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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL COMMITTEE

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MATTERS ARISING FROM THE 1990 SESSIONS OF THE TECHNICAL WORKING PARTIES
TO BE DEALT WITH BY THE TECHNICAL COMMITTEE

Document prepared by the Office of the Union

This document summarizes, in its Annex I, matters arising from the 1990 sessions of the Technical Working Parties which have to be dealt with by the Technical Committee (hereinafter referred to as "the Committee"). They comprise: (i) questions presented by the Technical Working Parties to the Committee; (ii) important decisions taken by the Technical Working Parties and communicated to the Committee for information; (iii) matters dealt with by the Technical Working Parties on the instructions of the Committee or in preparation for discussions planned in the Committee under separate agenda items. The headings of the different items are listed on page 1 of Annex I.

As the TWF and TWO meet just a few weeks before the Committee, some further questions may be presented orally during the session or in an addendum to this document.

To shorten references to the various Technical Working Parties in this document, use is made of the following codes that designate their documents:

- 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.

[Annex I follows]

MATTERS ARISING FROM THE 1990 SESSIONS OF THE TECHNICAL WORKING PARTIES
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Most Similar Variety

1. The TWC noted several documents on the evaluation of similar varieties, namely document TWC/VIII/6 on Methods for Identifying Similar Varieties, document TWC/VIII/7 on Dissimilarity Between Varieties Using Non-Continuous Measurements and document TWC/VIII/12, entitled A Tool to Compare Varieties. The TWC noted that the methods used in member States to arrive at similar varieties were quite alike, although differing in details. It considered it useful to bring the various methods together. The expert from the United Kingdom would prepare a summary of the procedures for distribution to the other Technical Working Parties for information and comments (see document TWC/VIII/15). The TWC also asked that the Committee be informed of the fact that there were different views as to the usefulness of indicating similar varieties in the variety descriptions.

(see TWC/VIII/13 Prov., paragraphs 22 to 25)

2. The Committee is invited to note the above information.

Standardized Variety Description

3. The TWC noted document TWC/VII/19 containing a method for the standardizing between testing centers of those variety descriptive scores that are based on continuous measurements. The TWC felt it necessary to gain more experience with that method. It agreed to apply it to the cereal Test Guidelines at present under revision.

4. At the request of the TWC, the TWV noted the same document and the latter finally concluded that it was not of very high practical importance for its work, as only few testing centers had results over several years. The TWV preferred the fitted constance method for the selection of example varieties. It could not see an economical advantage of the new method over that method. In measured characteristics distinctness was not based on a given state of expression, but on the difference between the two varieties concerned.

(see TWC/VIII/13 Prov., paragraphs 28 to 30, TWV/XXIII/22 Prov., paragraph 18)

5. The Committee is invited to note the above information.

Access to International Data

6. The TWA, TWC and TWV noted document TC/XXV/10 and paragraph 19 of document TC/XXV/11 in which the following questions were raised by the Committee: "(a) which type of information was important for the Technical Working Parties and (b) what would be the benefit of having that information available on-line." After an enquiry during the TWC session, it became apparent that the majority did not consider the question to be of high priority. The main problem of an on-line access would be the status of the accessed information, i.e. whether it was an officially authorized information or of an intermediate nature, which might even mislead those accessing it. Therefore, many experts still preferred written, authorized publications. On the other hand, it was not denied that transmission in electronic form--for example by electronic mail or with a disquette--of certain published data

could be advantageous, as it could reduce the time between authorization for publication and availability to experts. Certain information, if transmitted in electronic form, could also save time enabling the receiving office to include it immediately in its computer without the necessity to type it in manually. The TWC discussed as a possible solution the idea to establish a pilot project for a common data structure and to try it out on data from a certain species in order to gain experience. However, at the present stage, it finally decided against such a project. Instead, it agreed to try and facilitate the transmission in electronic form of published information and its possible inclusion in other computers.

