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TWF/XXI/7
ORIGINAL: English
DATE: November 19, 1990

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR FRUIT CROPS

Twenty - first Session
Tsukuba, Japan, September 10 to 17, 1990

REPORT

adopted by the Technical Working Party for Fruit Crops

Opening of the Session

1. The twenty-first session of the Technical Working Party for Fruit Crops (hereinafter referred to as "the Working Party") was held in Tsukuba, Japan, from September 10 to 17, 1990. The list of participants is given in the Annex to this report.

2. Mr. S. Yamamoto, Chief Examiner of the Seeds and Seedlings Division of the Agricultural Production Bureau of the Ministry of Agriculture, Forestry and Fisheries, welcomed the participants to the Tsukuba Bioscience Hall in Tsukuba Science City. The session was opened by Mr. B. Bar-Tel (Israel), Chairman of the Working Party.

Adoption of the Agenda

3. The Working Party unanimously adopted the agenda for its twenty-first session as reproduced in document TWF/XXI/1 Rev., after having deleted items 10 (vi), Apricot, and 10 (vii), Pear.

Short Report on New Developments in the Member States and Plant Variety Protection in Fruit Species

4. The Working Party received short reports from some of the experts on recent developments in their countries. The expert from The Netherlands reported on the administrative reorganisation of the variety testing, leading to the Center for Variety Research and Seed Technology (CRZ) and on the extension of the list of species in which varieties were eligible for protection to the whole plant kingdom. The expert from Germany reported on the work in the office caused by the planned unification of the two Germanies and on problems in the bilateral testing of apple varieties. The expert from Australia reported on quarantine problems in the importing of plant material of new varieties from overseas. The expert from Israel reported on the change in the payment of testing fees, which now are requested for the whole testing period all at the beginning of the testing and resulted in a considerable reduction in the number of applications.

Important Decisions Taken During the Last Sessions of the Technical Working Party and of the Technical Committee

5. Dr. M.-H. Thiele-Wittig gave a brief report on the main items discussed during the last session of the Technical Committee, referring for further details to the full report reproduced in document TC/XXV/11.

6. Existing database management systems. The Working Party noted document TC/XXV/10 and paragraph 19 of document TC/XXV/11, in which the question was raised by the Technical Committee what type of information was important for the Working Parties and what would be the benefit of having that information available on-line. The Working Party finally concluded its discussions on the subject by confirming its wish to have access on-line, in order to read and to be able to copy parts of information or to receive that information in an electronic form, to all officially approved information published in the national Gazettes, and, to the list of varieties under test provided it was not confidential.

7. Tolerances for Off-types. The Working Party noted document TC/XXV/8 and agreed to apply Table 10, with an acceptance probability of 99% and a population standard of 2%. It could not agree to a population standard of 1% as given in Table 11 and accepted by the TWV. If for a given species in its field of competence a different table should be used, it would be mentioned in the Test Guidelines concerned.

8. Combined Over-Years (COY) analysis. The Working Party noted that the Technical Committee had definitely approved the COY analysis including the significance level. However, within its field of competence the Working Party saw only few application possibilities. The experts from South Africa would continue their studies on the possibility of applying the COY analysis to varieties of banana and pineapple.

9. Use of Pictures in Variety Applications. The Working Party noted paragraph 27 of document TC/XXV/11 and asked the Technical Committee to propose to all member States that the provision of color pictures of the candidate varieties by applicants be made obligatory at the time of filing of the application, not only for ornamental plants, but also for fruit species.

10. Amended UPOV Model Forms. The Working Party noted the revision of the UPOV Model for a Report on Technical Examination, the amended UPOV Variety Description Form, the amended UPOV Interim Report on Technical Examination, the amended UPOV Request for Examination Results and the amended UPOV Technical Questionnaire, as reproduced in Annex IV to document TC/XXV/11.

11. Cooperation with Breeders in the Testing of Varieties. The Working Party noted circular U 1532 containing information on the Danish pilot project on variety testing made by the breeder. Having discussed the different possibilities to involve the breeder in the tests, the Working Party reconfirmed that there should be more exchange of information with the breeders. However, the description of the varieties should always be made by the authorities. For certain minor crops, the breeder could grow the plants and the authorities could make the observations on the premises of the breeder.

