PEACH
DESCRIPTIONS
INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES

COMMISSION OF EUROPEAN COMMUNITIES: COMMITTEE ON DISEASE RESISTANCE BREEDING AND USE OF GENE BANKS

DESCRIPTOR LIST FOR PEACH (*Prunus persica*)

Editors

E. Bellini

R. Watkins

E. Pomarici

IBPGR Secretariat, Rome 1984

CEC Secretariat, Brussels 1984
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In 1974 the Council of Ministers of the European Communities established a Standing Committee on Agricultural Research to advise the Commission on a programme of Agricultural Research.

The first programme started in 1975, while a second programme was launched in 1979 for the five year period 1979-1983.

The Standing Committee on Agricultural Research has advised the Commission on both programmes. Within this framework a programme on resistance breeding and use of genebanks has been set-up as one of 10 subjects. This programme (with a limited budget) is managed by a programme committee in which the ten member countries are represented by their nominees, one per country. The programme committee started work in 1978 by selecting priorities for crops and subjects. Several working groups have been set-up to prepare descriptor lists as a basis for future work.

CEC - Programme Committee on Disease Resistance Breeding and Use of Gene Banks
Second Programme on Agricultural Research of the CEC

rue de la Loi, 200
1040 Brussels, Belgium
The International Board for Plant Genetic Resources (IBPGR) is an autonomous international scientific organization under the aegis of the Consultative Group on International Agricultural Research (CGIAR). The IBPGR was established by the CGIAR in 1974 and its Executive Secretariat is provided by the Food and Agriculture Organization of the United Nations. The basic function of the IBPGR is to promote and coordinate an international network of genetic resources centres to further the collection, conservation, documentation, evaluation and use of plant germplasm and thereby contribute to raising the standard of living and welfare of people throughout the world. The Consultative Group mobilizes financial support from its members to meet the budgetary requirements of the Board.

IBPGR Executive Secretariat
Crop Genetic Resources Centre
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla, 00100 Rome, Italy
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</table>
PREFACE

The peach descriptor list was initiated and developed with full support from the Commission of the European Communities (CEC) Programme Committee for Plant Disease Resistance Breeding and the Use of Genebanks. The Prunus Working Group from the European Cooperative Programme for Conservation and Exchange of Crop Genetic Resources, Phase II, recognized the need for IBPGR to integrate its work on descriptors with all European countries. Therefore this descriptor list has been prepared to the IBPGR standard format following advice on descriptors and descriptor states from the crop experts throughout the world (see Appendix II). The IBPGR encourages the collection of data on the first four categories of this list; 1. Accession; 2. Collection; 3. and 4. Characterization and Preliminary evaluation. The IBPGR endorses the information in categories 1 – 4 as the minimum that ideally should be available for any one accession. Other descriptors are given in categories 5 onwards that will enable the simple encoding of further characterization and evaluation data and which can serve as examples for the creation of additional descriptors in the IBPGR form by any user.

The suggested coding should not be regarded as the definitive scheme, although this format has the full backing of the IBPGR and is promoted worldwide. The descriptor list given here provides an international format and thereby produces a universally understood 'language' for all plant genetic resources data. The adoption of this scheme for all data encoding, or at least the production of a transformation method to convert other schemes to the IBPGR format, will produce a rapid, reliable and efficient means for information storage, retrieval and communication. This will greatly assist the utilization of germplasm throughout the international plant genetic resources network. It is recommended, therefore, that information should be produced by closely following this descriptor list with regard to: ordering and numbering descriptors; using the descriptors specified; and using the descriptor states recommended.

Errors and omissions are the responsibility of the editors. Any suggestions for modifications will be welcomed by the IBPGR Secretariat, Rome, and by the editors, especially before encoding new descriptors.
DESCRIP TOR LIST FOR P RACH

The IBPGR now uses the following definitions in genetic resources documentation:

i) passport data (accession identifiers and information recorded by collectors);

ii) characterization (consists of recording those characters which are highly heritable, can be easily seen by the eye and are expressed in all environments);

iii) preliminary evaluation (consists of recording a limited number of additional traits thought desirable by a consensus of users of the particular crop).

Characterization and preliminary evaluation will normally be the responsibility of the curators, while further characterization and evaluation should be carried out by the plant breeder. The data from further evaluation should be fed back to the crop coordinator who will maintain a data file.

The following internationally accepted standards for the scoring or coding of descriptor states should be followed as indicated below:

a) measurements are made in metric units;

b) many descriptors which are continuously variable are recorded on a 1-9 scale. The authors of this list have sometimes described only a selection of the states, e.g. 3, 5 and 7 for such descriptors. Where this has occurred the full range of codes is available for use by extension of the codes given or by interpolation between them - e.g. in 8. (Pest and disease susceptibility) 1 = extremely low susceptibility and 8 = high to extremely high susceptibility;

c) presence/absence of characters are scored as + (present) and 0 (absent);

d) for descriptors which are not generally uniform throughout the accession (e.g. mixed collection, genetic segregation) mean and standard deviation could be reported where the descriptor is continuous or mean and 'x' where the descriptor is discontinuous (frequencies can be recorded in NOTES descriptor, 11);
e) when the descriptor is inapplicable, 'O' is used as the descriptor value. For example, if an accession does not form flowers, a 'O' would be scored for the following descriptor

<table>
<thead>
<tr>
<th>Flower colour</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
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<tbody>
<tr>
<td>White</td>
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<td></td>
<td></td>
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<tr>
<td>Yellow</td>
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<td></td>
<td></td>
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<tr>
<td>Red</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purple</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

f) blanks are used, for information not yet available;

g) standard colour charts e.g. Royal Horticultural Society Colour Chart, Methuen Handbook of Colour, Munsell Color Charts for Plant Tissues are strongly recommended for all ungraded colour characters. The precise chart used should be specified in the NOTES descriptor, 11.