7. The TWV confirmed its wish to have access on-line, in order to read and to be able to copy part of information or to receive that information in electronic form, on the following three subjects: (i) final description of the variety prepared at the end of the DUS testing (which would have the advantage of having access to that description earlier in time and being able to transfer it into one's own database); (ii) information on the grouping characteristics of the candidate varieties under test; (iii) information on the reference collection used in the different member States.

8. The TWV stressed the importance of being able to transfer the variety descriptions from other databases as normally there would have to be secretaries employed to copy the information received in a printed form back to their national databases and then to proofread that information to avoid errors which may slip in. Thus the accuracy of the information would be guaranteed, while saving cost and labor. The grouping characteristics of the candidate varieties under test were of high value for own tests. This information should also include candidate varieties which were under test only for national listing. Exchange of information of that kind would avoid or reduce the risk that other member States would test the same plant material which in their country had been applied for protection or national listing under different reference numbers.

9. The TWA noted that this matter should be studied carefully in the light of the confidential nature of the data. A start could be made with the list of varieties under test, which contained very useful information which would not cause any problem to the authorities.

(see TWA/XIX/9 Prov., paragraph 5, TWC/VIII/13 Prov., paragraphs 32 to 34, TWV/XXIII/22 Prov., paragraphs 14 and 15)

10. The Committee is invited to note the above information and to consider possible steps to be taken.

Common Data Structure for Data from Electrophoresis Tests or Other New Methods

11. The TWC noted document TWC/VIII/3 on Common Data Structure for Electrophoretic Data. The document raised three main aspects, namely (i) general principles for computer database structures with respect to international harmonization and exchange of information; (ii) a proposal for a database design using a relation model for electrophoretic data; and (iii) computer programs to look at the data or to compute data. The TWC agreed to circulate the document to the members of the TWA, as well as to the TWA Subgroup on Electrophoresis in Cereals and invite their comments.

12. The TWC noted document TWC/VIII/4 on the NIAB/PVRO Corporate Data Structure. The database structure explained in the document was intended to support various application areas, including the administration of national list and plant breeders' rights schemes, DUS and VCU trials, seed certification and the supporting seed testing procedures. The intention was to minimize data duplication and related overheads by holding the data once and once only and making it accessible to all other approved applications for reading or updating. An access control system, itself consisting of database tables, had been built to ensure that only authorized applications and users could access specific areas of the database. If the requirements of other countries could be considered and incorporated at the consolidation stage of the above data structure, then it might be possible to develop a recommended data structure for those countries that have not yet computerized their systems as well as for those who might be changing their systems at some time in the future. Such a structure would enable an easy standard access to authorized data in other countries and provide a good basis for the exchange of variety information. The TWC invited the experts to study the DUS Logical Data Structure at home and to check whether it could be suitable in their respective countries.

(see TWC/VIII/13 Prov., paragraphs 18, 19, 32 to 36)

13. The Committee is invited to note the above information and to consider possible steps to be taken.

Programs Which Can Be Readily Assimilated into Other Plant Variety Computer Systems

14. The TWC noted the updating of the overview of the different programs, contained in Annex VIII of document TWC/VI/13, and agreed to continue updating that list. From a survey during the session it appeared that GENSTAD was used in the Federal Republic of Germany, The Netherlands, the United Kingdom and South Africa, while SAS was used in Denmark, partly in Israel and in the seed industry in France. The Federal Republic of Germany also intended to switch to SAS.

(see TWC/VIII/13 Prov., paragraphs 37 and 38)

15. The Committee is invited to note the above information.

Testing of Homogeneity of Self-Fertilized and Vegetatively Propagated Species

16. The TWV noted document TC/XXV/8 containing tables for different parameters for population standards, sample size, maximum number of off-types and acceptance probability. It would follow the proposal of the Committee to use the tables. If the individual Test Guidelines would be silent, that would mean that Table 11 of document TC/XXV/8 was applicable, with an acceptance probability of 99% and a population standard of 1%.

