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UPOV

TWF/24/9
ORIGINAL : English
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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR FRUIT CROPS

Twenty-fourth Session

Wurzen, Germany, September 21 to 24, 1993

REPORT

adopted by the Technical Working Party for Fruit Crops

Opening of the Session

1. The twenty-fourth session of the Technical Working Party for Fruit Crops (hereinafter referred to as "the Working Party") was held at Wurzen, Germany, from September 21 to 24, 1993. The list of participants is given in Annex I to this report.

2. Mr. R. Elsner and Mr. G. Wildenhain welcomed the participants to the Federal Plant Varieties Office at its testing station Wurzen, Germany. The session was opened by Dr. B. Spellerberg (Germany), Chairman of the Working Party.

Adoption of the Agenda

3. The Working Party adopted the agenda of its twenty-fourth session which is reproduced in document TWF/24/1, after having agreed to delete items 11(v) and 11(vii).

Short Report on New Developments in the Member States in 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 United Kingdom reported on a study on color measurement and image analysis of shape, the expert from Israel on the internationalization of applications, the expert from France on problems connected with apple mutations and a study on biochemical markers for peaches, and the expert from Germany reported on studies on color measurement and, in cooperation with the University of Hanover, DNA-profiling. The expert from the EEC reported on the recently adopted scheme for plant propagating material of fruit and ornamental varieties with the three categories (i) protected varieties, (ii) officially registered varieties and (iii) other varieties, for which a descriptive list had to be kept by the supplier.

Important Decisions Taken During the Last Sessions of the Working Party, the Technical Committee and the Technical Working Party on Automation and Computer Programs

5. Dr. Thiele-Wittig gave a brief report on the main items discussed during the previous sessions of the Technical Committee, referring for further details to the full reports reproduced in documents TC/28/6 and CAJ/32/10-TC/29/9. The main results of the TWC are reported under items 7 and 8.

Color Observations

6. The Working Party took note of document TWO/25/2, containing a draft report of the TWO-Subgroup Meeting on Color Measurements held on January 28 and 29, 1992, in Hanover, Germany, and of the fact that the next session of the Sugroup would be held in Antibes, France, on September 30 and October 1, 1993. The Working Party reiterated that color measurement should only be used to support a difference seen by the eye and observed with a color chart; it should not be used alone for distinctness. It repeated its intention to follow further research without doing any of its own as the measuring of color in fruit species was of less importance than, for example, in the field of ornamental species.

New Methods, Techniques and Equipment in the Examination of Varieties

7. The expert from the United Kingdom distributed document TWF/24/8 containing a bibliography of published papers on new techniques being developed for the identification of fruit varieties. He offered to supply, upon request, the information contained in document TWF/24/8 also in electronic form. The expert from South Africa reported on the pressure by breeders to use the RAPD method to support performance characteristics in testing for distinctness for plant variety protection in order to reduce the testing period.

8. Dr. Thiele-Wittig gave a brief report on the main items discussed during the first session of the newly established Working Group on Biochemical and Molecular Techniques and DNA-Profiling in particular (BMT), referring to document BMT/1/3 and the report reproduced in document BMT/1/4. The Working Party asked for more information on the work of that Working Group to permit a

more active participation. It proposed that at least the Chairman of the Working Party (or an expert appointed by him) should be invited to future sessions of the BMT Working Group, as well as fruit experts of the country in which a BMT session took place, so that the technical aspects and interests of the Working Party might be represented. The Working Party also asked for all experts to discuss the subject at the national level and be more involved in the investigations themselves. It was important that a dialogue be initiated between crop experts and experts in the special methods.

Statistical Methods

9. Dr. Thiele-Wittig introduced documents TWF/23/13, Annex II, and TWC/11/16 on the revision of paragraph 28 of the General Introduction to the Test Guidelines, dealing with the number of off-types tolerated. He explained the recalculation of the tables as contained in the former document TC/XXV/8 as a result of the redefinition of the acceptance probability. The document also explained in more detail the connection between the two risks involved, i.e. the alpha risk of wrongly rejecting a homogeneous variety as being heterogeneous and the beta risk of wrongly accepting a heterogeneous variety as homogeneous. In the past, the importance of the beta risk had not been sufficiently considered, especially in the case of small samples.

