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TWF/XIX/11

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# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

## TECHNICAL WORKING PARTY FOR FRUIT CROPS

Nineteenth Session

Hanover, Federal Republic of Germany, June 29 to July 1, 1988

REPORT

adopted by the Technical Working Party for Fruit Crops

### Opening of the Session

1. The nineteenth session of the Technical Working Party for Fruit Crops (hereinafter referred to as "the Working Party") was held at Hanover, Federal Republic of Germany, from June 29 to July 1, 1988. The list of participants is given in the Annex to this report. A meeting of a subgroup was planned to be held at the same place on June 28, 1988. As, with one exception, all experts of the Working Party were present and as in the subgroup no parallel subgroup meetings for different crops were foreseen, the subgroup reconvened itself forthwith as the Working Party.

2. Dr. Böringer, President of the Federal Office for Plant Varieties, welcomed the participants to his office at Hanover. 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 nineteenth session as reproduced in document TWF/XIX/1, after having agreed to discuss the revision of the UPOV Model for a Report on Technical Examination under Item 4 of the Agenda.

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. It noted with special interest the difficulties in handling clones of apple varieties, some problems connected with the health of plant material imported from Japan, and difficulties with applications for which priority was claimed on the basis of a plant patent obtained in the United States of America.

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 important items discussed during the last session of the Technical Committee, referring for further details to the full report reproduced in document TC/XXIII/6. He especially highlighted the discussions on the combined over-years analysis (paragraphs 40 to 43 of the report, and the new document TC/XXIII/4 Rev.), the discussions on continuous characteristics of which only three states can actually be separated (paragraphs 21 and 22 of the report, and the documents TC/XXIII/5 and TC/XXIII/7), as well as the revision of the UPOV Model for a Report on Technical Examination (paragraphs 31 and 32 of the report and the new document TWV/XXI/15). He also mentioned some questions discussed during the last session of the TWC.

Color Observations

6. The Working Party noted a short report by the expert from the Federal Republic of Germany on the project to group the colors of the RHS-Colour Chart to enable a screening of varieties by computer and on the trials made with Minolta equipment to measure color. It also noted that machine vision provided an additional method of measuring colors. The Working Party will follow the results of the above three methods of color observation and come back to the item during its coming session.

Participation of experts from professional organizations

7. The Working Party noted the difficulties professional organizations face when they have to name technical experts for each species, from among whom the chairman then has to select those to be invited for a given subject at a given session. If, after the invitations have been sent, experts are confronted with difficulties that prevent their attendance, the professional organizations, due to lack of time, are no longer able to replace the expert with another one because the whole invitation procedure cannot be repeated. The Working Party therefore had sympathy with the wish of the professional organizations and proposed to the Technical Committee that the professional organizations be asked to name technical experts to attend a given session of the Technical Working Party for a certain species or subject on the condition that these experts, if named by the organizations, are considered to be invited without having to be selected and approved by the chairman of the respective Technical Working Party. The UPOV position that nominated experts should attend as experts and not to promote specific issues or interests should be maintained.

Revision of the UPOV Model for a Report on Technical Examination

8. The Working Party noted document TWV/XXI/15 containing a proposal, prepared by the Netherlands, for a change to the first page of the UPOV Model Report on Technical Examination. It further noted the proposals made by other TWP's regarding the document. It could endorse the proposals to align the first part of the model report as far as possible on the first part of the variety description form, but with some changes mentioned by other TWP's.

Combined Over-Years (COY) Analysis

9. The Working Party noted document TC/XXIII/4 Rev. and also that in South Africa the method had been applied to some data of Banana varieties with promising results and that it will be applied to varieties of pineapple. The Working Party will thus await the outcome of those results before discussing further the application of the COY analysis.

Questions from the TWC

10. The Working Party disagreed with the TWC that no real pair-wise comparisons of varieties were made. In the field of fruit crops, pair-wise comparisons would be made in many cases.

11. The Working Party agreed that, in future sessions, some time should be reserved to allow a statistician from the country where the session would take place to explain certain statistical methods which might be applicable to variety testing in fruit species: If possible, the statistician should be from the country where the session was taking place. Some possible items to be studied could be statistics as an aid in the testing of differences in colors between clones of apples or the sampling of apples on a tree to obtain a representative sample.