17. The TWA would need more time to rediscuss document TC/XXV/8 before applying the tables.

(see TWA/XIX/9 Prov., paragraph 6, TWV/XXIII/22 Prov., paragraph 17)

19. The Committee is invited to note the above information and to consider possible steps to be taken.

Testing of Homogeneity in Cross-Fertilized Plants with the Combined Over-Years Uniformity (COU) Criterion

19. The TWC noted document TWC/VIII/8 on the Evaluation of Over-Years Criterion for Uniformity. The document contained a summary of data from a number of member States and for several crops which had been studied and compared with the current UPOV uniformity criterion as laid down in the General Introduction to the Test Guidelines. The document concluded by proposing certain probability levels for the Over-Years criterion which were comparable with the current UPOV criterion. The TWC reconfirmed that the COU Criterion was a unique method and recommended to the Committee that all member States should move towards studying that method and applying it to cross-fertilized species. At present, however, further studies would be necessary before the probability levels could be fixed.

(see TWC/VIII/13 Prov., paragraphs 16 and 17)

20. The Committee is invited to note the above information and to consider possible steps to be taken.

Review of Documents on Statistical Methods Discussed During Past Sessions of the TWC

21. The TWC would prepare a review of certain documents on statistical methods discussed during past sessions.

22. It would also prepare an index system to facilitate the tracing of documents. All future documents to be prepared for the TWC will be given a key word by the respective authors.

(see TWC/VIII/13 Prov., paragraphs 46 and 47)

23. The Committee is invited to note the above information.

Combined Over-Years (COY) Analysis

24. The TWC noted the results of the discussions on the question of the combined Over-Years analysis in the Committee as reproduced in paragraphs 22 to 25 of document TC/XXV/11. The TWC noted several further studies from which it concluded that (i) with reference to document TWC/VII/2 on the Additional Calculations for Non-Independent Characteristics in the Application of COY analysis, no great type-I error was made if it was continued to assume that no correlation between characteristics existed; (ii) with reference to document TWC/VIII/5 on Variety Grouping for Herbage DUS Analysis, there would be no advantage in changing the present procedure of analysing by maturity groups; (iii) with reference to grouped COY analysis, that should not be the routine procedure to be applied and be used only in case of the impression that the assumptions of the classical method were not right.

25. Having noted the request of the Committee to apply, wherever possible, the Combined Over-Years analysis, the TWV had a long discussion on the possibilities. It finally stated that in its field not so many characteristics would be measured and, if at all, only for a few species. In addition, very often the trials were very small, not reaching the minimum of 20 varieties for two years of tests or 10 varieties for three years of tests. The TWV finally asked that the Committee be informed that, at the moment, for vegetable species the significance level would have to remain open until further studies had been made. At present, only three countries used the Combined Over-Years analysis on an experimental level. In total, more time was needed to study the method. An additional problem in its field was that trials were often not randomized because most characteristics were not measured and therefore the data could not be used for the Combined Over-Years analysis. The TWV would try and apply the Combined Over-Years analysis for measured characteristics in the beginning for carrot, fava beans, leek and onion.

(see TWC/VIII/13 Prov., paragraphs 5 to 12, TWV/XXIII/22 Prov., paragraph 16)

26. The Committee is invited to note the above information and to consider possible steps to be taken.

Long-Term LSD

27. The TWC discussed the possibility of an estimation of COY variance and long-term LSD on the basis of document TWC/VIII/10. It would establish a computer program on those calculations and circulate it to all experts who have received the program for the COY analysis. Some experts would try to apply that program to varieties of Persian Clover and some vegetable varieties.

(see TWC/VIII/13 Prov., paragraphs 14 and 15)

28. The Committee is invited to note the above information.

Testing of Bremia Lactucae in Lettuce

29. The TWV had a long discussion on whether, in the description of lettuce varieties, the presence or absence of Dm-genes should be indicated or only whether the variety was resistant to certain isolates. It finally proposed that "Lettuce varieties should be described either as being resistant against specified isolates or as having at least the Dm-gene component" The new version of the proposal for the testing of resistance of lettuce varieties against Bremia lactucae with some further changes would be circulated to the experts before it would be published as part of the Test Guidelines for Lettuce.

