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

prepared by the Office of the Union

TECHNICAL COMMITTEE

1. The thirty-second session of the Technical Committee (hereinafter referred to as "the Committee") is planned to take place in Geneva, from October 18 to 20, 1995, immediately after the ordinary session of the Council. It is planned that the following items be discussed during the session:

Progress Reports on the Work of the Technical Working Parties

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

Questions Presented by the Technical Working Parties

3. The Committee will endeavor to answer the various questions that individual Technical Working Parties will have submitted to it in docu- ments TC/32/3 and TC/32/3 Add.

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

4. The Committee will note the report on the progress of the work of the Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular (BMT), approve its programs for the coming year and discuss any subjects on new methods resulting from that report.

Test Guidelines

5. During the session, the Committee will take decisions on the Test Guide- lines which will be submitted by the Technical Working Parties for final adoption, after having agreed on changes which will be proposed orally by the Editorial Committee.

6. The Technical Working Party for Agricultural Crops (TWA) and Technical Working Party for Vegetables (TWV) have already decided to submit the follow- ing documents to the Committee for adoption:

TG/45/5(proj.) Cauliflower/Chou-fleur/Blumenkohl
TG/57/5(proj.) Flax/Linseed/Lin/Lein
TG/151/2(proj.) Broccoli/Brocoli/Brokkoli
TG/152/2(proj.) Chamomile/Anth£mis/Kamille.

The Technical Working Party for Ornamental Plants and Forest Trees (TWO) and the Technical Working Party for Fruit Crops (TWF) may decide to submit the following documents to the Committee for adoption:

TG/14/6(proj.) Apple/Pommier/Apfel
TG/22/7(proj.) Strawberry/Fraisier/Erdbeere
TG/35/4(proj.) Cherry/Cerisier/Kirsche
TG/42/4(proj.) Rhododendron/Rhododendron/Rhododendron
TG/53/4(proj.) Peach/Pêcher/Pfirsich
TG/86/3(proj.) Anthurium/Flamingoblume
TG/96/2(proj.) Norway Spruce/Epicea Commun/Gemeine Fichte.

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-fourth session in Hanover, Germany, from June 20 to 22, 1995, under the chairmanship of Mr. H. Ghijsen (Netherlands). The full report on that session appears in document TWA/24/13 Prov. During its session the TWA completed, for presen- tation to the Committee for adoption, draft Test Guidelines for Flax, Linseed (Revision). It also completed, for presentation to the

professional organi- zations for comments, draft Test Guidelines for Rape Seed (Revision). It also discussed, but will have to continue to discuss in its next session, draft Test Guidelines for Soya Bean (Revision), Subterranean Clover, Rice (Revi- sion), Cotton (Revision) and Bromus. In addition to the discussions on Test Guidelines, the Working Party discussed or rediscussed the following subjects:

(i) It noted the new procedure for the establishing of Test Guidelines and the stage of preparation of the UPOV ROM Demonstration CD which it recommended to be made available to breeders also.

(ii) It noted the decision of the Commitee with respect to the use of electrophoretic characteristics as additional characteristics only, which cannot be used alone to establish distinctness, and the use of disease resistance characteristics and their definition.

(iii) It supported the proposal of the TWC that UPOV make available the Test Guidelines via e-mail.

(iv) It discussed the possible use of electrophoresis in potato, Kentucky bluegrass, ryegrass and timothy.

(v) It noted the drafting of a document on sequential analysis by the TWC and appreciated the fact that its request for such a document had been taken up by the TWC and the Committee.

(vi) It agreed that the COYD and COYU analyses were prepared for cross- fertilized species only, although some experts saw no difficulties in applying COYD (but not COYU) also to self-fertilized crops. It saw, however, little need for statistical methods for self-fertilized species in its field of com- petence.

(vii) It agreed that it was important to work on the harmonization of meth- ods of image analysis and the interpretation of the data recorded.