Final Discussion of Revised Draft Test Guidelines for Red and White Currant

12. The Working Party noted that no comments in writing had been received regarding the Draft Test Guidelines for Red and White Currant (revision) as reproduced in document TG/52/3(proj.). It therefore only made the following main changes in the document:

(i) Subject of these Test Guidelines: The botanical name would read: "Ribes sylvestris (Lam.) Mert. & W.D.J. Koch (Syn. Ribes rubrum L.) and Ribes niveum Lindl."

(ii) Table of Characteristics: In characteristic 13 the word "coloration" was changed into "color" and in characteristic 19 the spelling of the example variety "Jonkheer van Tets" was corrected.

(iii) Literature: The expert from Germany would indicate some literature.

Minimum Distances Between Varieties

13. Dr. Thiele-Wittig introduced 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 presently planned revision of the Convention. He mentioned specifically the different examples included in the Annex II to that document and 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 of any different views or additional examples which they considered should be covered by the term "essentially derived."

14. The Working Party also noted document TWC/VIII/14 containing some explanations on the statistical aspects of minimum distance between varieties and especially explaining the difference between the concept of minimum difference and Least Significant Difference. The Working Party agreed that it was impossible to fix the minimum distance in the Test Guidelines for each characteristic.

15. The Working Party noted document TWC/VIII/9 Rev. containing background information on the term "minimum distance"--with the two key notions contained in the UPOV Convention, namely "clearly distinguishable" and "important characteristics"--and on the development from the 2 x 1% method for distinctness up to the application of the Combined Over-Years analysis. It also noted the seven items in which problems had arisen in connection with the minimum distance. It agreed that the minimum distance should, for measured characteristics, be larger than the LSD. For the estimation of the minimum distance from small data sets it would await the results of the discussions and the study in the Technical Working Party on Automation and Computer Programs. Until then there was no need for further discussions on minimum distances.

Color Observations

16. The Working Party received a short report and explanations from the expert from the Federal Republic of Germany on the study for the use of a colorimeter for the measuring of colors and on the developement of a computer program which would find equivalent RHS Colour Charts to the measurements. It also noted that similar research had been made in The Netherlands. As both studies had been made on ornamental varieties, the Working Party would rely on the TWO for the interpretation of any further results.

New Methods, Techniques and Equipment in the Examination of Varieties

17. The Working Party noted documents TC/XXV/4, TC/XXV/9 and paragraphs 38 to 47 of document TC/XXV/11 and had a further exchange of views on the possibilities for new technology in the fruit species area.

18. With respect to electrophoresis, it noted that in Japan studies were made to apply it to kaki varieties. The Japanese expert would try to prepare information on the results of those studies by the end of the year. Information on the use of electrophoresis on peach varieties was expected from the expert from Italy, who unfortunately had been prevented from attending the present session. Electrophoresis was so far not being used in other species.

19. The Working Party noted the introduction to document TWF/XXI/6 on Quantitative Comparison of Leaf and Profile Shapes in a Number of Mango Varieties, given by the expert from South Africa. It had an extensive discussion on that document and on image analysis in general. It would await further progress reports on those studies from the expert from South Africa for its comming session.

20. The Working Party agreed that image analysis, unlike electrophoresis, would not only open the possibility for new characteristics but could, in first instance, be a tool to facilitate the assessment of existing characteristics. It could partly operate like a magnifying glass. In these cases, however, not all that is separable would lead to a new variety, and it should be left to the crop expert to arbitrarily define the minimum distance basing himself on his experience.

21. The expert from Germany reported on studies on image analysis in the leaf area, made at the University of Hanover. In The Netherlands similar projects were under way. Information on the progress of those studies would be given at the next session of the Working Party.

22. The Working Party also noted a report on studies in Japan on the possible use of gas-chromatography in DUS tests of certain fruit species. As soon as the results were available, these would be communicated to UPOV.

Statistical Methods, Similar Varieties

23. The Working Party noted document TWC/VIII/15 on the selection of similar varieties. It had an exchange of views on the different approaches in the member States concerning the selection of similar varieties in the testing of candidate varieties, as well as the indication of similar varieties in the final variety descriptions established by the national offices.

24. The different approaches did not permit a common proposal. The selection of similar varieties for testing purposes depended on various factors, as, for example, the number of varieties within a species. In case of a large number of varieties, computer programs might be used to make a first rough selection. In any case, as a first step to reduce the number of non-similar varieties, the grouping characteristics would be used. In the end, however, it was left to the crop expert to choose the similar varieties based on his experience in the species concerned.