For the observations on the fruit, 10 typical fruits should be selected out of a minimum of 20 from two trees. All observations on the fruits should be made on fruits ripened on the tree.
1. **ACCESSION DATA**

**INTRODUCTORY**

1.1 **ACCESSION NUMBER**

This number serves as a unique identifier for an accession at a given site and is assigned by the curator of a particular genebank site when an accession is entered into the site genebank. It must not be re-used even if the accession is lost. Letters should occur before the number to identify the genebank or national system (e.g. PI indicates an accession within the USA system, and EC indicates an accession within the CEC Fruit Genetic Resources Scheme). A site may choose to use a Genetic Resource Scheme (GRS) ACCESSION NUMBER (see 1.4) as the only unique identifier.

1.2 **DONOR NAME (= Source of acquisition)**

The name and address of the person or institute responsible for donating the germplasm to the genebank collection at the site (see 1.13) at which the plants are held.

1.3 **DONOR IDENTIFICATION NUMBER**

The number (or name) assigned by the person or institute above (1.2) donating the accession to the site specified at 1.14

1.4 **OTHER NUMBERS ASSOCIATED WITH THE ACCESSION (see also 1.18 and 2.1)**

Other identification number known to exist in other collections for this accession, e.g. CEC Genetic Resources Scheme* (EC) number or United States Plant Inventory (PI) number. EC and PI numbers serve as unique identifiers for an accession in a particular GRS, and must not be re-used; they are assigned by the EC or PI coordinator, and not by the site curator.

1.4.1 **EC number** (CEC GRS accession number)

1.4.2 **PI number** (United States Plant Inventory accession number)

1.4.3 etc.

* Basic EC Peach Descriptors
1.5 SCIENTIFIC NAME (Use Prunus persica for the cultivated peach)

1.5.1 *Genus (e.g. Prunus)

1.5.2 *Species (e.g. persica)

1.5.3 *Subspecies [(if applicable) e.g. nucipersica (for Nectarine)]

1.5.4 Bot. var. (if applicable)

For complex hybrids refer to 1.12

1.6 PEDIGREE OF ACCESSIONS

1.6.1 *Female parent (of the accession)

1.6.2 *Male parent (of the accession)

1.6.3 Mother of female parent

1.6.4 Father of female parent

1.6.5 Mother of male parent

1.6.6 Father of male parent

1.6.7 Nomenclature and designations

Identities and additional pedigree assigned to breeder's material

1.7 ACQUISITION DATE

The month and year in which the accession entered the collection, expressed numerically, e.g. June = 06, 1981 = 1981

1.7.1 Month

1.7.2 Year

1.8 DATE OF LAST REGENERATION OR MULTIPLICATION

The month and year expressed numerically, e.g. October = 10, 1978 = 1978

1.8.1 Month

1.8.2 Year

1.9 ACCESSION SIZE

Approximate number of seeds or plants of accession in collection
1.10 NUMBER OF TIMES ACCESSION REGENERATED

Number of regenerations or multiplications since original collection

1.11 TYPE OF MAINTENANCE

1. Vegetative
2. Seed
3. Pollen
4. Tissue culture
5. More than one type (specify in NOTES descriptor, 11)

1.12 GENETIC ORIGIN

1. Self pollination
2. Infraspecific hybrid
3. Interspecific hybrid
4. Clonal selection
5. Bud spontaneous mutation
6. Bud induced mutation
7. Open pollination
8. Etc.

Specify further information on complex hybrids in the NOTES descriptor, 11.

SITE SPECIFIC

1.13 *COUNTRY WHERE MAINTAINED

Code letters for country in which plants are grown. Use the three letter abbreviations supported by the Statistical Office of the United Nations. Copies of the abbreviations are available from the IBPGR Secretariat and have been published in the FAO/IBPGR Plant Genetic Resources Newsletter No. 49

e.g. GRC Greece
     USA United States of America

1.14 *SITE WHERE MAINTAINED

Institute at which plants are grown. (If codes are used they must be unique for a particular country and, to avoid duplication, should be communicated to IBPGR).

e.g. ANGS Station de Recherches d'Arboriculture Fruitière, Angers
     EMRS East Malling Research Station, Kent
     FRNZ Istituto di Coltivazioni Arboree, Firenze

1.15 CURATOR

The officer responsible for maintaining the genetic resources material held at the site specified above
1.16  *LOCAL NAME

The name by which the cultivar or species is listed at the above site. This may be either some combination of the Genetic Identifiers (1.22 and 1.23) or a synonym.

1.17  *LOCAL CLONE/MUTANT/VARIANT NAME

The clone or mutant name of the cultivar or species (if any) by which it is identified at the above site. This may be either the internationally accepted name (1.23) or a synonym.