(viii) It noted the discussions in the TWC concerning the improvement of the latest documents on COYD (Combined Over-Years Distinctness Analysis), COYU (Combined Over-Years Uniformity Analysis) and the maximum number of off-types in self-fertilized species, covering the population standard, the acceptance probability, clarifications concerning the range of applicability of these documents and the criteria for choosing the right population standard.

(ix) It had detailed discussions on the different testing systems in the member States and the different degrees of involvement of the breeder. More details will be collected by means of an amended questionnaire.

8. The twenty-fifth session of the TWA will be held in Thessaloniki, Greece, from June 11 to 14, 1996. During its twenty-fifth session the Working Party plans to complete, for presentation to the Committee for adoption, the Test Guidelines for Rape Seed (Revision) and to discuss or rediscuss working papers on Test Guidelines for Rice (Revision), Cotton (Revision), Bromus, Soya Bean (Revision), Subterranean Clover, Sunflower (Revision), Tobacco and Lotus. In addition to Test Guidelines, it is planned to discuss the following items: UPOV central computerized database, survey on the use of electrophoresis, new alleles for wheat, barley and maize, statistical methods, sequential analysis, chi-squared test or other tests for organizing field tests, visually-assessed characteristics, 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 Slupia Wielka, Poland, from June 7 to 9, 1995, under the chairmanship of Mr. S. Gr£goire (France). The full report on that session appears in document TWC/13/19 Prov. The main elements arising from the session are as described below.

(i) UPOV-ROM Demonstration Disc: It appreciated the progress made in the preparation of the UPOV-ROM Demonstration Disc and invited all experts to send their comments or proposed answers to the questions raised in Circular U 2777 to the Office of UPOV.

(ii) Invitation of the European Union (EU) to sessions of the TWC: It noted that the EU was preparing to establish a computer system for the hand- ling of the administrative data of the new PVR office. The Working Party recommended that the EU be invited to future sessions of the TWC.

(iii) 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 check whether the translations have kept the original functions unchanged.

(iv) Possibilities of biometry in the establishing of Test Guidelines: It noted the different methods available to evaluate the usefulness of given characteristics in Test Guidelines.

(v) Methods to handle visually-observed characteristics: It studied several methods with a view to assisting experts in taking decisions and will continue this study.

(vi) Long-term LSD method: It studied the application of the long-term LSD method after one year and the necessity to warn applicants of possible problems in the distinction of their varieties.

(vii) Testing for off-types in more than one test or more than one year: It studied the application of the method explained in document TWC/11/16 to more than one test and will continue this study.

(viii) Population standard: It had lengthy discussions and will continue discussing the selection of the correct population standard and the diffi- culties experienced by certain crop experts in choosing a population standard.

(ix) Sequential analysis: It discussed a draft paper on sequential analy- sis and will present it to the Committee after the agreed amendments have been made.

(x) Image analysis: It noted the results of a questionnaire on image analysis and a proposal for a project for the study of image analysis sub- mitted to the European Union (EU) for financing. Depending on the success of that proposal it may propose the setting-up of a subgroup in cooperation with the Technical Working Party for Ornamental Plants and Forest Trees (TWO) to study image analysis.

(xi) Multivariate analysis: It discussed several methods for multivariate analysis. It recommended the Mahalanobis D^2 method for the selection of the most similar variety to be cited in variety descriptions. It noted a method to detect outlyers in the test and the application of multivariate analysis to image analysis which it will continue to study.

(xii) Improvement of communication: It discussed the possibilities of improving the perception of statistical documents and the improvement of communication. It will rewrite other documents on the COYD and COYU methods, and the testing of uniformity according to document TWC/11/16. It updated information on telecommunication and exchangeable software and the list of documents prepared by the TWC. It recommended the Committee to consider making available UPOV documents (e.g. Test Guidelines, COYD and COYU methods, TWC/11/16, etc.) via e-mail and to recommend a broader use of e-mail facili- ties.

