish varieties with data resulting from biochemical or molecular techniques; (iii) use of the Analysis of Molecular Variance (AMOVA) for distinctness studies.

(g) World Wide Web (WWW): It discussed certain projects for making statistical and mathematical techniques available through WWW and will follow these developments.

(h) It recommended to the Committee to propose to the Council to elect Mr. John Law (United Kingdom) as Chairman of the Working Party for the coming three years.

10. The fifteenth session of the TWC will be held in Budapest, Hungary, from June 3 to 5, 1997. During that session, the TWC plans to discuss or rediscuss the following items: Report on subjects of special interest to the Working Party raised during the thirty-third session of the Committee; questions raised by other Technical Working Parties; report on new developments in member States; handling of visually-assessed characteristics: ways to analyze visually-assessed characteristics and possibilities of using biometry to help in the establishment of guidelines with respect to visually-assessed characteristics; testing of uniformity: finding the right population standard and decision rule for different sample sizes and guide to help in finding the right method to be used; sequential analysis; items resulting from the last session of the BMT: use of dendrograms, AMOVA and statistical methods to distinguish varieties with data resulting from biochemical or molecular techniques; image analysis; improvement of communication: improvement of statistical documents, telecommunications, exchangeable software and contacts, list of statistical documents prepared by the TWC, list of statistical documents containing recommendations or methods of possible interest to the Technical Working Parties, Glossary of definitions, results of the run of the COYD program distributed on diskette during the TWC session to check whether national implementations concord with the latest version of DUST, and developments in the World Wide Web; detection of outliers by multivariate analysis to the validation of data.

#### Progress Report on the Work of the Technical Working Party for Fruit Crops (TWF)

11. The Technical Working Party for Fruit Crops (TWF) held its twenty-seventh session in Tel Aviv, Israel, from April 22 to 26, 1996, under the chairmanship of Mrs. E. Buitendag (South Africa). The full report is reproduced in document TWF/27/18 Prov. During the session, the TWF completed the Test Guidelines for Japanese Apricot, Loquat and Walnut (Revision) for submission to the professional organizations for comments. It furthermore (re)discussed working papers on Test Guidelines for Grape (Revision), *Prunus* Rootstocks, Citrus (Revision) and Pear. In addition to the discussions on Test Guidelines, the TWF discussed or rediscussed the following subjects:

(a) It appreciated the recent developments in the work for the setting-up of a UPOV Centralized Database and that a first production disc would be distributed in the coming month. It asked all experts to study that disc and make any comments for improvement of its use in the field of fruit crops.

(b) It appreciated the availability in electronic form of all reports of 1995 of the Working Parties and the Committee on one diskette. For the coming sessions all experts will send their proposals for documents to the Office of UPOV in electronic form.

(c) It reconfirmed the importance of the list of species in which varieties are tested and its periodic updating and appreciated that the document was available in electronic form.

(d) It rediscussed the definition of an off-type proposed to the Committee by the Technical Working Party for Ornamental Plants and Forest Trees (TWO), and in agreement

with the TWO will propose the following definition to the Committee: "Each plant which shows a clear mutation in any characteristic is considered to be an off-type."

(e) It noted a first draft for the definition of categories of characteristics and added for submission to the Committee a definition of grouping characteristics.

(f) It noted some difficulties in the distinguishing of apple varieties and the fact that in two countries it was apparent that certain applications were only made to prevent others from marketing material of that variety.

(g) It collected information on national listing and on provisional protection in the individual member States.

(h) It agreed to coordinate its revision of the Test Guidelines for Grape with the revision of similar documents planned by IPGRI (International Plant Genetic Resources Institute) and OIV (International Vine And Wine Office).

(i) It discussed at length whether it was at all possible to establish separate Test Guidelines for fruit varieties and for rootstocks and prepared a questionnaire to obtain more information on the problems involved.

(j) It discussed at length the need for further standardization of technical terms used in the Test Guidelines and will continue building up a list of agreed terms.

(k) It recommended to the Committee to propose to the Council to elect Mr. Chris Barnaby (New Zealand) as chairman of the TWF for the coming three years.