1.18  LOCAL PLANT NUMBER

This identifies a single plant within a population of plants having the same site accession number. It may be any combination of plot identity, row number, and tree position within the row.

1.19  DISTRIBUTION

1 Unlimited
2 Limited – (specify restrictions in the NOTES descriptor, 11).

1.20  *YEAR OF PROBABLE DISCARD

Enter year that tree(s) will probably be discarded, e.g. 1988. Regeneration of genebank accessions should take place at least two years before the year of probable discard.

1.21  YEAR TREE PLANTED (e.g. 1972)

FURTHER IDENTIFIERS

1.22  *GENETIC NAME

The name of the cultivar or species as internationally accepted or defined by the Genetic Resources Scheme coordinator e.g. Redhaven.

1.23  *GRS CLONE/MUTANT/VARIANT NAME

The internationally accepted name (if any) of the clone or mutant of the cultivar or species, e.g. Early Redhaven, Compact Redhaven.

1.24  PATENT NUMBER (or Plants Variety Rights Number)

Patented cultivars – record the patent number or, if the patent number is not known write '+'
Non-patented cultivars – record as '0'

1.25  SYNONYMS

Other useful names (excluding those occurring above) in alphabetical order.
2. COLLECTION DATA

2.1 COLLECTOR'S NUMBER

Original number assigned by collector of the sample, normally composed of the name or initials of the collector(s) followed by a number. This item is essential for identifying duplicates held in different collections and should always accompany sub-samples wherever they are sent.

2.2 COLLECTING INSTITUTE

Institute or person collecting/sponsoring the original sample.

2.3 DATE OF COLLECTION OF ORIGINAL SAMPLE

Expressed numerically, e.g. March = 03, 1980 = 1980

2.3.1 Month

2.3.2 Year

2.4 COUNTRY OF COLLECTION OR COUNTRY WHERE CULTIVAR/VARIETY BRED (=Origin)

Use the three letter abbreviations supported by the Statistical Office of the United Nations. (see 1.13)

2.5 PROVINCE/STATE

Name of the administrative subdivision of the country in which the sample was collected.

2.6 LOCATION OF COLLECTION SITE

2.6.1. Collected in the wild

Number of kilometres and direction from nearest town, village or map grid reference (e.g. IZMIR7S means 7 km south of Izmir)

2.6.2 Postal address

For material originating at a clearly identifiable postal address.

2.7 LATITUDE OF COLLECTION SITE

Degrees and minutes followed by N (North) or S (South), e.g. 1030S

2.8 LONGITUDE OF COLLECTION SITE

Degrees and minutes followed by E (East) or W (West), e.g. 7625W
2.9 ALTITUDE OF COLLECTION SITE

Elevation above sea level in metres

2.10 COLLECTION SOURCE

1 Wild
2 Farm land
3 Farm store
4 Backyard
5 Village market
6 Commercial market
7 Institute
8 Other (specify in the NOTES descriptor, 11)

2.11 STATUS OF SAMPLE

1 Wild
2 Weedy
3 Breeders’ line
4 Primitive cultivar (landrace)
5 Advanced cultivar (bred)
6 Other (specify in the NOTES descriptor, 11)

2.12 LOCAL/VERNACULAR NAME

Name given by farmer to cultivar/landrace/weed

2.13 NUMBER OF PLANTS SAMPLED

Approximate number of plants collected (sampled) in the field to produce this accession

2.14 PHOTOGRAPH

Was a photograph taken of the accession or environment at collection?

0 = No
+ = Yes

2.15 HERBARIUM SPECIMEN

0 = No
+ = Yes

2.16 TYPE OF SAMPLE

1 Vegetative
2 Seed
3 Both
2.17 NATURE OF VEGETATIVE SAMPLE

1. Cuttings - for grafting
2. Cuttings - for rooting
3. Rooted plants
4. Tissue culture
5. Other (specify in the NOTES descriptor, 11)

2.18 *VIRUS DISEASE STATUS (including mycoplasma)

1. Virus disease free; specify viruses known to be absent in the NOTES descriptor, 11 and year of last virus test
2. Virus disease present; specify viruses present in the NOTES descriptor, 11 and year of last virus test
3. Not tested
4. Virus free by treatment

2.19 *END USE, GENERAL

1. Fruit use
2. Plant use
3. Both

2.20 *FRUIT USE

1. Scion cultivar - dessert
2. Scion cultivar - processing including distilling
3. Dual or multipurpose consumption
4. Other (specify in the NOTES descriptor, 11)

2.21 *PLANT USE

1. Clonal rootstock
2. Clonal interstock
3. Seedling rootstock
4. Ornamental/pollinator
5. Dual or multipurpose use
6. Botanical (wild) species
7. Other (specify in the NOTES descriptor, 11)

2.22 OTHER NOTES FROM COLLECTOR

Collectors should record ecological/climatic information. For cultivated crops, cultivation practices should be recorded.
3. **SITE DATA**

3.1 COUNTRY OF CHARACTERIZATION AND PRELIMINARY EVALUATION

See 1.13 for coding procedure

3.2 SITE (RESEARCH INSTITUTE)

See 1.14 for coding procedure

3.3 NAME OF PERSON IN CHARGE OF CHARACTERIZATION

3.4 ROOTSTOCK

Name of rootstock on which accession is grafted (if any)