10. The Working Party welcomed the fact that the document had been made much more accessible. It had, however, difficulties to agree to a certain population standard for varieties of different fruit species. It would require more discussion at the national level with statistical experts to better understand the term population standard and the percentage acceptable in varieties of different species. For that purpose, it agreed that each expert would individually define the population standard at the national level for the different species for which Test Guidelines had been established. They should also discuss with the statisticians at the national level whether statistics were still applicable with sample sizes under 10. It was generally felt--based on experience and because of the special way in which the plant material was produced--that with sample sizes under 10 no off-types should be allowed. In order to have a sound basis for discussion at the Working Party's next session, the experts should supply their information to the Office of UPOV before the end of the year.

UPOV Central Computerized Data Base

11. Dr. Thiele-Wittig reported on the background to the discussions concerning a possible UPOV central computerized data base, referring to document CAJ/32/2-TC/29/2 and circular U 2067. He also reported on the preparation by the Technical Working Party on Automation and Computer Programs of a format for electronic exchange of information published in national gazettes. He introduced document TWC/11/15 and explained that, although in the first instance not intended for the establishment of the UPOV data base, the document would also be applicable in its present form for that purpose, and that especially page 6 of the document took account of the specific requirements. Some selected experts would apply the format to a reduced number of data at the national level, exchange those data and improve the format on the basis of the experience gained.

12. The Working Party supported the plans to establish a UPOV Data Base. The fruit experts would welcome its early establishment as they urgently needed such a data base.

Essentially Derived Varieties

13. The Working Party noted the information contained in document CAJ/32/6-TC/29/6 and in paragraphs 28 and 29 of document CAJ/32/9-TC/29/9. It agreed to follow the discussions in the different bodies of UPOV. The expert from Japan distributed a list of apple varieties indicating for each variety its history. That list is reproduced in Annex II to this report.

Electronic Exchange of Data

14. The Working Party reconfirmed its intention to collect data on fruit varieties. At the start, all data on fruit varieties published in the gazettes should be collected and sent, in electronic form, to Dr. Spellerberg (DE) within the next six weeks. Dr. Spellerberg would then combine that data in a data base and distribute the combined information on diskette to all participating countries.

15. The Working Party furthermore discussed the possibility of exchanging technical information on varieties, e.g. states of expression in grouping characteristics, list of example varieties, and complete variety descriptions. As some legal experts in certain countries had expressed reservations in connection with the confidential nature of some information, the Working Party agreed to start with a limited trial to find out the possibilities and limitations of such an exchange. The expert from Israel offered to prepare for that purpose, before the end of October 1993, a questionnaire on selected data on strawberry varieties.

Discussions on Working Papers on Test Guidelines

Test Guidelines for Citrus (Revision)

16. The Working Party noted documents TWF/23/6 and TWF/24/3. It finally made the following main changes in document TWF/24/3:

(i) Subject of these Guidelines: To have a group added after Group 6 reading: "Citrus gambhiri Lush., rough lemon," Group 17 to have the addition "and hybrids" and the expert from South Africa to check the Latin names of Groups 12 and 13.

(ii) Methods and Observations: The new group to be included under paragraph 10(a) and to be included in the Table of Characteristics in all characteristics that apply to LEM.

(iii) Table of Characteristics:

Characteristics

2 To keep the wording "drooping" in state 7

4 to 17 To apply to the blade

45 After this characteristic, a new characteristic to be inserted reading: "Fruit: radial grooves at stalk end" with the states "absent (1), inconspicuous (2), conspicuous (3)"

64,67 To have the asterisk deleted

93 To be checked by experts from South Africa.

(iv) Literature: To have the first, third and ninth titles deleted.

(v) Example Varieties: The experts from South Africa to select example varieties to be included in a new version to be prepared by the Office of UPOV.