12. The twenty-eighth session of the TWF is scheduled to be held in Wageningen, Netherlands, from September 8 to 12, 1997. During that session, the TWF plans to complete discussions on Test Guidelines for Mume (Japanese Apricot), Loquat and Walnut (Revision) for presentation to the Committee for final adoption. It plans furthermore to (re)discuss working papers on Test Guidelines for Apple Rootstocks, Citrus (Revision), European Plum (Revision), Grape (Revision), Kiwifruit (Revision), Pear (Revision), Pear Rootstocks, *Prunus* Rootstocks and Walnut Rootstocks. In addition, the following other items are planned for discussion: Updated report from the Technical Working Party on Automation and Computer Programs (TWC) on the testing of uniformity, new methods, techniques and equipment in the examination of varieties; testing of rootstock varieties, standardization of Test Guidelines, UPOV Central Computerized Database; relation between national listing and plant variety protection.

#### Report on the Work of the Technical Working Party for Ornamental Plants and Forest Trees (TWO)

13. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) held its twenty-ninth session in Tel Aviv, Israel, from April 15 to 19, 1996, under the chairmanship of Mrs. U. Löscher (Germany). The full report is reproduced in document TWO/29/15 Prov. During the session, the TWO completed the Test Guidelines for Firelily (*Cyrtanthus*) and *Serruria* and amendments to the Test Guidelines for African Violet, prior to their submission

to the Committee for final adoption. It also completed the Test Guidelines for Bouvardia, prior to their submission to the professional organizations for comments. It furthermore (re)discussed working papers on Test Guidelines for Cymbidium, Kangaroo Paw, Lavender and Lavendine. In addition to the discussions on Test Guidelines, the TWO discussed or rediscussed the following subjects:

(a) It discussed in detail the use of image analysis in DUS testing of ornamental plants. Its main interest lay in the use of image analysis for the faster measuring of existing characteristics, for the storage of the data, their use for the selection of similar varieties as well as for the storage of photos in digitalized form. It would set up a special subgroup of experts doing the actual research which would report to the Working Party during its next session.

(b) It appreciated recent developments in the work on setting up a UPOV Central Computerized Database and that a first production disc would be distributed in the coming month. It asked all experts to study that disc and make some comments for improvement of its use in the ornamental field.

(c) It reconfirmed the importance of the list of species in which varieties are tested and its periodic updating.

(d) It proposed to make available UPOV documents in electronic form. The ideal situation would be if all UPOV documents or at least all Test Guidelines and some other important documents with no restrictions on distribution could be made available on Internet or on the monthly UPOV-ROM. Until UPOV has taken a final decision on its policy, documents should be made available in electronic form on request.

(e) It proposed an amended definition of off-type reading: "Each plant which shows a clear mutation in any characteristic is considered to be an off-type." Impurities would be considered off-types in the same way as any other different plant.

(f) It repeated its request to include the request for trade names in the Technical Questionnaires.

(g) It considered that there was a strong need for further harmonization of technical terms in the Test Guidelines and in the use of states of expression of characteristics which for one and the same wording would have to be handled quantitatively or qualitatively depending on the specific situation.

(h) It will pay more attention to seed propagated ornamental varieties and will study the comparative trials of new varieties set up by breeders in some European countries.

(i) It recommended to the Committee to propose to the Council to elect Mr. Joost Barendrecht (Netherlands) as chairman of the TWO for the coming three years.

14. The thirteenth session of the TWO is scheduled to be held in Denmark, from September 1 to 5, 1997. During that session, the TWO plans to complete the Test Guidelines for Bouvardia for submission to the Committee for final adoption. It will also discuss or rediscuss Test Guidelines for Chrysanthemum (Revision), Cymbidium, Cypressus, Geraltion Wax Flower, Guzmania, *Hippeastrum*, Iris, Kangaroo Paw, Lavender, Limonium, Nerium,

Ornamental Apple (Revision), Pentas, Petunia, Rubber, Tagetes, Thymus, Weeping Fig and Zantedeschia. Discussion of the following items is also planned: image analysis; new methods, techniques and equipment in the examination of varieties; central computerized database, testing of seed propagated varieties of ornamental species and more general questions (essential derivation, novelty, discoveries, copyright of photos in variety descriptions, first applications of varieties in new species).

#### Progress Report on the Work of the Technical Working Party for Vegetables (TWV)

15. The Technical Working Party for Vegetables held its thirtieth session in Brno, Czech Republic, from July 8 to 12, 1996, under the chairmanship of Mrs. E. Kristóf (Hungary). The full report appears in document TWV/30/21 Prov. During the session, the TWV discussed and completed for presentation to the Committee for final adoption draft Test Guidelines for Beetroot (Revision), Ginger, Leaf Chicory, Pumpkin and Spinach (Revision). The TWV also discussed (partly in subgroups reporting to the Working Party) and completed for submission to the professional organizations for comments draft Test Guidelines for Cornsalad (Revision), Garlic, Onion (Revision) and Shallot, Rhubarb (Revision) and Welsh Onion/Bunching Onion. In addition to the discussions on Test Guidelines, the TWV discussed or rediscussed the following other subjects:

(a) It noted the recent developments in the work on the setting-up of a UPOV Central Computerized Data Base.