3.5 CONDITION OF TREE

Choose the one condition that best fits the accession

1. Dying
2. Old - declining
3. Mature - diseased
4. Mature - non-vigorous
5. Mature - vigorous
6. Young - not yet bearing
7. Healthy - cropping poorly
8. Healthy - cropping well

3.6 CROPPING

A preliminary measurement of "Cropping efficiency" (descriptor 6.2.3)

3. Cropping poorly
5. Intermediate
7. Cropping well
4. PLANT DATA

4.1 VEGETATIVE

4.1.1 Propagation method

Suitable method(s) employed for multiplication (0 = No, + = Yes)

4.1.1.1 Grafting (including budding)
4.1.1.2 Hardwood cuttings
4.1.1.3 Softwood cuttings
4.1.1.4 Stool beds
4.1.1.5 Layering
4.1.1.6 Micropropagation
4.1.1.7 Seed
4.1.1.8 Etc.

4.1.2 Chromosome number

4.2 INFLORESCENCE AND FRUIT

4.2.1 Season of flowering

Date of beginning of flowering

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<tr>
<th></th>
<th></th>
<th>Reference</th>
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<tr>
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<td>Extremely early</td>
<td>Maravilha, Sunred</td>
</tr>
<tr>
<td>2</td>
<td>Very early</td>
<td>Tejon, Sunlight</td>
</tr>
<tr>
<td>3</td>
<td>Early</td>
<td>Springtime, Armking</td>
</tr>
<tr>
<td>4</td>
<td>Early/intermediate</td>
<td>Flavorcrest, Maria Laura</td>
</tr>
<tr>
<td>5</td>
<td>Intermediate</td>
<td>Redhaven, Maria Aurelia</td>
</tr>
<tr>
<td>6</td>
<td>Intermediate/late</td>
<td>Cresthaven, Nectared 4</td>
</tr>
<tr>
<td>7</td>
<td>Late</td>
<td>Fillette, Nectared 6</td>
</tr>
<tr>
<td>8</td>
<td>Very late</td>
<td>Summorqueen, Golden State</td>
</tr>
<tr>
<td>9</td>
<td>Extremely late</td>
<td>Buttercup</td>
</tr>
</tbody>
</table>
4.2.2 *Harvest maturity

Season of maturity for picking. When available, average maturity in terms of days post-blossom can be recorded in the NOTES descriptor, 11

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<th>Mid-season</th>
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<td>2</td>
<td>Very early</td>
<td></td>
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</tr>
<tr>
<td>3</td>
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<td>4</td>
<td>Early/mid season</td>
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<tr>
<td>5</td>
<td>Mid-season</td>
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</tr>
<tr>
<td>6</td>
<td>Mid season/late</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>Late</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>8</td>
<td>Very late</td>
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</tr>
<tr>
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<td></td>
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Reference

*Flower type* (shape)

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<th>Campanulate</th>
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</tr>
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<td>2</td>
<td></td>
<td></td>
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</table>

Reference

*Skin pubescence*

<table>
<thead>
<tr>
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<th>Absent</th>
<th>Poor</th>
<th>Intermediate</th>
<th>High</th>
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<td>5</td>
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<tr>
<td>7</td>
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</tbody>
</table>

Reference

*Flesh colour*

<table>
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<tr>
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<th>White-greenish</th>
<th>White</th>
<th>White-cream</th>
<th>Yellow-greenish</th>
<th>Yellow</th>
<th>Yellow-orange</th>
<th>Yellow-red</th>
<th>Red</th>
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Reference
FURTHER CHARACTERIZATION AND EVALUATION

5. SITE DATA

5.1 COUNTRY OF FURTHER CHARACTERIZATION AND EVALUATION
See 1.13 for code

5.2 SITE (RESEARCH INSTITUTE)
See 1.14 for code

5.3 NAME OF PERSON IN CHARGE OF EVALUATION

5.4 ROOTSTOCK
Name of the rootstock on which the accession is grafted (if any)

6. PLANT DATA

6.1 VEGETATIVE

SCIONS GRAFTED ON ROOTSTOCKS OR SELF-ROOTED

6.1.1 Tree habit (of branches)
Natural habit of an untrained, non-juvenile tree

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Extremely upright</td>
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</tr>
<tr>
<td>9</td>
<td>Weeping</td>
</tr>
<tr>
<td></td>
<td>Pillar</td>
</tr>
<tr>
<td></td>
<td>Fairhaven, Maria Laura</td>
</tr>
<tr>
<td></td>
<td>Elbertita</td>
</tr>
<tr>
<td></td>
<td>Redhaven Compact</td>
</tr>
<tr>
<td></td>
<td>Bianco Pendulo</td>
</tr>
</tbody>
</table>

6.1.2 Tree vigour
Based on height and spread measurements of adult trees on their own roots, or relative to reference cultivars on the same rootstock (use reference cultivars or species on a common rootstock for each site)

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Weak</td>
</tr>
<tr>
<td>5</td>
<td>Intermediate</td>
</tr>
<tr>
<td>7</td>
<td>Strong</td>
</tr>
<tr>
<td>9</td>
<td>Extremely strong</td>
</tr>
<tr>
<td></td>
<td>Richhaven, Maria Aurelia</td>
</tr>
<tr>
<td></td>
<td>Redhaven, Maria Laura</td>
</tr>
<tr>
<td></td>
<td>Fairtime, Independence</td>
</tr>
<tr>
<td></td>
<td>Superba, Sunred</td>
</tr>
</tbody>
</table>
6.1.3 Tree chilling requirement