12. The Working Party noted that there were differences in what was understood by the term "similar-variety" used in the UPOV Variety Description Form. While some member States indicated only varieties which had posed difficulties during the examination because the differences were rather small, others considered all varieties which were different in one characteristic only. While in the first case similar varieties would be indicated only if a confusion was otherwise possible, other member States would indicate similar varieties in most of the variety descriptions.

13. The Working Party agreed to select two species and certain characteristics in each species which had caused problems and to supply the data on these characteristics, together with other information asked for by the TWC, to the expert from the TWC for further study. The expert from South Africa will supply data on banana, the expert from the United Kingdom--data on apple and the expert from the Federal Republic of Germany--data on strawberry.

14. The Working Party had no further special problems to be presented to the TWC.

States of Expression and Notes of Certain Characteristics

15. The Working Party noted documents TC/XXIII/5 and TC/XXIII/7. It went through document TC/XXIII/5 and discussed each of the examples given. In most

cases, it could agree with the proposals made but in certain cases, for example, in 8.1, 12.6 and 12.7, stated that whether it had to be handled in the quantitative or the qualitative way would depend on the expression of the characteristic in the species. The choice of preference on the order of the states in examples 13.8 and 13.9 was left to the Technical Committee.

### Final Discussion of Draft Test Guidelines

#### Test Guidelines for Blackberry (Revision)

16. The Working Party noted that no comments in writing had been received regarding the Draft Test Guidelines for Blackberry (revision) as reproduced in document TG/73/4(proj.), with the exception of the comments on the logical order of states (document TWV/XXI/16). It therefore only made the following main changes in the document:

(i) Subject of these Guidelines: To have the name of the family (Rosaceae) added. Respective additions to be made also to the other Test Guidelines.

(ii) Methods and Observations: Paragraph 5 to read: "All observations on the fruit should be made on fruits collected during the 2nd, 3rd and/or 4th picking." In paragraph 6, the article before "flower" to be added and paragraph 7 to be deleted.

(iii) Table of Characteristics:

#### Characteristic

- 1 to have the word "growth" inserted before "habit"
- 23 to have the states "circular (1), ovate (2), elliptic (3), narrow ovate (4)"
- 25 to have the following order of the states: "reddish, reddish black, bluish black, black"

(iv) Literature: To have the literature added: "Brooks, R.M. and Olmo, H.P., 1974: Register of new fruit and nut varieties 29. Hort. Sci.9, pp. 437-441".

(v) Technical Questionnaire: To have a request included after 4.1 to indicate whether the plant material has been obtained by micropropagation. To be discussed in the Technical Committee whether a sentence should be included on such treatment of submitted plant material.

#### List of Reference Books and Documents

17. The Working Party noted document TWV/XXI/3, which contains additional information to that included in document TC/XXII/4. It invited its members to inform the Office of UPOV of any additional information or corrections which might be necessary in that document.

Discussion of Working Papers on Test GuidelinesTest Guidelines for Banana

18. The Working Party noted document TWV/XIX/2 which contains a working paper on Test Guidelines for Banana. It made the following main changes in the document:

(i) Subject of these Guidelines: To have the family name (Musaceae) added.

(ii) Material Required: To have the words "preferably not from micropropagation" added in paragraph 1 after the indication of the quantity of plant material.

(iii) Conduct of Tests: To have the words "which should be divided in two or more replicates" added in paragraph 3 after "12 plants".

(iv) Methods and Observations: In paragraph 2, to have the words "10 parts of plants" replaced by "10 plants or parts of 10 plants". In paragraph 7, to have the words "and thickness" after "color" and to have paragraph 12 at the end to read: "from where the fruit widens at the stalk end to the apical part".

(v) Table of Characteristics:

Characteristics

- 1, 5, 11, 15, 16, 17, 22, 23, 24, 25, 26, 27, 29, 31 to receive an asterisk
- 6 to have the words "of base" added and to have the states "acute (3), obtuse (5), rounded (7)"
- 7 to have the states "green, reddish"
- 10 after this characteristic, a new characteristic to be added reading: "Inflorescence: persistence of female bract" with the states "weak, medium, strong"
- 11 to read: "Fruit bunch: persistence of hermaphrodite fruit"
- 12 to be deleted
- 23, 24 to have the states "few, medium, many"; after characteristic 23, a new characteristic to be included reading: "Fruit bunch: number of edible fruit" with the states "few, medium, many"
- 26 to have the last state read "broad"
- 30 to apply to the ripe fruit

(vi) Explanations on the Table of Characteristics: The drawings on page 21 to apply to characteristics 11 to 24 with the heading "Fruit bunch"

(vii) Literature: To have additional literature added as distributed

(viii) Technical Questionnaire: In paragraph 4.2, to request information on micropropagation and to have in paragraph 5 only the characteristics 1, 27, 29 and 31.