(b) It noted some corrections to be made in the Test Guidelines for Peas and for Cucumber/Gherkin.

(c) It noted the use of different denominations and/or trade names in different countries for the same variety, partly in order to prevent parallel imports from other countries which had led to confusion among growers but apparently was legal in certain countries.

(d) It noted differences in the forms and number of characteristics used for DUS testing for UPOV, for national lists, for the Community Plant Variety Office of the European Union (EU) or for the EU Catalogue and asked whether further harmonization might not be possible.

(e) It discussed how to reach more harmonization in the wording and giving of Notes to states of expression in the Test Guidelines and agreed on certain preferred words and Notes for frequently occurring cases. It will continue looking for more systematic ways of presenting characteristics.

(f) It noted that in several States applications for protection for GM varieties had been received or were already under test.

(g) It discussed the possibility of applying relative uniformity in the case of self-fertilized varieties to certain rather important characteristics in which the normal requirements for uniformity could not be met.



(h) It recommended to the Committee to propose to the Council to elect Mr. Baruch Bar-Tel (Israel) as chairman of the TWV for the coming three years.

16. The thirty-first session of the TWV is scheduled to be held in Valencia or Almería, Spain, from November 24 to 28, 1997. During that session, the TWV will discuss, with a view to submission to the Committee for final adoption, Test Guidelines for Cornsalad (Revision), Garlic, Onion (Revision) and Shallot, Rhubarb (Revision) and Welsh Onion/Bunching Onion. As the next session will take place only after the session of the Committee, the Working Party will try to reach agreement on comments to the above Test Guidelines by correspondence, in which case they will already be presented to the Committee for adoption in 1997. It will furthermore discuss or rediscuss, as time permits, working papers on Test Guidelines for Black Raddish (Revision), Broad Bean (Revision), Celeriac (Revision), Celery (Revision), *Cucurbita moschata*, Curly Kale (Revision), Dill, Fennel, Globe Artichoke, Industrial Chicory, Kohlrabi (Revision), Leek (Revision), Lentil, Okra (*Abelmoschus esculentus*), Opium/Seed Poppy, Raddish (Revision), Swede (Revision), Turnip, Turnip Rape, Witlof. In addition to Test Guidelines, it is planned to discuss the general presentation of Test Guidelines and Genetically Modified (GM) varieties.

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

17. The Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular (BMT) has not met since the last ordinary session of the Council. Its next session is scheduled to be held in Cambridge, United Kingdom, from March 11 to 13, 1997. As already reported, it was proposed to collect for that session information on a large number of ornamental plants and vegetatively propagated species. They should also cover studies on microsatellites. The documents to be prepared by different experts should, if possible, for each given crop cover the following items: (a) reproducibility of the method; (b) genetic determination; (c) costs of the method; (d) studies on the correlation of genotypic markers with phenotypic expressions (direct link, partial link, causative link or association); (e) robustness of the method, (f) knowledge of genetic map of the species, (g) explanation why the method was considered important, (h) access to the method (patented or patent pending). The agenda for the coming session of the BMT would comprise the following items: (a) Short presentation of research results on different species (Apple, Azalea, Carnation, Lolium, Maize, Oilseed Rape, Peach, Pepper, Potato, Rice, Rosa); (b) The importance clearly defining questions to the statisticians; (c) The use of DNA profiling in prescreening as a possible tool in DUS testing; (d) The interest and value of the dendrogram analysis; (e) The analysis of the molecular variance; (f) The principal components analysis and other multivarietal statistics; (g) Correlation and causal linkage between DNA markers and morphological traits; (h) Relation between molecular genetic distance and morphological distance; (i) Position of the breeders vis-à-vis DNA profiling; (j) Possibilities and consequences of the introduction of DNA profiling methods for DUS testing; (k) Control of uniformity in characteristics obtained with biochemical or molecular markers; (l) Effect of breeding schemes and parentage on the required distance between varieties; (m) The use of DNA profiling methods by expert witnesses in disputes on essential derivation.

*18. The Council is invited to note and approve the above information and the program of the Technical Working Parties.*

Status of Test Guidelines

19. The Annex to this document contains an updated account of the status of Test Guidelines on August 1, 1996.

[Annex follows]