Additional information concerning the method used to measure this character must be recorded in the NOTES descriptor, 11

<table>
<thead>
<tr>
<th></th>
<th>Extremely low requirement</th>
<th>Maravilha, Sunred</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Low requirement</td>
<td>Tejon, Sunlite</td>
</tr>
<tr>
<td>5</td>
<td>Medium requirement</td>
<td>Armgold, Armqueen</td>
</tr>
<tr>
<td>7</td>
<td>High requirement</td>
<td>Redhaven, Philip</td>
</tr>
<tr>
<td>9</td>
<td>Extremely high requirement</td>
<td>May Flower,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fuzzless Berta</td>
</tr>
</tbody>
</table>

6.1.4 Leaf colour

<table>
<thead>
<tr>
<th></th>
<th>Green</th>
<th>Redhaven, Siberian C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Red</td>
<td>Rutgers Red Leaf, Rubira</td>
</tr>
</tbody>
</table>

6.1.5 Petiole gland shape (Nectaries)

<table>
<thead>
<tr>
<th></th>
<th>Absent</th>
<th>Tejon, Galopin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reniform</td>
<td>Redhaven, May Grand</td>
</tr>
<tr>
<td>2</td>
<td>Globose (Round)</td>
<td>Harbrite, Freedom</td>
</tr>
</tbody>
</table>

ROOTSTOCKS

6.1.6 Dwarfing

Direct growth controlling effect of the rootstock on the cultivar

<table>
<thead>
<tr>
<th></th>
<th>Extremely invigorating</th>
<th>GF 677</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Very invigorating</td>
<td>Rancho Resistant</td>
</tr>
<tr>
<td>3</td>
<td>Invigorating</td>
<td>ICAPI P.S. A6</td>
</tr>
<tr>
<td>4</td>
<td>Fairly invigorating</td>
<td>ICAPI P.S. A5</td>
</tr>
<tr>
<td>5</td>
<td>Intermediate</td>
<td>Siberian C</td>
</tr>
<tr>
<td>6</td>
<td>Semi-dwarfing</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Dwarfing</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Extremely dwarfing</td>
<td></td>
</tr>
</tbody>
</table>

6.1.7 Yield efficiency

A high yield efficiency is defined as the induction in the scion of a high yield of fruit relative to the cross sectional area of the trunk

<table>
<thead>
<tr>
<th></th>
<th>Poor</th>
<th>GF 305</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Intermediate</td>
<td>Rutgers Red Leaf</td>
</tr>
<tr>
<td>7</td>
<td>Good</td>
<td>ICAPI P.S.A5</td>
</tr>
<tr>
<td>9</td>
<td>Extremely good</td>
<td>Siberian C</td>
</tr>
</tbody>
</table>
6.1.8 Best method of propagation

1. Hardwood cuttings
2. Softwood cuttings
3. Stool beds
4. Layering
5. Micropropagation
6. Seed
7. Easily propagated by more than one method (specify in the NOTES descriptor, 11)
8. Other (specify in the NOTES descriptor, 11)

Reference
GF 677
ICAPI P.S. A5, etc.

6.2 INFLORESCENCE AND FRUIT

SCIONS GRAFTED ON ROOTSTOCKS OR SELF-ROOTED

6.2.1 Flower size

1. Extremely small
2. Small
3. Intermediate
4. Large
5. Extremely large

Reference
Cotogna del Berti,
Armking
Redhaven, Stark Sunglo
Burrona di Rosano, Morton
Dixiland, Arrmed
Carson,
Angelo Marzocchella

6.2.2 Anthers/pollen

0. Absent
+ Present

Reference
J.H. Hale, Ruby Gold
Most varieties

6.2.3 Cropping efficiency (Productivity)

The yield per unit area of land relative to other cultivars on the same rootstock, under the same management system and at the same site

Reference
1. Extremely low
2. Low
3. Intermediate
4. Very high
5. Extremely high

Red Bird, Ruby Gold
J.H. Hale, Tom Grand
Sunhigh, May Grand
Morettini 1, Maria Emilia
Redhaven, Maria Aurelia
6.2.4 *Fruit size

Average weight of fruits. Information on the uniformity of size can be recorded in the NOTES descriptors, 11

Reference
1 Extremely small Royal April, Mayred, Springtime, Red June
3 Small Springcrest, Maria Emilia
5 Intermediate Redtop, Maria Laura
7 Large Maria Bianca, Maria Aurelia
9 Extremely large

6.2.5 *Fruit shape* (in profile view)

See shape outlines in Figure 1

Reference
1 Very flat Plasticarpa
2 Slightly flat Robin, Giuglianesi
3 Rounded Springcrest, Spring Red
4 Oval Royal Gold, Maria Laura
5 Oblong Elberta, Flavortop
6 Elongated Chinese cv., e.g. Mian-shian-wujueh-ban-tao

6.2.6 Fruit attractiveness

This is a subjective factor, varying between regions and between experts

Reference
1 Extremely poor Marcus, Galopin
3 Poor Fillette, Nectared 3
5 Fair J.H. Hale, Independence
7 Good Redhaven, Maria Aurelia
9 Excellent Flavorcrest, Maria Emilia