Test Guidelines for Chestnut

19. The Working Party noted document TWF/XIX/3 which contains a working paper on Test Guidelines for Chestnut. It made the following main changes in the document:

(i) Subject of these Guidelines: To apply to "all vegetatively propagated varieties of Castanea sativa Mill. of the family Fagaceae and its hybrids"

(ii) Grouping of Varieties: To have the word "Castanea" added at the end of paragraph 1 before the word "species".

(iii) Table of Characteristics:

Characteristics

- 1 to read: "Tree: diameter of trunk (after first growing season, below first branch)" with the states from "very small" to "very large"
- 2 to read: "Tree: growth habit"
- 3 to 7 to have the words "One year old shoot" replaced by "Current season's lateral"
- 5 to have the words "of node" deleted
- 6 to have the words "terminal shoot" replaced by "distal part"
- 7 to have the states "sparse, medium, dense"
- 8 to read: "Time of leaf bud burst"
- 9 to read: "Male flower: length of filament" with the states from "very short" to "very long"
- 11 to read: "Time of beginning of male flowering"
- 13 to read: "Young leaf: bronze coloration (distal part of lateral)" with the states "absent, present"
- 15 to have the states "concave (1), straight (2)"
- 17 to have the states "small, medium, large"
- 20 the first state to read: "whitish"
- 21 to have the states "acute (3), obtuse (5), cordate (7)" with no drawings
- 22 to read: "Fully developed leaf: dentation of margin" with the states "mucronate, dentate"
- 25 to have the states "small, medium, large"
- 26 to be placed at the end of the table and to have the word "fruit" inserted before "ripening"

- 28 to read: "Poly-embryonic varieties only: Fruit: coherence of embryos"
- 29, 30 to receive the addition "into embryo"
- 31 to have the following order of states: "ovoid (1), broad ovoid (2), globose (3), transverse ellipsoid (4), transverse broad ellipsoid (5)"
- 33 to read: "Fruit: glossiness (immediately after opening of involucre)"
- 35 to read: Fruit: color (at harvest) with the following states still to be checked): "light brown (1), brown (2), dark brown (3), reddish brown (4), blackish brown (5)"
- 38 to have the word "white" deleted

(iv) Explanations on the Table of Characteristics: New drawings to be prepared for "Ad 9" and in "Ad 31", the drawing for Note 2 to be placed after Note 3 and the wording for the shapes for Note 4 and Note 5 to be reversed. The stages for observation (pages 22 to 26) to be deleted, as well as the column foreseen in the Table of Characteristics.

(v) Literature: The expert from France to indicate literature.

(vi) Technical Questionnaire: The characteristics 5.1, 5.2, 5.5, 5.6, 5.7 and 5.9 to be deleted.

#### Test Guidelines for Prunus Rootstocks

20. The Working Party noted document TWF/XIX/6 containing a working paper on Test Guidelines for Prunus Rootstocks and made the following main changes in the document:

(i) Subject of these Guidelines: This section will read: "These Guidelines apply to all vegetatively propagated rootstock varieties of the genus Prunus L." There would be no list of species as foreseen in the draft.

(ii) Material Required: The quantity of material recommended would be "25 one year old rooted cuttings, not from micropropagation, unless micropropagation is the only possible way of propagation".

(iii) Conduct of Tests: "As a minimum, each test should include a total of 20 single plants which should be divided between two or more replicates."

(iv) Methods and Observation: The observations mentioned in paragraph 2 to be made on "20 plants or parts of 20 plants". Paragraph 3 should be deleted. After paragraph 4, another paragraph should be added requiring that the description be supplemented by a shadowgraph of a leaf.