(vi) Technical Questionnaire: To have the sentence on plant material from tissue culture from other Test Guidelines included under item 4.

17. On the occasion of the discussions on the Test Guidelines for Citrus, the Working Party had a lengthy discussion on the presentation of characteristics with the following three states:

absent (1)
weakly expressed (2)
strongly expressed (3).

18. Several experts were unhappy with the fact that the Technical Committee had accepted such a qualitative presentation of an obviously quantitative characteristic (see document TC/26/4 Rev.). They preferred the separation of such characteristics in one with the states "absent, present" and another with the different degrees of presence or, if there was no clear absence, with the whole 1-to-9 scale with the first state to read "absent or very weak". They furthermore expressed the view that the number of exceptions--while acceptable in certain circumstances--should always remain very low and never as high as proposed in the Test Guidelines for Citrus.

19. Other experts, justifying its frequent use in the Test Guidelines for Citrus, stated that citrus was a new crop with respect to plant variety protection and little experience had been gained so far. It was important to identify characteristics and to start with these characteristics which could be extended at a later stage when more experience had been gained. Moreover, in tropical regions weather conditions were not very stable and as a consequence tropical varieties showed less homogeneity. Even varieties that showed very good homogeneity in Europe often were not as homogeneous under South African weather conditions, as the plant had to undergo much more stress. In trees, also a different exposition of the leaf would for instance add to the possible differences. In certain cases, there existed no normal distribution (e.g. spines) and consequently the 1-to-9 scale would not be applicable. Despite these fluctuations, the characteristics were nevertheless very useful for distinctness purposes and gave important information on the variety.

Test Guidelines for Prunus Rootstocks

20. The Working Party noted document TWF/24/4 but postponed discussions until its next session for lack of time. Experts were invited to send their comments on the document to the expert from France who would prepare a combined document by March 1994. He would at the same time try to reduce the number of characteristics by half to about 60 characteristics at the most.

Test Guidelines for Apple (Revision)

21. The Working Party noted documents TWF/23/12 and TWF/24/6 but did not enter into detailed discussions for lack of time. It reconfirmed its wish to establish separate Test Guidelines for fruit varieties and for rootstocks. The establishing of Test Guidelines for ornamental varieties would be left to the Technical Working Party for Ornamental Plants and Forest Trees. The Working Party attended a demonstration of certain problems encountered in the testing of apples at Wurzen. The problems were in connection with the expression of the over color of the fruit, density, size and distribution of lenticelles on the fruit, size and color of the seed, separation of the core and color or the base of the filaments. In order to advance discussions, a subgroup of experts from France, Germany, The Netherlands and the United Kingdom would meet at Brogdale Farm, Faversham, United Kingdom, from December 13 to 15, 1993, under the chairmanship of Mr. Dodd (United Kingdom). Any experts from other member States would be equally welcome to participate.

Test Guidelines for Japanese Pear

22. The Working Party noted documents TWF/23/5, TWF/24/5 and TWF/24/7 and made the following main changes in document TWF/24/7:

(i) Subject of these Guidelines: The Test Guidelines to apply to all vegetatively propagated fruit varieties of Pyrus pyrifolia (Burm.f.) Nakai var. culta (Mak.) Nakai (Syn. Prunus serotina Rehd.).

(ii) Methods and Observations: To have, in paragraph 4, the words "in the dormant season" replaced by "before harvesting."

(iii) Grouping Varieties: To have characteristic 39 added as a third grouping characteristic.

(iv) Table of Characteristics:

Characteristics

34 To have the states read: "less than five, five, more than five," the example varieties to be amended by the expert from Japan

42 To have the words "pistil cavity" replaced by "calyx basin"

46 To have the "ground color" replaced by "over color"

55 To have a plus (+) added and the drawing on page 26 amended to include the diameter of the core

61,62,75,76 To have the asterisk deleted

75 To be observed under natural conditions

76,77 To have the word "resistance" replaced by "susceptibility" and the order of the example varieties changed accordingly; to receive methods as distributed during the session; the disease of characteristic 77 to read "Erwinia amylovora"

(v) Literature: To receive additional titles as distributed during the session.