6.2.7 Ground colour

Ground colour of the skin of fully mature fruit

Reference
1 Green Ruberrima, Tom Grand
2 Greenish-cream Springtime, Morton
3 Cream Maria Bianca, Snow Queen
4 Cream-yellow J.H. Hale, Honey Gold
5 Yellow Maria Serena, Lola
6 Orange-yellow Redtop, Maria Aurelia
Figure 1. Fruit shape (in profile view)

6.2.8 *Red over colour* (Blush)

Over colour of the skin of fully mature fruit. Additional information can be recorded in the NOTES descriptor, 11

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No red over colour</td>
<td>Maria Serena</td>
</tr>
<tr>
<td>1</td>
<td>None to red-trace</td>
<td>Della China, Lola</td>
</tr>
<tr>
<td>2</td>
<td>Red-trace</td>
<td>Carnival, Fairlane</td>
</tr>
<tr>
<td>3</td>
<td>Red-striped</td>
<td>Cherryred, Armking</td>
</tr>
<tr>
<td>4</td>
<td>Red-mottled</td>
<td>Raritan Rose, MayBelle</td>
</tr>
<tr>
<td>5</td>
<td>Partly-red</td>
<td>J.H. Hale, Le Grand</td>
</tr>
<tr>
<td>6</td>
<td>Medium-red</td>
<td>Redhaven, Fantasia</td>
</tr>
<tr>
<td>7</td>
<td>Mostly-red</td>
<td>Springcrest, Summer Grand</td>
</tr>
<tr>
<td>8</td>
<td>Full-red</td>
<td>Flavorcrest, Maria Emilia</td>
</tr>
<tr>
<td>9</td>
<td>Red-wine</td>
<td>Sanguigna, Blood Flesbed</td>
</tr>
</tbody>
</table>
6.2.9 Skin cracking susceptibility

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely low</td>
<td>Maria Emilia</td>
</tr>
<tr>
<td>3</td>
<td>Low</td>
<td>Armking</td>
</tr>
<tr>
<td>5</td>
<td>Medium</td>
<td>Cherokee</td>
</tr>
<tr>
<td>7</td>
<td>High</td>
<td>Lexington</td>
</tr>
<tr>
<td>9</td>
<td>Extremely high</td>
<td>Stark Earliblaze</td>
</tr>
</tbody>
</table>

6.2.10 Firmness of flesh

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely soft</td>
<td>Uneeda, Morton</td>
</tr>
<tr>
<td>3</td>
<td>Soft</td>
<td>Amsden, Mayred</td>
</tr>
<tr>
<td>5</td>
<td>Medium</td>
<td>Robin, Armking</td>
</tr>
<tr>
<td>7</td>
<td>Firm</td>
<td>Springcrest, Maria Emilia</td>
</tr>
<tr>
<td>9</td>
<td>Extremely firm</td>
<td>Flavorcrest, Maria Aurelia</td>
</tr>
</tbody>
</table>

6.2.11 Texture of flesh

The texture of the flesh of the fruit when ripe

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Coarse</td>
<td>Marcus, Flamekist</td>
</tr>
<tr>
<td>5</td>
<td>Intermediate</td>
<td>Sunhigh, Independence</td>
</tr>
<tr>
<td>7</td>
<td>Fine</td>
<td>Redhaven, Maria Aurelia</td>
</tr>
</tbody>
</table>

6.2.12 Eating quality

A combined assessment of flavour, acidity, sweetness, aroma and astringency at optimum eating time

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely poor</td>
<td>Tejon, Golden State</td>
</tr>
<tr>
<td>3</td>
<td>Poor</td>
<td>Marcus, Nectared 3</td>
</tr>
<tr>
<td>5</td>
<td>Fair</td>
<td>Redhaven, Independence</td>
</tr>
<tr>
<td>7</td>
<td>Good</td>
<td>Flavorcrest, Maria Aurelia</td>
</tr>
<tr>
<td>9</td>
<td>Excellent</td>
<td>Maria Bianca, Flavortop</td>
</tr>
</tbody>
</table>

6.3 STONE

6.3.1 Stone size

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely small</td>
<td>Royal Gold, Honey Gold</td>
</tr>
<tr>
<td>3</td>
<td>Small</td>
<td>Armgold, Silver Lode</td>
</tr>
<tr>
<td>5</td>
<td>Medium</td>
<td>Redhaven, May Grand</td>
</tr>
<tr>
<td>7</td>
<td>Large</td>
<td>Cresthaven, Fantasia</td>
</tr>
<tr>
<td>9</td>
<td>Extremely large</td>
<td>Dixiland, Fairlane</td>
</tr>
</tbody>
</table>
6.3.2 **Stone shape (in profile view)**

See shape outlines in Figure 2

<table>
<thead>
<tr>
<th>Reference</th>
<th>1 Flat</th>
<th>2 Rounded</th>
<th>3 Ovoid</th>
<th>4 Elongated</th>
<th>5 Very elongated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platicarpa</td>
<td>Royal Gold, Panamint</td>
<td>Regina, John Rivers</td>
<td>Fairtime, May Grand</td>
<td>Chinese cv., e.g.</td>
<td>Gaoling-da-hung-pao-tao</td>
</tr>
</tbody>
</table>