25. Concerning the indication of similar varieties in the final variety description the following three cases were distinguished:

a) Always at least one most similar variety was indicated, even if it showed several differences to the new variety described.

b) Similair varieties were mentioned only if varieties were found which were considered similar.

c) That part of the description was almost always left blank. Only if there was a risk of confusion with another variety, the latter was mentioned. Some experts preferred to leave that part open because they were against giving a comparable judgement on another variety.

26. Most experts considered the wording of paragraph 16 in the variety description form to be unfortunate. The paragraph should,-- instead of using the term "similar"--use the term "most similar" or "closest resembling", as often the closest resembling variety was not considered a "similar" variety.

Discussion of Working Papers on Test Guidelines

Test Guidelines for Blueberry

27. The Working Party noted documents TWF/XXI/2 and TWF/XXI/2 Rev. prepared by the Office of the Union on the basis of the former document. It finally made the following main changes in document TWF/XXI/2 Rev.:

(i) Material Required: The quantity to be "4 plants with at least three well developed shoots."

(ii) Methods and Observations: Paragraph 8 to read: "Unless otherwise indicated, all observations on the fruit should be made on physiologically ripe fruits."

(iii) Table of Characteristics:

Characteristic

1 to have the states "upright, intermediate, spreading"; this and all other characteristics of the table to receive an asterisk(*)

2 to have the word "maximum" deleted

6 to read: "Fruit: shape in longitudinal section" with the states "circular (1), circular to oblate (2), oblate (3)"

7 to have the first word read: "Unripe"

8 to be checked between experts from Japan and the Federal Republic of Germany, whether an additional characteristic on the fruit color could be included.

(iv) Literature: The expert from the Federal Republic of Germany to supply some literature.

Test Guidelines for Citrus (Revision)

28. The Working Party noted documents TG/83/3 and TWF/XIX/7. It finally made the following main changes in document TWF/XIX/7:

(i) Subject of these Test Guidelines: To have two further groups added: "TNG: Citrus reticulata X Citrus sinensis - tangors, GXP: Citrus grandis X Citrus paradisi

(ii) Material Required: To delete the number "5" before "bud sticks" in paragraph 1

(iii) Methods and Observations:

Paragraph

2 to have the words "typical, healthy" deleted

3 to read: "All observations should be made on plants of the same age, not less than three years old. The age of the plant should be specified. Each group should be grafted on a single, specified rootstock.

7 to read: "Unless otherwise indicated, all observations on the flower bud and the flower should be made on the terminal flower bud and flower, at the time of full flowering of the variety"

8 to replace "flowering" by "flower"

10 to read: "All observations on the fruit should be made at the stage of optimal ripeness. This stage should be determined by the ratio Total Soluble Solids/Acid, except for :

a) LEM, SWL, ACL for which it would be determined as soon as the juice content stabilizes, and

b) KUM: for which it would be determined as soon as 75% of the rind has reached its optimum coloration

The fruits should be tested weekly and harvested as soon as this stage has been reached".

(iv) Characteristics and Symbols: The first part of paragraph 3 to read: "Each characteristic which applies only to a specific group or specific groups is preceded by an abbreviation of the groups with or without an asterisk....."

(v) Table of Characteristics:

Characteristic

1a to have the group "TNG" added

1 to have the second state read "spreading" and to have the Notes "3, 5, 7"

3,3a to be combined into one characteristic to read: "Coppice shoot: spininess" with the states "absent (1), slightly spiny (2), strongly spiny (3)"

4 after this characteristic there are three new characteristics to be included reading: (i) "Fully developed leaf: twisting" with the states "absent, present", (ii) "Fully developed leaf: buckling" with the states "absent, present" and (iii) "Fully developed leaf: intensity of green color" with the states "light, medium, dark".

5 to be inserted after characteristic 6 and to have the words "of margin" added.