(v) Table of Characteristics:

#### Characteristics

1 to 3, 5, 30, 31, 43, 46, 79 to be deleted

4, 6 to have the word "Tree" replaced by "Plant"



- 7 to 12 to have the word "shoot" replaced by "branch"
- 7 to have the asterisk (\*) deleted and to have the Notes "3, 5, 7"
- 13 to have the Notes "3, 5, 7"
- 14, 16, 17 to have the word "cane" replaced by "branch"
- 14 to have the states "adpressed (1), slightly held out (2), clearly held out (3)"
- 17 after this characteristic, a new characteristic to be inserted reading: "Young leaf: anthocyanin coloration" with the states from "absent or very weak" to "very strong"
- 18 to read: "Leaf: position" with the states "upwards (3), horizontal (5), downwards (7)"
- 20 to have the last state read: "oblong"
- 21 to have the word "tip" replaced by "apical part" and to have the Notes "3, 5, 7"
- 22 to have the word "point" replaced by "tip"
- 24 to have the word "green" from the states transferred into the characteristic and to have the Notes "3, 5, 7"
- 32 to read: "Petiole: depth of groove"
- 37 to have the word "vegetation" replaced by "vegetative growth"
- 38 to read: "Plant: number of flowers" with the states from "absent or very few" to "very many"
- 39 to read: "Flower: diameter"
- 47 to have the word "elongated" corrected
- 48 to have the state "brown" placed after "violet red"
- 51 to read: "Plant: frequency of flowers with supplementary petals"
- 52 to read: "Flowers with 5 petals only: Flower: overlapping of petals" with the states "free (3), touching (5), overlapping (7)"
- 53 to be replaced by the following characteristics:
- (a) "Petal: length" with the states "short, medium, long" and
  - (b) "Petal: width" with the states "narrow, medium, broad"
- 56 to read: "Petal: angle of basal part"
- 57 to read: "Petal: margin of distal part"

- 59 to have the Notes "3, 5, 7"
- 62 to have the states "only perigynous, partly hypogynous"
- 63 to read: "Flower: presence of pistil" and to have the order of the last two states reversed
- 64 to read: "Flower: frequency of supplementary pistil"
- 70, 71 to be replaced by the following characteristics:
- (a) "Fruit: length" with the states "short, medium, long"
  - (b) "Fruit: diameter" with the states "small, medium, large," and
  - (c) "Fruit: ratio length/diameter" with the states from "very small" to "very large"
- 72 to have the words "base, tip" replaced by "stalk end, style end" and to have the Notes "3, 5, 7"
- 73 to have the order of the states reversed
- 75 to read: "Fruit: regularity of depth of suture" with the states "even, deeper at stalk end, deeper at style end"
- 77 to read: "Fruit: size of pistil cavity" with the states "small, medium, large"
- 78 to read: "Fruit: style"
- 80 to have the word "peduncle" replaced by "stalk"
- 82 to have the word "of" replaced by "on"
- 84 to have the addition "if different from ground color" and to have the additional states "whitish (1), yellowish (2)"
- 90 to read: "Fruit: sugar content"
- 91 to have the last state read: "fully adherent"
- 92 to 95 to be replaced by the following characteristics:
- (a) "Stone: length in relation to fruit" with the states "short, medium, long"
  - (b) "Stone: ratio length/width" and
  - (c) "Stone: ratio length/thickness"
  - (d) "Stone: ratio width/thickness",  
the last three characteristics with the states "small, medium, large"
- 96, 97 to have the states "asymmetric, symmetric" and to have the order of the characteristics reversed

- 99 to have the states "absent, partly developed, fully developed"
- 100, 101, 102 and 105 to be further studied
- 102 to read: "Stone: cutting up of margins of dorsal furrow"
- 106 to have the word "peduncle" replaced by "stalk"
- 107 to have the word "pistil" replaced by "style" with the states: "acute, obtuse, rounded"
- 109 to read: "Time of fruit maturity"; after this characteristic, a new characteristic to be inserted reading: "Plant: time of leaf fall" with the states "early, medium, late"
- 110 to have the asterisk (\*) deleted, to have the order of the states reversed and the last state read: "fully self-compatible"
- 111 to read: "Plant: production of seeds"
- 112 to 137 to be deleted

(vi) Literature: To be indicated by experts from France and from the United Kingdom.