10. The fourteenth session of the TWC will be held in Hanover, Germany, from June 4 to 6, 1996. During that session, the TWC plans to discuss or rediscuss the following items: handling of visually-assessed characteristics; possi- bilities of biometry to help in the establishment of guidelines with respect to visually-assessed characteristics; review of different methods helpful in taking decisions in visually-assessed characteristics; application of the Generalized Linear Model (GLM) to an example of a visually-assessed charac- teristic; application of document TWC/11/16 to an example of visually-as- sessed characteristics; testing of uniformity; fluctuation of off-types from year to year in self-fertilized crops; statistical models for the population standard; views of crop experts on the variation or non-variation of the population standard from year to year; tools that might help to find the right population standard and decision rule for different sample sizes; guide to help find the right method to be used for the testing of uniformity; dif- ference of application of binomial distribution and hypergeometric distri- bution; sequential analysis; image analysis; detection of outlyers by multivariate analysis applied to the validation of data; improvement of communication; improvement of statistical documents (COYD and COYU methods, TWC/11/16); telecommunication, exchangeable software and contacts; list of statistical documents prepared by the TWC; glossary of definitions.

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

11. The Technical Working Party for Vegetables held its twenty-ninth session in Roelofarendsveen, NL, from June 26 to July 1, 1995, under the chairmanship of Mrs. E. Kristçf (Hungary). The full report appears in document TWV/29/15 Prov. During the session, the TWV discussed and completed for presentation to the Committee for final adoption draft Test Guidelines for Cauliflower, Broccoli and Chamomile. The TWV also discussed and completed for submission to the professional organizations for comments draft Test Guidelines for Spinach (Revision), Leaf Chicory, Pumpkin, Beetroot (Revision) and Ginger. It furthermore discussed or rediscussed working papers for Test Guidelines for Onion (Revision), Shallot, Globe Artichoke and Poppy. In addition to the discussions on Test Guidelines, the TWV discussed or rediscussed the following other subjects:

(i) It noted the decision of the Committee with respect to the use of electrophoretic characteristics and characteristics on diseases, the new procedures for the adoption of Test Guidelines, and the recent developments in the work on the setting-up of a UPOV Central Computerized Data Base.

(ii) It had a long discussion on the COYD and COYU analyses and considered the methods of little use for vegetable varieties and not suitable for use on a routine basis.

(iii) It discussed the use of image analysis and noted that some States applied the method to bean, pea, onion, carrot and raddish as a routine. It asked the TWC to prepare a project also for vegetables.

12. A Subgroup meeting on Onion and Shallot is scheduled to be held in Brion, France, on October 11, 1995, in connection with a European Union comparative trial field meeting on October 9 and 10 at the same place.

13. The thirteeth session of the TWV is scheduled to be held in Brno, Czech Republic, from July 8 to 12, 1996. During that session, the TWV will discuss, with a view to submission to the Committee for final adoption, Test Guidelines

for Spinach (Revision), Leaf Chicory, Pumpkin, Beetroot (Revision), and Ginger. It will furthermore discuss or rediscuss, as time permits, working papers on Test Guidelines for Onion (Revision), Shallot, Welsh Onion/Bunching Onion, Witlof, Cucurbita moschata, Garlic, Globe Artichoke, Lentil, Broad Bean (Revision), Rhubarb (Revision), Celeriac (Revision), Cornsalad (Revision), Leek (Revision), Swede (Revision), Fennel, Industrial Chicory, Okra and Dill. In addition to Test Guidelines, it is planned to discuss the following items: general presentation of Test Guidelines with special emphasis on character- istics on size, weight and attitude, statistical methods and Genetically Modi- fied Organism (GMO) varieties.