![Stone shape outlines](image)

**Figure 2. Stone shape (in profile view)**

6.3.3 **Stone adherence to flesh of fully ripe fruit**

<table>
<thead>
<tr>
<th>Reference</th>
<th>1 Freestone</th>
<th>2 Semi-freestone</th>
<th>3 Clingstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elberta, Maria Aurelia</td>
<td>Cardinal, Maria Emilia</td>
<td>Andross, Fairlane</td>
<td></td>
</tr>
</tbody>
</table>

6.3.4 **Split stone**

Percentage of ripe fruit with split stones

<table>
<thead>
<tr>
<th>Reference</th>
<th>1 Extremely low</th>
<th>3 Low</th>
<th>5 Medium</th>
<th>7 High</th>
<th>9 Extremely high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flavorcrest, Maria Aurelia</td>
<td>Dixired, John Rivers</td>
<td>Springold, Armking</td>
<td>Earlired, Firebrite</td>
<td>Marcus, Mayred</td>
<td></td>
</tr>
</tbody>
</table>
7. **STRESS SUSCEPTIBILITY**

Based on the 1-9 scale, where

1  Extremely low susceptibility
3  Low susceptibility
5  Moderate susceptibility
7  High susceptibility
9  Extremely high susceptibility

7.1 **LOW TEMPERATURE**

Additional information concerning type of susceptibility can be recorded in the NOTES descriptor, 11; i.e. minimum temperature without damage, differences in bud and wood susceptibility, etc.

7.1.1 **Low temperature – winter**

On dormant flower buds

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely hardy</td>
</tr>
<tr>
<td>3</td>
<td>Hardy</td>
</tr>
<tr>
<td>5</td>
<td>Moderate</td>
</tr>
<tr>
<td>7</td>
<td>Tender</td>
</tr>
<tr>
<td>9</td>
<td>Extremely tender</td>
</tr>
</tbody>
</table>

7.1.2 **Low temperature – spring**

On open blossoms to spring frost

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely hardy</td>
</tr>
<tr>
<td>3</td>
<td>Hardy</td>
</tr>
<tr>
<td>5</td>
<td>Moderate</td>
</tr>
<tr>
<td>7</td>
<td>Tender</td>
</tr>
<tr>
<td>9</td>
<td>Extremely tender</td>
</tr>
</tbody>
</table>

7.2 **HIGH TEMPERATURE**

7.3 **DROUGHT**

7.4 **HIGH SOIL MOISTURE**

7.5 **CHLOROSIS**

Induced by high lime content of the soil

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extremely low susceptibility</td>
</tr>
<tr>
<td>3</td>
<td>Low susceptibility</td>
</tr>
<tr>
<td>5</td>
<td>Moderate susceptibility</td>
</tr>
<tr>
<td>7</td>
<td>High susceptibility</td>
</tr>
<tr>
<td>9</td>
<td>Extremely high susceptibility</td>
</tr>
</tbody>
</table>
8. PEST AND DISEASE SUSCEPTIBILITY

Based on a 1–9 scale of general field susceptibility where

3  Low susceptibility
5  Medium susceptibility
7  High susceptibility

(If the race is known, record in the NOTES descriptor, 11)

8.1 PESTS

8.1.1 Anarsia lineatella  peach twig-borer
8.1.2 Ceratitis capitata  peach maggot
8.1.3 Cydia molesta  oriental peach moth
8.1.4 Myzus persicae  peach aphid
8.1.5 Quadraspidiotus perniciosus  S. Jose scale
8.1.6 etc.

8.2 FUNGI

8.2.1 Monilia laxa (M. fructigena)  brown-rot

Reference

1  Harrow Blood
3  Loring, Harken, Harbrite
5  Hardired, Harko
7  Babygold 6, Nectared 3
9  Stark Earliblaze

8.2.2 Sphaerotheca pannosa  powdery mildew of peach

Reference

1  Armgold
3  Redhaven, Early Sungrand
5  Elberta, Panamint
7  Robin, Fuzzless Berta
9  Tejon, Bailey

8.2.3 Cladosporium carpophilum  peach scab
8.2.4 Coryneum beijerinckii  shot-hole
8.2.5 Cytospora spp.  canker
8.2.6 Fusisoccum amygdali  black canker
8.2.7 Stereum purpureum  silver blight
8.2.8 Taphrina deformans  peach leaf-curl
8.2.9 Verticillium albo-atrum  peach wilt
8.2.10 etc.

8.3 BACTERIA

8.3.1 Erwinia tumefaciens (Agrobacterium)

crown gall

8.3.2 Pseudomonas mors-prunorum f. persicae

8.3.3 Xanthomonas pruni

black spot

8.3.4 etc.

8.4 VIRUS AND MYCOPLASMA

8.4.1 Peach mosaic virus

8.4.2 Peach rosette mosaic virus

8.4.3 Prunus dwarf virus

8.4.4 Prunus ring spot virus

8.4.5 Peach X disease mycoplasma

8.4.6 etc.

8.5 NEMATODES

8.5.1 Meloidogyne spp.

8.5.1.1 Meloidogyne incognita

8.5.1.2 etc.

8.5.2 Pratylenchus spp.

8.5.2.1 Pratylenchus vulnus

8.5.2.2 etc.

8.5.3 etc.

8.6 PHYSIOLOGICAL DISORDERS

8.6.1 etc.