(v) Technical Questionnaire: Paragraph 1 to have the additional species "P. mahaleb" and to have the species "P. mariana" deleted. Paragraph 4 to be copied from document TWF/XIX/2. Paragraph 7.2 to be deleted and paragraph 7.3 to have the additional state "other (please specify)".

#### Test Guidelines for Walnut

21. The Working Party noted documents TWF/XIX/4 and TWV/XIX/8 containing working papers on Test Guidelines for Walnut. It finally made the following main changes in document TWF/XIX/8:

(i) Subject of these Guidelines: To have the family name "Irilandaceae" added.

(ii) Table of Characteristics:

#### Characteristics

- 1, 2 to be changed as for Prunus Rootstocks
- 4 to be split into the following two characteristics:
- (a) "Tree: clustering of female flower buds" with the states "absent, present" and
- (b) "Tree: type of branching of female flowering branches" with the states "indeterminate, determinate"
- 7 to have the states "absent, present"
- 11 to have the states with Notes 5 and 6 read: "short trapezoid, long trapezoid"

- 14 to have the second and third states read: "rounded, truncate"
- 15 to have the second state read: "rounded"
- 18 to read: "Fruit: width of pad on suture" with the states "narrow, medium, broad"
- 20 to read: "Fruit: structure of surface of shell"
- 26 to read: "Kernel: intensity of brown color" with the states from "very light" to "very dark"
- 28 to be deleted
- 29 to have the word "weight" replaced by "mass"
- 30 to have the word "leaf" inserted before "bud"
- 37 to have the asterisk (\*) deleted

(iii) Technical Questionnaire: Paragraph 4 to have the same wording as in document TWF/XIX/2.

#### Test Guidelines for Black Currant (Revision)

22. The Working Party noted documents TG/40/3 and TWF/XIX/10 containing the Test Guidelines for Black Currant and proposals for their revision. It finally made the following main changes to document TG/40/3:

(i) Table of Characteristics:

#### Characteristics

- 4, 5, 6, 9, 10, 13 to 17, 19, 21 to be deleted
- 2 to have the state 4 deleted and to receive the Notes "3, 5, 7"
- 8 to have the word "grey" deleted
- 11, 12 to be combined in one characteristic with the first state "absent or very weak", to receive the bracketed addition "leaf and stem", and to have the example variety "Ben Lomond" for state 9
- 22 to have the asterisk (\*) deleted
- 23 to be placed after characteristic 24 and to read: "Leaf: distribution of anthocyanin coloration of petiole" and to have the first state incorporated in characteristic 24
- 24 to have the first state read: "absent or very weak"
- 26, 27 to be combined into one characteristic with the first state reading: "absent or very weak"
- 29 to have the additional states "very small, very large"

(ii) Technical Questionnaire: Paragraph 4 to have the same wording as in document TWF/XIX/2.

Test Guidelines for Citrus (Revision)

23. The Working Party noted documents TG/83/3 and TWF/19/7 containing the Test Guidelines for Citrus and a working paper on the revision of those Test Guidelines. It invited its members to send any comments on the above working paper to the experts from South Africa who would prepare a new working paper for the coming session. The Working Party noted also the following publication: "Ortiz Marcide, J.M.: "Nomenclatura botanica de los citricos," Fruits, Vol. 41, N° 3, pp. 199-209, 1986".

Status of Test Guidelines

24. The Working Party agreed that the Draft Test Guidelines for Blackberry (revision) should be sent to the Technical Committee for final adoption.

25. The Working Party agreed that the Draft Test Guidelines for Banana, for Chestnut, for Walnut and for Black Currant (revision) should be sent to the professional organizations for comments after the information which is still required has been included.

26. Discussion on the working papers on Test Guidelines for Prunus Rootstocks and for Citrus (revision) will have to be continued during the coming session.

27. Lack of time did not allow the Working Party to discuss the working papers on further species mentioned under item 7 of the draft agenda.