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

14. The progress report of the Technical Working Party for Fruit Crops (TWF) will be given in an addendum to the present document. The twenty-sixth session of the TWF is scheduled to be held in Canterbury, United Kingdom, from September 11 to 15, 1995. During that session, the TWF plans to complete the Test Guidelines for Apple (Revision), Cherry (Revision), Peach (Revision) and Strawberry (Revision), for submission to the Committee for final adoption. It will also discuss or rediscuss working papers on Test Guidelines for Apple Rootstocks, Citrus (Revision), European Plum (Revision), Grape (Revision), Japanese Apricot, Kiwi, Loquat, Pear (Revision), Pear Rootstocks, Prunus Rootstocks, Walnut and Walnut Rootstocks. The following other items are planned for discussion: color observations, new methods, techniques and equipment in the examination of varieties; bibliography of published papers on new techniques; statistical methods; uniformity in vegetatively propagated and self-pollinated varieties; UPOV Central Computerized Data Base; disease resistance characteristics in distinctness testing; list of species in which practical technical knowledge has been acquired.

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

15. The progress report of the Technical Working Party for Ornamental Plants and Forest Trees (TWO) will be given in an addendum to the present document. The twenty-eighth session of the TWO is scheduled to be held in Wageningen, Netherlands, from September 4 to 9, 1995. During that session, the TWO plans to complete the Test Guidelines for Norway Spruce, Rhododendron (Revision) and Anthurium (Revision) for submission to the Committee for final adoption. It will also discuss or rediscuss Test Guidelines for Bouvardia, Chrysanthemum (Revision), Cymbidium, Ficus Benjamina, Firelily, Geralton Wax Flower, Iris, Kangaroo Paws, Lavender and Lavendine, Limonium, Ornamental Apple (Revision), Serruria and Thymus. Discussion of the following items is also planned: color observations; image analysis; new methods, techniques and equipment used in the examination of varieties; lists of species varieties of which are tested; handling of visually observed characteristics; disease resistance characteristics; central computerized data base; uniformity of vegetatively propagated species; uniformity of species/varieties which are propagated both by seed and vegetatively.

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

16. The progress report of the Working Group on Biochemical and Molecular Techniques, and DNA Profiling in Particular (BMT) will be given in an addendum to the present document. The third session of the BMT is scheduled to be held

in Wageningen, Netherlands, from September 19 to 21, 1995. During that session, the BMT plans to continue its studies on an enlarged number of methods, on various general aspects and on a larger basis of species covering Apple, Barley, Hydrangea, Lolium, Lucerne, Maize, Oats, Oilseed Rape, Pinus maritimus, Poplar, Prunus, Sunflower and Tomato. For each of these species it is planned to prepare documents which would (i) list the different methods under study, (ii) list the questions and problems that arise, (iii) assess the objectives for the species concerned, (iv) compare and evaluate the methods, taking into account especially knowledge of the genetic control of the markers used, the repeatability inside one laboratory and between laboratories, (v) consider the general availability of the method (especially if the method is patented), (vi) consider costs involved in using each method, (vii) evaluate the aspect of uniformity and stability through a plant-to-plant comparison and whether the method might be useful for DUS purposes and or the proof of essential derivation, (viii) propose standar- dization of the method considered best for that species. A document with definitions of the terms used in relation to each method would also be prepared in order to harmonize the terms in discussions. Breeders will try to prepare statements on their positions on DNA profiling methods for DUS tests and for the establishment of essential derivation.

17. The Council is invited to

(i) note and approve the above information and the program of the Committee;

(ii) note and approve the program of the Technical Working Parties as reproduced above and in document C/29/10 Add.