23. On the occasion of the discussions on Japanese Pear, the Working Party had a long discussion on the testing of resistance or susceptibility. It preferred the term susceptibility--which is the term used in practice--the term resistance actually being wrong in many cases. Some experts even proposed the term "response." The Working Party asked the Technical Committee to discuss the matter again and revise its previous decision to only use the term resistance and to also accept the use of the 1-to-9 scale for different degrees of susceptibility and not only the absence/presence.

Test Guidelines for Cherry (Revision)

24. The Working Party noted document TWF/24/2 and made the following main changes in that document:

(i) Subject of these Guidelines: To apply to all vegetatively propagated fruit varieties.

(ii) Material Required: The recommended plant material to be grafted on Prunus avium F 12/1 or Prunus mahaleb SL 64.

(iii) Methods and Observations: To have, in paragraph 4, the words "top of the summer shoot" replaced by "tip of a completely developed shoot of the current season."

(iv) Table of Characteristics:

Characteristics

2 To receive the example varieties "Burlat (1), Compact, Stella, Lampert (2)"

3 To have in this characteristic and all following the example variety "Hedelfingen" or "Géant d'Hedelfingen" replaced by "Hedelfinger"

4 To receive an asterisk

5 To be deleted

5a After this characteristic, the following two characteristics to be inserted: (i) "One-year old shoot: number of lenticels" with the states "few (Sam), medium (Hedelfinger), many (Querfurter Königskirsche)" and (ii) "Leaf bud: position in relation to shoot" with the states "adpressed, slightly held out (Sam), strongly held out (Hedelfinger)

5c, 5d To be deleted

6 To read: "Young shoot: anthocyanin coloration"

8 To have the example varieties "Montmorency (3), Napoleon (5), Burlat (7)"

11 To have the first state read "mat"

12, 12b To be deleted

12a To have the example varieties "North Star (1), Summit (9)"

12c To have the asterisk deleted

16 To have the states "yellow (1), orange red (2), red on a pale yellow ground (3), red (4), brown red (5), dark red (6), blackish (7)"; the experts from Germany to indicate example varieties

17,18 To be replaced by the following characteristics:
(i) "Fruit: size of pale dots on skin" with the states "small, medium, large" and
(ii) "Fruit: number of pale dots on skin" with the states "few, medium, many"

19 and following: as time did not permit further discussions during the session, all experts were invited to send their comments to the expert from France before the end of the year.

Status of Test Guidelines

25. The Working Party agreed to send the Draft Test Guidelines for Japanese Pear to the Professional Organizations for comments. All other working papers for Test Guidelines required further discussion during the Working Party's next session.

New Chairman

26. The Working Party proposed to the Technical Committee that it recommend Mrs. Elise Buitendag (South Africa) to the Council for election as the Working Party's Chairman for the coming three years.

Future Program, Date and Place of Next Session

27. At the invitation of the expert from New Zealand, the Working Party agreed to hold its twenty-fifth session in Napier, New Zealand, from September 19 to 24, 1994. During the session, the Working Party planned to discuss the following items:

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

(b) Important decisions taken during the previous sessions of the Working Party, the Technical Committee and the Technical Working Party on Automation and Computer Programs (oral reports);

(c) Color observations (report from the TWO Subgroup);

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

(e) Statistical methods;

(f) UPOV Central Computerized Data Base;

(g) Electronic exchange of data;

(h) Final discussions on draft Test Guidelines for Japanese Pear;

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

- Citrus (Revision) (TWF/23/6 and TWF/24/3) (ZA to prepare a new working paper)
- Prunus Rootstocks (TWF/24/4) (FR to collect info by the end of 1993)
- Apple (Revision) (TG/14/5, TWF/23/12 and TWF/24/6 + new working paper to be prepared by the subgroup)
- Cherry (Revision) (TG/35/3 and TWF/24/2) (FR to prepare a working paper by the end of 1993)
- European Plum (Revision) (TG/41/4 + FR to prepare a working paper by March 1994)
- Peach (Revision) (TG/53/3 + FR to prepare a working paper by March 1994)
- Strawberry (Revision) (TG/22/6 + DE to prepare a working paper by March 1994)
- Pear Rootstocks (DE + FR to prepare a working paper by March 1994)
- Japanese Apricot (Prunus mume) (JP to prepare a working paper by March 1994)
- Loquat (Eriobotrya japonica) (JP to prepare a working paper by March 1994)

28. As stated in paragraph 19 above, a Subgroup on Apple will meet in Faversham, United Kingdom, from December 13 to 15, 1993.