Future Program, Date and Place of Next Session

28. At the invitation of the expert from the Netherlands, the Working Party agreed to hold its twentieth session at Wageningen, Netherlands, from September 26 to September 29, 1989. The session would close at 12.00 noon on September 29, 1989. During the session, the Working Party plans to discuss the following items:

(a) Short reports on new developments in member States and Plant Variety Protection for fruit species;

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

(c) Color observations;

(d) Machine vision;

(e) Statistical methods;

(f) Discussion on a working paper for wild fruiting species;

(g) Final discussion on Draft Test Guidelines for:

(i) Banana

(ii) Black Currant (revision)

(iii) Chestnut

(iv) Walnut

- (h) Discussions on working papers on Test Guidelines for:
- (i) Blue Berry
  - (ii) Citrus (revision)
  - (iii) Jostaberry
  - (iv) Lingon Berry
  - (v) Prunus Rootstocks
  - (vi) Red and White Currant (revision)

#### Further invitations

29. The Working Party noted the invitation from Japan, to hold its session in 1989 in Japan. It regretted that time had been too short to collect the necessary information to enable it to take a positive decision on the invitation during its current session. It showed interest in holding a session taking place in Japan and will collect further information on the financial aspects of such a session should an invitation be made for 1990 or a later date. The Working Party also noted an invitation to hold its session in the United Kingdom either in 1990 or 1991.

#### Visits

30. On the afternoon of June 29, 1988, the Working Party visited the trial fields and glasshouses at the headquarters of the Bundessortenamt in Hanover. On June 30, 1988, the Working Party visited the trial fields at the station of the Bundessortenamt at Rethmar and also the Institute for Fruit Crops of the University of Hanover at Sarstedt.

31. This report has been adopted by correspondence.

[Annex follows]

## ANNEX

LIST OF PARTICIPANTS AT THE NINETEENTH SESSION  
OF THE TECHNICAL WORKING PARTY FOR FRUIT CROPS  
HANOVER, FEDERAL REPUBLIC OF GERMANY, JUNE 29 TO JULY 1, 1988

I. MEMBER STATESFRANCE

Mr. R. SAUNIER, Station d'arboriculture fruitière, INRA, Centre de recherche agronomique de Bordeaux, Domaine de la Grande Ferrade, 33140 Pont de la Maye (tel. 56 77 30 81)

GERMANY (FED. REP. OF)

Mr. A. BERNING, Bundessortenamt, Osterfelddamm 80, 3000 Hannover 61 (tel. 0511 57041)

Dr. D. BOERINGER, Präsident, Bundessortenamt, Osterfelddamm 80, Postfach 61 04 40, 3000 Hannover 61 (tel. 0511/57041)

Dr. L. GARTE (Mrs.), Bundessortenamt, Osterfelddamm 80, Postfach 61 04 40, 3000 Hannover 61 (tel. 0511/57041)

Dr. B. SPELLERBERG, Bundessortenamt, Osterfelddamm 80, Postfach 61 04 40, 3000 Hannover 61 (tel. 0511/57041)

ISRAEL

Mr. B. BAR-TEL, Department of Seed Research, Agricultural Research Organization, Volcani Centre, P.O.B. 6, Bet Dagan 50250 (tel. 03-980492)

NETHERLANDS

Mr. C.J. BARENDRECHT, RIVRO, P.B. 32, 6700 AA Wageningen (tel. 08370-79342)

SOUTH AFRICA

- Mrs. E. BUITENDAG, Citrus and Subtropical Fruit Research Institute, Private Bag X11208, Nelspruit 1200 (tel. 1311 52071, telex 33-5240 SA)
- Dr. A.J. JOUBERT, Citrus and Subtropical Fruit Research Institute, Private Bag X11208, Nelspruit 1200 (tel. 1311 52071, telex 33-5240 SA)
- Mr. E.P. EVANS, Agricultural Counsellor, South African Embassy, Trafalgar Square, London, WC2N 5DP, United Kingdom (tel. (0044-1)-930-4488, telex 051-8952626)

SPAIN

- Mr. I. BENITEZ-SIDON, Instituto Nacional de Semillas y Plantas de Vivero, Registro de Variedades, José Abascal, 56, 28003 Madrid (tel. 0034 1 441 8199)

UNITED KINGDOM

- Mr. R.R. STAPLETON, National Fruit Trials, Brogdale Experimental Horticulture Station, Faversham, Kent, ME13 8XZ (tel. (0795) 535462)

II. OFFICER

- Mr. B. BAR-TEL, Chairman

III. OFFICE OF UPOV

- Mr. B. GREENGRASS, Vice Secretary-General, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland (tel. 022 99 91 55)
- Dr. M.-H. THIELE-WITTIG, Senior Counsellor, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland (tel. 022 99 91 52)

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