6c to have the drawings examined

8 to be studied whether it relates to width

15 to read: "Inflorescence: number of flowers" with the states "one, more than one"

9d to have the word "average" deleted

13 to be studied wether it applies to "viable" pollen

11 to have the bracketed addition "all flowers"

11b to have the first word replaced by "Infructescence"

11d to have the group "TNG" added

18a to have the following bracketed words added "and depression at basal end" and to have the first two states deleted

18b to read: "Fruit: depression at basal end (excluding local depression at stalk attachment in case of a necked fruit)"

18c to read: "Fruit: depth of depression at basal end (as for 18b)" with the states "shallow, medium, deep"

18f to have the words "in relation to diameter of fruit" added

18g,18h to be combined into one characteristic with the states "absent (1), weakly expressed (2), strongly expressed (3)"; after this characteristic, a new characteristic to be inserted, reading: "Fruit: local depression at stalk attachment in case of a necked fruit" with the states "inconspicuous, conspicuous"

18i,18j to be combined and to have the states as characteristic 18g

19 to read: "Fruit: general shape of distal part excluding nipple, protruding or bulging navel and depression" and to have the first two states deleted; after this characteristic two new characteristics to be included, reading: (i) "Fruit: depression at distal end" with the states "absent, present" and (ii) "Fruit: depth of depression at distal end" with the states "shallow, medium, deep"

19a to have the last three words read "at distal end"

19c to have the word "ripe" replaced by "length" with the states "short, medium, long"

27 to read: "Fruit: navel opening" with the states "absent, occasionally present, always present"

30 to have the word "opening" added

30a,30b to be combined with the states "absent, weakly expressed, strongly expressed"; in this and all characteristics with predominant expression to be checked whether they allow to distinguish varieties

29,29a to be combined in one characteristic with states "absent, weakly expressed, strongly expressed"

29b to 29d,29f,29g to be deleted

21 to read: "Fruit surface: presence of bumps or wrinkles" with the states "absent, present"

21b to 23d to have the words "Fruit" or "Fruit rind" replaced by "Fruit surface"

23e to be deleted

20 to have the additional state "yellow-green"

32c to apply to the groups "MAN, SAT, TAN, TNG" and to have the states "inconspicuous, conspicuous"

33b,33c and 33d,33e to be combined respectively to apply to the groups "MAN, SAT, TAN, TNG" and to have the states "absent, weakly expressed, strongly expressed"

36 to receive drawings for explanation

38f to have the last word read: "vesicles"

38h to read: "Fruit: length of navel (as for 38g)"

38i to read: "Fruit: diameter of navel (as for 38g)"

46 to have the additional state "pinkish"

47 to be placed after characteristic 49

48,49 to have the bracketed addition "when fresh"

The experts from South Africa will prepare a new working paper by the end of March 1991 and will consider a possible separation of the Table of Characteristics into eventually three different groups and, if possible, add another for rootstocks.

Test Guidelines for Jostaberry

29. The Working Party noted document TWF/XXI/3 and made the following main changes in that document:

(i) Subject of these Test Guidelines: The Test Guidelines to apply to "Ribes X nidigrolaria R.& A. Bauer (Saxifragaceae)"

(ii Material Required: The quantity of plant material to be "4 plants with at least three well developed shoots".

(iii) Table of Characteristics:

Characteristic

1 this and all other characteristics to receive an asterisk

12 to receive the Notes "1, 2, 3" and drawings to be prepared by experts from the Federal Republic of Germany

15 to read: "Time of fruit ripening"

(iv) Literature: To have the article of the author of the species indicated

Test Guidelines for Lingonberry

30. The Working Party noted documents TWF/XXI/4 and TWF/XXI/4 Rev. prepared by the Office of the Union on the basis of the former document. It finally made the following main changes in document TWF/XXI/4 Rev.:

(i) Material Required: To have the words "well-grown" replaced by "well developed"

(ii) Methods and Observations: To have in paragraph 3 the last word "flower" replaced by "flowering period" and to have paragraph 4 read: "All observations on the fruit should be made on physiologically ripe fruits of the main fruiting period (autumn harvest)."

(iii) Table of Characteristics: All characteristics, with the exception of characteristics 4 and 5, to receive an asterisk. The example varieties of the characteristics mentioned last to be checked by the expert from the Federal Republic of Germany.

Test Guidelines for Apricot (Revision)

31. The Working Party noted that in document TG/70/3 on page 18, in the explanations to characteristics 31 to 34, the terms "thickness" and "breadth" below the drawings had to be exchanged.