(see TWV/XXIII/22 Prov., paragraph 21)

30. The Committee is invited to note the above information and to consider possible steps to be taken.

Disease Resistance Characteristics

31. The TWV noted document TWV/XXIII/12 giving updated information on the inventory of diseases and races of disease for which obligatory testing is required in individual member States for resistant varieties, prepared by France on the basis of a previous document established for the Working Party. The Working Party agreed that if resistance was used for the grouping of varieties, it was necessary to always test resistance. The TWV furthermore discussed the problems of resistance against certain diseases not yet available in the country undertaking the test and whether, in certain cases, the results of breeders on resistance could be used. In order, however, to gain more experience, it agreed to collect information on all resistance characteristics in national lists of varieties for two selected species, tomato and French bean.

32. The TWV noted document TWV/XXIII/11 containing a draft report on the meeting of the UPOV Pea Subgroup of November 7, 1989, as well as information to be added to the draft Test Guidelines for Pea. The TWV agreed in principle to the resistance characteristics, but made a few further changes to the document. It had a long discussion on the indication of the different host differentials, whether that indication should be recommended or whether it should only be mentioned that they may be used, as most host differentials were not varieties but selections inside existing varieties. The TWV finally asked these methods to be included in the draft Test Guidelines for Pea under preparation and asked to request the expert from the United Kingdom to complete the still open parts indicated at present by question marks. The TWV expressed the hope that the expert would be able to prepare for the next session of the TWV a new draft for Test Guidelines for Pea according to the above changes and the request of the Committee, as stated in paragraph 35 of document TC/XXV/11. The TWV seized this opportunity to express again its disappointment on the decision of the Committee that the information on genetics would only be indicated in an annex to the Test Guidelines, this especially in view of the fact that in future the knowledge on the genotype would become more important, as could be seen from the planned revision of the text of the UPOV Convention.

33. In connection with the discussions on revised Test Guidelines for Tomato the TWV had a long discussion on the justification of a different treatment of the results of the resistance test, depending on whether the variety was a homozygous or a heterozygous variety. Mainly because of the use of a rather aggressive pathotype in test, differences could be seen between homozygous and heterozygous varieties. Some experts questioned whether it was acceptable that two different standards be used within one and the same characteristic and that the test results would be differently interpreted depending on whether the candidate variety was a homozygous or a heterozygous variety, the latter sometimes showing certain plants in resistant varieties which were affected by the disease.

34. A further problem arose during the TWV session with the presentation of different races within one disease, which in some cases could amount to up to twenty. The TWV therefore asked the Committee to discuss that subject and to make proposals on whether, in the case of several races within one disease, each race should be presented as an individual characteristic or whether all races should be grouped together in one single characteristic with an indication of the individual resistance as an expression of resistance against a certain race or isolate. In the latter presentation, a variety could or, in

general, would however have more than one state of expression of that grouped characteristic. The Committee was asked to decide whether such a presentation might be preferable or whether that fact would only disturb the present rule that for each characteristic only one expression was possible for each variety.

(see TWV/XXIII/22 Prov., paragraphs 22 to 27)

35. The Committee is invited to take the necessary decisions.

Notions of Rape Varieties

36. The TWA noted document TWA/XIX/2 Rev. containing a working paper on the revision of the Test Guidelines for Rape. It noted that there were different notions of rape varieties among member States. For some member States, rape varieties covered pure line varieties, synthetic varieties (under certain conditions) as well as hybrid varieties (in future), whereas other member States did not accept the existence of synthetic varieties which thus would be treated as normal cross-pollinated varieties as is done, for example, for grasses. The TWA agreed to set up a Subgroup on Rape in order to discuss the matter.