29. The Working Party took note of the advance invitation to hold its twenty-sixth session in the United Kingdom (White College, Canterbury, and Faversham) in September 1995.

Visits

30. In the afternoon of September 21, the Working Party visited the trial fields of the station of the Federal Plant Varieties Office at Wurzen. On September 22, the Working Party visited the city of Dresden, the Institute for Fruit Breeding and the Gene Bank for Fruit Varieties of the Institute for Plant Genetics at Dresden-Pillnitz and the State Wine Institute of Saxony at Radebeul. In the evening of September 23, it visited the fruit growing and marketing firm Obstland AG at Darrweitzschen.

31. This report has been adopted by correspondence.

[Two annexes follow]

ANNEX I

LIST OF PARTICIPANTS AT THE TWENTY-FOURTH SESSION OF THE TECHNICAL WORKING PARTY FOR FRUIT CROPS WURZEN, GERMANY, SEPTEMBER 21 TO SEPTEMBER 24, 1993

I. MEMBER STATES

CANADA

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NETHERLANDS

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NEW ZEALAND

Chris BARNABY, Plant Variety Rights Office, P.O. Box 24, Lincoln (tel. 64-3-325-2414, fax 64 3 325 2946)

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II. OBSERVER ORGANIZATION

EUROPEAN ECONOMIC COMMUNITY

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III. OFFICER

Burkhard SPELLERBERG, Chairman

IV. OFFICE OF UPOV

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[Annex II follows]

Apple, application varieties in Japan

1993.8.1

No.	Application No.	Proposed Denomination	Protected	Mutation from	Origin	Parents
1	* 1057	New Jonagold	×	Jonagold	JP	
2	* 1072	Shûkô		Tsugaru	JP	
3	* 1134	Warabi	×		JP	McIntosh seedling
4	* 1235	Senshû	×		JP	Tôkô × Fuji
5	23	Yôkô	×		JP	Golden Delisious seedling
6	53	Kôgetsu	×		JP	Golden Delisious × Jonathan
7	78	Kitanosachi	×		JP	Tsugaru × American Summer Pearmain
8	352	Kitakami	×		JP	Tôhoku 2 gô × Red Gold
9	380	Natsumidori	×		JP	Kitakami × Meku 10
10	448	Hokuto	×		JP	Fuji × Mutsu
11	601	Takane	×		JP	Red Gold seedling
12	632	Yamamotsugaru 3 gô		Tsugaru	JP	
13	637	Scarlet	×		JP	Akane × Starking Delisious
14	652	Sayaka	×		JP	Jonathan × Sekaiichi
15	676	Mika		Fuji	JP	
16	777	Narihokô	×		JP	Golden Delisious × Fuji
17	874	Ranzan	×		JP	Starking Delisious × Wilson
18	1047	Mark	×		US	M9 seedling
19	1048	Kôtoku	×		JP	Tôkô seedling
20	1049	Ambitious	×		JP	Tôkô seedling
21	1072	Hida	×		JP	Fuji × Ôrin
22	1169	Himekami	×		JP	Fuji × Jonathan
23	1170	Iwakami	×		JP	Fuji × Jonathan
24	1255	Hac 9	×		JP	Fuji × Tsugaru
25	1278	Shizuka	×		JP	Golden Delisious × Indo
26	1310	Yukari	×		JP	McIntosh × Golden Delisious
27	1327	Tateshina		Fuji	JP	