Status of Test Guidelines

32. The Working Party agreed that the draft Test Guidelines for Red and White Currant (Revision) should be sent to the Technical Committee for final adoption.

33. The Working Party agreed that the draft Test Guidelines for Blueberry, for Jostaberry and for Lingonberry should be sent to the professional organizations for comments.

34. Discussions on working papers on Test Guidelines for Citrus (Revision) would have to be continued during the next session.

35. Lack of time did not allow the Working Party to discuss the working paper on Prunus Rootstocks.

Chairmanship

36. As the chairmanship of Mr. Bar-Tel (Israel) would end with the closing of the next ordinary session of the Council in October 1990, the Working Party unanimously proposed to the Technical Committee that it recommend to the Council that Dr. B. Spellerberg (Germany) be elected as new Chairman of the Working Party for the next three years. [The Council, during its session on October 18 and 19, 1990, unanimously elected Dr. B. Spellerberg (Germany) as Chairman of the Working Party for a term expiring at the end of the ordinary session of the Council in 1993.]

Future Program, Date and Place of Next Session

37. At the invitation of the expert from France, the Working Party agreed to hold its twenty-second session near Bordeaux, from June 11 to 14, 1991. The session would start on June 11 at 9 a.m. and close on June 14, 1991, at noon. During the session, the Working Party plans to discuss the following items:

(a) Short reports on new developments in member States in plant variety protection for fruit species;

(b) Important decisions taken during the last sessions of the Working Party and the Technical Committee;

(c) Final discussion on Draft Test Guielines for:

(i) Blueberry
(ii) Jostaberry
(iii) Lingonberry;

(d) Color observations;

(e) New methods, techniques and equipment in the examination of varieties;

(f) Statistical methods;

(g) Discussions on working papers on Test Guidelines for:

(i) Citrus (Revision)
(ii) Prunus Rootstocks
(iii) Apple (The federal Republic of Germany to prepare a working paper)
(iv) Japanese Pear (Japan to prepare a working paper)

The Working Party already noted an invitation to hold its 1992 session in South Africa (together with the TWO).

Visits, Lectures and Meetings with Breeders

38. In the afternoon of September 11, the Working Party visited Tsukuba Science City, the National Fruit Tree Research Station and the National Institute of Agrobiological Resources, including the genebank, and the National Center for Seeds and Seedlings.

39. In the afternoon of September 12, the Working Party heard a lecture by Dr. J. Ueno, Fruit Tree Research Station (FTRS) at Tsukuba with an Introduction to Fruit Breeding in Japan. Another lecture was given by Dr. A. Yamaguchi, Japan Fruit Tree Seedling and Clonal Association (JFSCA), on the Licencing Procedure of MAFF-Bred Fruit Tree Cultivars and giving a general view of the Fruit Tree Industry in Japan.

40. On September 14, the Working Party visited the Morioka Branch of the National Fruit Tree Research Station in Morioka City and an apple production area of the Inarizaki Apple Producers' Cooperative Association of the Agricultural Cooperative at Esashi.

41. On September 15 it visited the Fukushima Tenkouen Fruit Nurseries Co. Ltd. at Fukushima City.

42. On September 16, the Working Party visited the International Garden and Greenery Exposition in Osaka and attended an International Workshop on the Breeding of Fruit Trees and Ornamental Plants and Plant Variety Protection, with lectures on "Development of Testing Methods for Plant Variety Protection in UPOV", by Dr. Thiele-Wittig, UPOV; on "New Citrus Varieties Bred through Cell Fusion" by Dr. I. Oiyama, Chief, Laboratory of Breeding Methods of the Akitsu Branch of the Fruit Tree Research Station of the MAFF; and on "New Developments in Flower Breeding in Japan" by Mr. A. Ito, Director of the Flower Department of the Takii Plant Breeding and Experiment Station.

43. On September 17 it made an excursion to the fruit crop and ornamental tree production area in the Mie Prefecture, where it visisted a kaki production in Taki-cho and an azalea and phalaenopsis production in Suzuka.

44. This report has been adopted by correspondence.

[Annex follows]

ANNEX

LIST OF PARTICIPANTS AT THE TWENTY-FIRST SESSION OF THE TECHNICAL WORKING PARTY FOR FRUIT CROPS TSUKUBA, JAPAN, SEPTEMBER 10 TO 17, 1990

I. MEMBER STATES

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