(see TWA/XIX/9 Prov., paragraph 24)

37. The Committee is invited to note the above information and to consider possible steps to be taken.

Variety Denominations of Brassica

38. The TWV noted that difficulties in the classes for variety denominations had occurred between the class of Brassica pekinensis and the class with other Brassica rapa or Brassica oleracea varieties. The TWV proposed to the TWA that it consider combining the present classes 5 and 6 in Annex I to the UPOV Recommendations on Variety Denominations (document UPOV/INF/12) into one class with respect to Brassica and into a second class containing only "Sinapis." The TWV would rediscuss the subject during its next session to consider whether a proposal of the above-mentioned kind should be made to the Committee.

(see TWV/XXIII/22 Prov., paragraphs 6 and 10)

39. The Committee is invited to note the above information.

Umbrella Varieties

40. The TWV noted that in the EEC, during the last six to seven years, the umbrella program had been operative with the aim to reinscribe 111 old vegetable varieties with variety descriptions improved according to the UPOV Test Guidelines. The work resulted in certain cases in separating the present umbrella varieties into three or four different varieties which in most cases

had been given variety denominations starting with the present name of the umbrella variety followed by the figures 3, 4, 5 or 6. The EEC will produce a booklet describing all these varieties and giving their relation to the old umbrella varieties about the end of the year. The new varieties are effective as of July 1, 1990, but a time for adjustment of the national situation is given. In the new EEC catalogue of February 1991, the varieties will all appear under their new name.

(see TWV/XXIII/22 Prov., paragraph 8)

41. The Committee is invited to note the above information.

Plant Material from Tissue Culture

42. During the session of the TWV, the expert from The Netherlands reported on the first application for protection of a vegetatively propagated tomato variety, leading to a general discussion on the difficulties which would come up with applications concerning vegetatively propagated varieties in species where so far only seed propagated varieties had been tested. Plant material raised from tissue culture would lead to different expressions in several characteristics when compared to plant material raised by seeds of the same variety. The main reason to seek protection for a vegetatively propagated tomato variety was the resulting early harvesting, which would enable growers to profit from higher prices at the beginning of the harvest period. The danger was seen by the TWV that propagation by tissue culture may possibly also change the genetics of the variety. It therefore asked the Committee how these cases should be treated. It was aware of the fact that the same problem also arose in other Working Parties, especially in ornamental species.

(see TWV/XXIII/22 Prov., paragraph 9)

43. The Committee is invited to note the above information and to consider possible steps to be taken.

Proposal to Amend the Technical Questionnaires

44. The TWV considered the proposed wording of paragraph 6 of the newly amended technical questionnaire to be unfortunate. It therefore proposed to the Committee to reconsider once more the wording of that paragraph and especially the heading of the second column. It proposed the following wording as a possible solution: "Characteristic(s) in which the candidate variety is different and how it differs." The TWV considered that the wording proposed by the Committee [Characteristic, in which the similar variety is different] did not take into consideration the difference between the two varieties. There may be cases where the states of expression between the two varieties could be the same despite a sufficient difference for distinctness.

(see TWV/XXIII/22 Prov., paragraph 12)

45. The Committee is invited to take the necessary decisions.

Proposals for New Chairmen for the Technical Working Parties

46. At the end of the forthcoming ordinary session of the Council in October 1990, the terms of office of the chairmen of four Technical Working Parties will come to an end. The Technical Working Parties concerned therefore propose to the Committee that it propose to the Council the election of the following experts as chairmen for the next three years:

TWC : Mr. K. Kristensen, Denmark
TWF : [still to be decided during the session of the TWF]
TWO : [still to be decided during the session of the TWO]
TWV : Mr. J.L. Evans, United Kingdom.

(see TWC/VIII/13 Prov., paragraph 48, TWV/XXIII/22 Prov., paragraph 42)

47. The Committee is invited to take the necessary decisions.

New Methods, Techniques and Equipment in the Examination of Varieties

48. This subject forms item 7 of the Draft Agenda. The TWA noted the report of the Subgroup Meeting on Electrophoresis in Cereals. A summary report of the meeting is reproduced in Annex II to document TWA/XIX/9 Prov. The TWA confirmed the decisions of the Subgroup to continue its discussions with the aim of introducing electrophoresis as a nonroutine characteristic, the use of which could be requested by the applicant if other characteristics failed to establish distinctness. It set up a further Subgroup of the Subgroup to facilitate the study. That Subgroup will meet in Surgères, France, on October 16 and 17, 1990, and the results will be presented to the TWA for discussion during its coming session. Depending on the results, the chairman may decide to also present them to the professional organizations for comments.