Status of Test Guidelines

18. The Annex to this document contains an updated account of the status of Test Guidelines on August 1, 1995.

[Annex follows]

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

Addendum prepared by the Office of the Union

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

1. The Technical Working Party for Fruit Crops held its twenty-sixth session in Canterbury, United Kingdom, from September 11 to 15, 1995, under the chairmanship of Mrs. E. Buitendag (South Africa). The full report on that session will appear in document TWF/26/ Prov. During the session, the TWF completed the Test Guidelines for

Apple, Strawberry, Cherry, and Peach

for submission to the Technical Committee for final adoption. It also completed the Test Guidelines for

Citrus (Revision)
Prunus Rootstocks
European Plum (Revision)
Japanese Apricot (Prunus mume)
Loquat (Eriobotrya japonica)
Pear (Revision)
Pear Rootstocks
Walnut (Revision)
Walnut Rootstocks
Kiwifruit (Revision)
Grape (Revision)
Apple Rootstocks

, prior to their submission to the professional organizations for comments. It furthermore (re)discussed working papers on

Citrus (Revision)
Prunus Rootstocks
European Plum (Revision)
Japanese Apricot (Prunus mume)
Loquat (Eriobotrya japonica)

Pear (Revision)
Pear Rootstocks
Walnut (Revision)
Walnut Rootstocks
Kiwifruit (Revision)
Grape (Revision)
Apple Rootstocks

. In addition to the discussions on Test Guidelines, the Working Party discussed or rediscussed the following subjects:

(i) It noted the decision of the Committee with respect to the use of electrophoretic characteristics and characteristics on diseases, and the new procedures for the adoption of Test Guidelines.

(ii) It appreciated the recent developments in the work for the setting-up of a UPOV Central Computerized Data Base and that a demonstration disc will be distributed in the comming days. It asked all experts to study that disc and make any comments for improvement of its use in the ornamental field.

(iii) It

(iv) It discussed in detail the use of image analysis in DUS testing of ornamental plants and supported the proposal to set up a special Subgroup.

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

(vi) It

(vii) It continued its discussions on the involvement of the applicant in the testing of varieties.

(i) It discussed and will rediscuss the grouping of apple mutants with a colorimeter, the measuring of color of apples with image analysis and the storage of data generated by image analysis.

(ii) It suggested that instead of the efforts concentrated on the study of fingerprinting with DNA analysis, more studies should be made on developing methods for the study of morphological characteristics, e.g. image analysis for the observation of pollen surface.

(iii) It will complete the list of species in which practical technical knowledge has been acquired.

(iv) It will rediscuss, and it requested the TWC to rediscuss, the calculation of the beta risk in the testing of uniformity, as the method developed for seed propagated varieties was not applicable to vegetatively propagated varieties.

14. The twenty-seventh session of the TWF is scheduled to be held in

, from
, 1996. During that session, the TWF plans to complete the Test Guidelines for
Citrus (Revision)
Prunus Rootstocks
European Plum (Revision)
Japanese Apricot (Prunus mume)
Loquat (Eriobotrya japonica)
Pear (Revision)
Pear Rootstocks
Walnut (Revision)
Walnut Rootstocks
Kiwifruit (Revision)
Grape (Revision)
Apple Rootstocks

, for submission to the Committee for final adoption. It will also (re)discuss working papers on Test Guidelines for

Citrus (Revision)
Prunus Rootstocks
European Plum (Revision)
Japanese Apricot (Prunus mume)
Loquat (Eriobotrya japonica)
Pear (Revision)
Pear Rootstocks
Walnut (Revision)
Walnut Rootstocks
Kiwifruit (Revision)
Grape (Revision)
Apple Rootstocks

. The following other items are planned for discussion: color observations, new methods, techniques and equipment in the examination of varieties; bibliography of published papers on new techniques; statistical methods; uniformity in vegetatively propagated and self-pollinated varieties; UPOV Central Computerized Data Base; disease resistance characteristics in distinctness testing; list of species in which practical technical knowledge has been acquired.