No.	Application No.	Proposed Denomination	Protected	Mutation from	Origin	Parents
28	1466	Leebee		Golden Delisious	CH	
29	1686	Himekomachi	×		JP	Alps Otome seedling
30	1707	Yataka	×	Fuji	JP	
31	2005	Jonagored		Jonagold	BE	
32	2006	Shinsekai	×		JP	Fuji × Akagi
33	2023	Sansa	×		JP	Gala × Akane
34	2224	North Queen	×		JP	Fuji × Tsugaru
35	2240	Green Sweet	×		JP	incidental seedling
36	2241	Shûrei	×		JP	incidental seedling
37	2242	Azumi	×		JP	incidental seedling
38	2356	Benihazuki	×		JP	Tsugaru seedling
39	2395	Matsumotokomachi	×		JP	Raritan × Anisik Kopilova
40	2398	Benikomaru	×		JP	Starkig Delisious × Anisik Kopilova
41	2399	Risurottesumairu	×		JP	Tsugaru × Anisik Kopilova
42	2400	Bonbon	×		JP	Tsugaru × Anisik Kopilova
43	2401	Beninomai	×		JP	Fuji × unknown
44	2427	Matsumotonishiki	×		JP	Tsugaru × Nero 26
45	2454	Rose Husk	×		JP	Gala × Blushing Golden
46	2651	Amabure	×		JP	Senshû seedling
47	2877	Summer Devil	×		JP	Nero 26 × Redfield
48	2895	Puropina	×		JP	Alps Otome seedling
49	2896	Sakurakomaru	×		JP	Redfield × Fuji
50	2910	Nishina	×		JP	Fuji × Raritan
51	2946	Natsunishiki	×		JP	Fuji × American Summer Pearmain
52	2950	Summer Dress	×		JP	Jonathan × Starking Delisious
53	2951	Rarapingo	×		JP	Alps Otome × Anisik Kopilova
54	2952	Rôshan	×		JP	Sekaiichi × Nero 26
55	2965	Kozukata			JP	incidental seedling
56	3007	Seirin	×		JP	Red Gold seedling
57	3020	Tsugaruhime		Tsugaru	JP	

No.	Application No.	Proposed Denomination	Protected	Mutation from	Origin	Parents
58	3033	Benimasa	×		JP	incidental seedling
59	3066	Tuscan	×		UK	Wijcik × Greensleeves
60	3067	Trajan	×		UK	Golden Delisious × Wijcik
61	3068	Maypole	×		UK	Wijcik × Malus baskatong
62	3069	Telamon	×		UK	Wijcik × Golden Delisious
63	3159	Benishôgun	×	Yataka	JP	
64	3231	Mellow	×		JP	(Golden Delisious × Indo) × Indo
65	3447	Lancep		M9	FR	
66	3448	Cepiland		M9	FR	
67	3539	Gunmameigetsu	×		JP	Akagi × Fuji
68	3600	Tsuyubare	×		JP	Jonathan seedling
69	3826	Kizashi	×		JP	Gala × Fuji
70	3883	Takashima	×		JP	Fuji seedling
71	3997	Akita Gold	×		JP	Golden Delisious × Fuji
72	4095	Akibae	×		JP	Senshû × Tsugaru
73	4129	Miki Life	×		JP	Senshû × Tsugaru
74	4130	Kanki	×		JP	Senshû × Tsugaru
75	4332	Kiô			JP	Ôrin × Hatsuaki
76	4375	Tensei		Fuji	JP	
77	4692	Shunkô			JP	Vista Bella seedling
78	4693	Mitsuyoshi		Senshû	JP	
79	5083	Shunkô			JP	Ralls Janet seedling
80	5095	Chitose			JP	Fuji seedling
81	5395	Koihime			JP	Raritan × Fuji
82	5439	Slim Red			JP	Fuji × Akagi
83	5495	Manshû			JP	Tsugaru × Senshû
84	5607	Seimei			JP	Golden Delisious × Fuji
85	5793	Honey Queen			JP	Megumi × Rero 11

* Applications under the Agricultural Seeds and Seedlings Law.

[End of Annex and of Document]