49. The TWV noted document TWV/XXIII/19 on the Testing of the Electrophoresis Method on Pea. Experts from France and the United Kingdom agreed to continue to work together in order to develop a possible electrophoresis method for the testing of peas. Some experts, however, did not consider such a study necessary as sufficient characteristics were available for the distinguishing of pea varieties. The TWV noted Annex IV to document TWV/XXIII/22 Prov., containing different electrophoresis methods for asparagus. Experts from France and the Federal Republic of Germany will study the application of the different methods on the 70 varieties at present under study in the EEC, in order to compare them and find out the best one. A proposal for those trials in which also example varieties from other countries should be included, would be prepared. It was suggested that seeds be sent in from countries that would like some additional varieties to be included in that study. Especially varieties from Japan and South Africa were welcome. The results of the study would then be discussed during the coming session of the TWV in order to find the best method, to harmonize that method, to check the homogeneity and see whether the method was possible for the testing of DUS in asparagus, in which case it might be included in the draft Test Guidelines for Asparagus.

50. The TWV concluded from its discussions on the general application of advanced techniques in the DUS testing, that electrophoresis tests or tests by other advanced techniques could not replace a field test. Uniformity of many phenotypic characteristics could only be seen in the field test, as there was no correlation between those characteristics and different bands in an electrophoretogram. The TWV stressed that this should always be kept in mind when discussing the application of these new advanced techniques.

51. The TWC noted paragraph 46 of document TC/XXV/11 indicating that image analysis was, at present, not yet considered suitable for cereals. However, the TWC considered the method to be an excellent tool to take measurements for several other species. Experts from the United Kingdom, the Federal Republic of Germany and France also reported briefly on their studies to measure colors.

(see TWA/XIX/9 Prov., paragraph 14, TWC/VIII/13 Prov., paragraph 21, TWV/XXIII/22 Prov., paragraphs 30 to 32)

52. The Committee is invited to note the above information and to consider possible steps to be taken.

Cooperation with Breeders in the Testing of Varieties

53. This subject forms item 8 of the Draft Agenda. During the session of the TWA, the expert from Denmark reported on the opinion expressed by breeders in her country. Danish breeders considered that, if the results of the test of a variety for the first year were sufficient for the authority to grant a plant breeder's right, the test for the second year was no longer necessary, as they wished to save cost and time. The expert from France reported that, as far as maize was concerned, only one year of official tests was needed if the data of an applicant on his candidate variety was obtained in conformity with a protocol provided by the French authority and if the results agreed with the results of the competent authority. Some experts mentioned that it would depend on characteristics and crops whether one year of tests was sufficient or not. That would be more likely the case for qualitative characteristics than for quantitative ones, and for self-pollinated rather than cross-pollinated crops, because the former characteristics or crops had less fluctuation depending on the year. It would also be more likely for major crops than minor ones because the experience of cultivation of major crops was more extensive. The expert from the United States of America recalled that in his country cooperation with breeders was a basic element of the plant breeders' right system and that a collaborative system among breeders for variety description was established. He gave an example in which three breeders, including the applicant, actually made DUS tests of a candidate variety for at least two years and would describe independently that candidate variety. The authority would therefore receive three independent descriptions of one candidate variety. The TWA finally agreed to study this subject again at its next session. The experts from France and the United States of America will prepare information papers on their respective systems before the next session.

54. The TWC noted that, according to the Committee, cooperation with breeders in the testing of varieties would be very important for the authorities in the near future when dealing with the enlargement of the lists of species of which varieties were eligible for protection and the increase of applications for protection of varieties. It agreed that breeders needed to be involved more in the growing tests, especially for smaller species for which few applications were received, but the question was mainly one for the Technical Working Parties dealing with individual species than for the TWC. It would, however, offer its help if required.