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

3. The Technical Working Party for Ornamental Plants and Forest Trees held its twenty-eighth session in Wageningen, Netherlands, from September 4 to 9, 1995, under the chairmanship of Mrs. U. Löscher (Germany). The full report will appear in document TWO/29/ Prov. During the session, the TWO completed the Test Guidelines for

Rhododendron, Anthurium, and Norway Spruce

prior to their submission to the Technical Committee for final adoption. It also completed the Test Guidelines for

Iris
Kangaroo Paw
Limonium
Chrysanthemum (Revision)
Lavender and Lavendine
Firelily (Cyrtanthus)
Geralton Wax Flower
Serruria
Thymus
Cymbidium
Ficus benjamina
Bouvardia
Ornamental Apple (Revision)

prior to their submission to the professional organizations for comments. It furthermore (re)discussed working papers on Test Guidelines for

Iris
Kangaroo Paw
Limonium
Chrysanthemum (Revision)
Lavender and Lavendine
Firelily (Cyrtanthus)
Geralton Wax Flower
Serruria
Thymus
Cymbidium
Ficus benjamina
Bouvardia
Ornamental Apple (Revision)

. In addition to the discussions on Test Guidelines, the Working Party discussed or rediscussed the following subjects:

(i) It noted the decision of the Committee with respect to the use of electrophoretic characteristics and characteristics on diseases, and the new procedures for the adoption of Test Guidelines.

(ii) It appreciated the recent developments in the work for the setting-up of a UPOV Central Computerized Data Base and that a demonstration disc will be distributed in the comming days. It asked all experts to study that disc and make any comments for improvement of its use in the ornamental field.

(iii) It wellcomed the decision of the Technical Committee to include in the Technical Questionnaires for ornamental species the request for a representative photo of the distinguishing characteristics of each candidate variety.

(iv) It discussed in detail the use of image analysis in DUS testing of ornamental plants and supported the proposal to set up a special Subgroup. 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 digitalised form.

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

(vi) It discussed the handling of visually assessed characteristics and

(vii) It continued its discussions on the involvement of the applicant in the testing of varieties.

(viii) It rediscussed the method for the calculation of the beta risk (the risk of accepting a heterogeneous variety) for vegetatively propagated species, and the assumptions underlying the present method for seed propagated varieties.

(ix) It

15. The twenty-nineth session of the TWO is scheduled to be held in

, from

, 1996. During that session, the TWO plans to complete the Test Guidelines for

Iris
Kangaroo Paw
Limonium
Chrysanthemum (Revision)
Lavender and Lavendine
Firelily (Cyrtanthus)
Geralton Wax Flower
Serruria
Thymus
Cymbidium
Ficus benjamina
Bouvardia
Ornamental Apple (Revision)

for submission to the Committee for final adoption. It will also discuss or rediscuss Test Guidelines for

Iris
Kangaroo Paw
Limonium
Chrysanthemum (Revision)
Lavender and Lavendine
Firelily (Cyrtanthus)
Geralton Wax Flower
Serruria
Thymus
Cymbidium
Ficus benjamina
Bouvardia
Ornamental Apple (Revision)

. Discussion of the following items is also planned: color observations; image analysis; new methods, techniques and equipment in the examination of varieties; lists of species in which varieties are tested; handling of visually observed characteristics; disease resistance characteristics; central computerized data base; uniformity of vegetatively propagated species; uniformity of species/varieties which are propagated both by seed and vegetatively.

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

3. The Working Group on Biochemical and Molecular Techniques, and DNA Profiling in Particular held its third session in Wageningen, Netherlands, from September 19 to 21, 1995, under the chairmanship of Mr. Guiard (France). The full report will appear in document BMT/3/ Prov. During the session, the BMT

plans to continue its studies on an enlarged number of methods, on various general aspects and on a larger basis of species covering Apple, Barley, Hydrangea, Lolium, Lucerne, Maize, Oats, Oilseed Rape, Pinus maritimus, Poplar, Prunus, Sunflower and Tomato. For each of these species documents would be prepared which would (i) list the different methods under study, (ii) list the questions and problems that arise, (iii) assess the objectives for the species concerned, (iv) compare and evaluate the methods, taking into account especially knowledge of the genetic control of the markers used, the repeatability inside one laboratory and between labora- tories, (v) consider the general availability of the method (especially if the method is patented), (vi) consider costs involved in using each method, (vii) evaluate the aspect of uniformity and stability through a plant-to-plant comparison and whether the method might be useful for DUS purposes and or the proof of essential derivation, (viii) propose standardization of the method considered best for that species. A document would also be prepared with definitions of the terms used in relation to each method in order to harmonize the terms in discussions. Breeders will try to prepare statements on their positions on DNA profiling methods for DUS tests and for the establishment of essential derivation.

The meeting was attended by experts from member States, observer States, observer organizations.

4. The session started with the presentation of papers on DNA-profiling methods with respect to individual species covering

Apple, Barley, Hydrangea, Lolium, Lucerne, Maize, Oats, Oilseed Rape, Pinus maritimus, Poplar, Prunus, Sunflower and Tomato

and one paper on distances for varietal characterization.

5. Although it had been planned to discuss firstly the use of the methods for DUS purposes and afterwards their use for essential derivation, the dis- cussions immediately inverted the order.

6. The Working Group saw little difficulty with the use of the methods for the judgement of essential derivation, however, it did not enter into discus- sions on the correct boundaries as from which a variety was no longer con- sidered an essentially derived variety (edv). It reconfirmed that the judg- ment of essential derivation was not part of the procedures for the granting of plant variety protection. The fixing of the correct boundaries was the task of the breeders; guidance from UPOV on the methods could however be useful.

7. With respect to the use of DNA profiling for DUS purposes, all agreed thatit would be premature at that stage to take a decision. Much more knowledge is necessary and in the end decisions would have to be taken crop by crop. Some experts doubted whether the requirements of uniformity and stability could be fulfilled at all. Others doubted whether methods which did not distinguish between the phenotype or the expression of a gene and its pure presence, could be acceptable under the UPOV Convention. While some con- sidered that the methods gave useful complementary information and could be useful for identification purposes, others raised doubts also in that respect.

8. Breeders repeated the wish to keep the criteria of distinctness, unifor- mity and stability completely separate from those for essential derivation. If possible the same should also apply for the tools used to define those criteria. There was a risk that when the same tools were

used in relation to both criteria a risk of confusion would arise. The DNA-profiling techniques were considered primarily to be tools to establish a genetic link between varieties and to trace parentage. It was preferable to search for objective assessments of the genetic distance, crop by crop, discuss the thresholds for each crop and try to reach a common agreement among breeders. The advantages and disadvantages of each of the methods, their limits and the way of calcu- lating and interpreting the results should be discussed and fixed crop by crop.

16. The fourth session of the BMT is scheduled to be held in

, from

, 1996. During that session, the BMT plans to continue its studies on an enlarged number of methods, on various general aspects and on a larger basis of species covering

Apple, Barley, Hydrangea, Lolium, Lucerne, Maize, Oats, Oilseed Rape, Pinus maritimus, Poplar, Prunus, Sunflower and Tomato.

For each of these species documents are planned to be prepared which would (i) list the different methods under study, (ii) list the questions and problems that arise, (iii) assess the objectives for the species concerned, (iv) compare and evaluate the methods, taking into account especially knowledge of the genetic control of the markers used, the repeatability inside one laboratory and between labora- tories, (v) consider the general availability of the method (especially if the method is patented), (vi) consider costs involved in using each method, (vii) evaluate the aspect of uniformity and stability through a plant-to-plant comparison and whether the method might be useful for DUS purposes and or the proof of essential derivation, (viii) propose standardization of the method considered best for that species. A document with definitions of the terms used in relation to each method would also be prepared in order to harmonize the terms in discussions. Breeders will try to prepare statements on their positions on DNA profiling methods for DUS tests and for the establishment of essential derivation.

11. The Council is invited to

(i) note and approve the above information and the program of the Technical Working Parties;

(ii) note and approve the program of the Technical Committee and the Technical Working Parties as reproduced in document C/29/10.

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