(see TWA/XIX/9 Prov., paragraphs 11 to 13, TWC/VIII/13 Prov., paragraphs 39 and 40)

55. The Committee is invited to note the above information and to consider possible steps to be taken.

Minimum Distances Between Varieties

56. This subject forms item 9 of the Draft Agenda. The TWC and TWV noted document TWC/VIII/9 Rev., the first part of which contained background information on the term of "minimum distance" with the two key notions contained in the UPOV Convention, namely "clearly distinguishable" and "important characteristic" and on the development from the 2 x 1% method for distinctness up to the application of the COY analysis. Problems had arisen with the question of minimum distances in cases where (i) the LSD was smaller than the minimum distance; (ii) the LSD was larger than the minimum distance; (iii) the minimum distance had to be estimated from small data sets; (iv) difficulties had arisen to maintain the same variety; (v) difficulties had arisen in establishing distinctness in shape characteristics; (vi) minimum distances were established with the help of biochemical techniques; or (vii) multivariate minimum distances were established. It was concluded that of the questions raised, the most important to be tackled would be the application of computational methods in the area of shape characteristics, electrophoretic data and multivariate distance measures. The TWC considered document TWC/VIII/9 Rev. to be an excellent document which should be presented to the Committee as well as distributed to the other Technical Working Parties for comments. The TWC had a long discussion on the problem of how to justify differences between varieties larger than the LSD. During these discussions, it was made clear that minimum distance and LSD were two different things. The minimum distance would be fixed by the crop expert, whereas the LSD depended on the statistical evaluation of test results. The two together would make up the effective difference required between two varieties. Two hypotheses would be possible:

if 0.5 were fixed as minimum distance by the crop expert:

$$H_0: \mu_1 = \mu_2$$

$$H_0: \mu_1 - \mu_2 < 0.5\%$$

$$H_1: \mu_1 \neq \mu_2$$

$$H_1: \mu_1 - \mu_2 \geq 0.5\%$$

In the nil-hypothesis the means are considered the same if the difference is less than a predetermined minimum distance amount; in the other hypothesis the means are different if the difference is equal or larger than that amount. The fixing of the amount depended on the experience of the crop expert and would be an arbitrary decision. The TWC recommended, however, that that amount be zero unless the crop expert specifically demanded a higher amount. If it was zero, the LSD would represent the effective difference between two varieties (see document TWC/VIII/14).

57. The TWA and TWV noted document TWA/XIX/8 Rev. on Technical Issues Arising in Relation to the Revision of the UPOV Convention and especially on minimum distances and the new concept of "essential derivation" proposed to be included in the UPOV Convention on the occasion of the present planned revision of the Convention. They asked the technical experts to study the document at home and to inform their national delegates to the October session of the Administrative and Legal Committee on any different views or additional examples which they considered should be covered by the term "essentially derived." Most experts of the TWA welcomed that new conception in view of the fact that it would exclude plagiarism of a protected variety. However, while

appreciating the introduction of the term "essentially derived" in order to fight against plagiarism, the Technical Working Parties were afraid that the introduction might lead authorities to accept smaller minimum distances for varieties. The TWV stressed that that should not happen. In addition, the TWV felt the danger that, if the decision on essential derivation were left to the judgement of the courts, that would have an influence on the work on the testing of minimum distances of the national authorities. If a court would have the final decision, that would also lead to different decisions in different countries which would raise new problems for the user of varieties. In the field of vegetable species, so far, plagiarism had posed few problems. In vegetable species breeders would look for broader minimum distances between varieties as also stated during the last Workshop on the Examination of Varieties of Lettuce held in The Netherlands in 1988.

(see TWA/XIX/9 Prov., paragraph 10, TWC/VIII/13 Prov., paragraphs 42 to 45, TWV/XXIII/22 Prov., paragraphs 19 and 20)

58. The Committee is invited to note the above information and to consider possible steps to be taken.

[End of Annex I and of document]