9. ALLOENZYME COMPOSITION

These may prove to be useful tools for identifying duplicate accessions

10. CYTOLOGICAL CHARACTERS AND IDENTIFIED GENES

11. *NOTES

Give additional information where descriptor state is noted as "Other" as might appear in descriptors (e.g. 2.10, 4.2.2, 6.1.8, etc.). Also include here further relevant information (where necessary)
SUMMARY OF BASIC CEC PEACH DESCRIPTORS

PASSPORT

1. ACCESSION DATA

1.4 OTHER NUMBERS ASSOCIATED WITH THE ACCESSION
   1.4.1 *EC number

1.5 SCIENTIFIC NAME
   1.5.1 *Genus
   1.5.2 *Species
   1.5.3 *Subspecies

1.6 PEDIGREE OF ACCESSION
   1.6.1 *Female parent
   1.6.2 *Male parent

1.13 *COUNTRY WHERE MAINTAINED

1.14 *SITE WHERE MAINTAINED

1.16 *LOCAL NAME

1.17 *LOCAL CLONE/MUTANT/VARIANT NAME

1.22 *GENETIC NAME

1.23 *GRS CLONE/MUTANT/VARIANT NAME

2. COLLECTION DATA

2.4 *COUNTRY OF COLLECTION OR COUNTRY WHERE CULTIVAR/VARIETY BRED (=Origin)

2.18 *VIRUS DISEASE STATUS

2.19 *END USE, GENERAL

2.20 *FRUIT USE

2.21 *PLANT USE

* Basic EC Peach Descriptors
CHARACTERIZATION AND PRELIMINARY EVALUATION DATA

3. **SITE DATA**

4. **PLANT DATA**
   4.1 **VEGETATIVE**
      4.1.1 *Propagation method*
      4.1.2 *Chromosome number*
   4.2 **INFLORESCENCE AND FRUIT**
      4.2.1 *Season of flowering*
      4.2.2 *Harvest maturity*
      4.2.3 *Flower type*
      4.2.4 *Skin pubescence*
      4.2.5 *Flesh colour*

FURTHER CHARACTERIZATION AND EVALUATION

5. **SITE DATA**

6. **PLANT DATA**
   6.1 **VEGETATIVE**
      6.1.3 *Tree chilling requirement*
      6.1.5 *Petiole gland shape*
   6.2 **INFLORESCENCE AND FRUIT**
      6.2.4 *Fruit size*
      6.2.5 *Fruit shape*
   6.3 **STONE**
      6.3.3 *Stone adherence to flesh of fully ripe fruit*

7. **STRESS SUSCEPTIBILITY**

8. **PEST AND DISEASE SUSCEPTIBILITY**

9. **ALLOENZYME COMPOSITION**

10. **CYTOLOGICAL CHARACTERS AND IDENTIFIED GENES**

11. **NOTES**

* Basic EC Peach Descriptors
APPENDIX II

LIST OF EXPERTS CONSULTED

Editors:

Prof. E. Bellini
Istituto di Coltivazioni Arboree
Facoltà di Agraria
50100 Firenze
Italy

Dr. R. Watkins
Genetic Resources Project
Fruit Breeding Department
East Malling Research Station
Maidstone, Kent, ME19 6BJ
UK

Experts from European Countries:

Prof. Dr. G. Bünnemann
Institut für Obstbau und Baumschule
D - 3203 Sarstedt
Federal Republic of Germany

Dr. D. Cobianchi
Istituto Sperimentale per la Frutticoltura
p.le della Vittoria, 15
47100 Forli FO
Italy

Ing. P.D. Goddrie
Research Station for Fruit Growing
Brugstraat 51
4475 AN Wilhelminadorp
Netherlands

Dr. N. Gönülseh
Aegean Regional Agricultural
Research Institute
P. K. 9 Menemen
Izmir
Turkey

Prof. V. Cociu
Research Institute for Fruit Growing
1312 Pitesti – Maracineni
Romania

Dr. R. Corbaz
Sora - Station Federale de Recherches Agronomiques de Changins
CH 1260 Nyon
Switzerland

Prof. R. Guerriero
Istituto di Coltivazioni Arboree
Facoltà di Agraria
Università degli Studi di Pisa
Pisa
Italy

Prof. P. Hansen
Royal Veterinary and Agricultural University
Aagrovej 1
2630 Taastrup
Denmark

Dr. J. Hugard
Chaire d'Arboriculture Fruttière
Ecole Nationale Supérieure d'Agronomie
5, Place Villa
34060 - Montpellier
France

Prof. P. Fiorino
Istituto sulla propagazione delle specie legnose
Via Donizetti, 6
50144 Firenze FI
Italy

Mr. H.F. Ermen
National Fruit Trials Station
Brogdale Farm
Faversham
Kent ME13 8XZ
UK

Prof. P. Ingram
National Fruit Trials Station
Brogdale Farm
Faversham
Kent ME 13 8XZ
UK

Mr. J. Ingram
National Fruit Trials Station
Brogdale Farm
Faversham
Kent ME 13 8XZ
UK
Dr. G. Jenkins
Plant Breeding Institute
Maris Lane
Trumpington
Cambridge CB2 2LQ
UK

Ing. M. Le Lezec
Station de Recherches
d'Arboriculture Frutièere
de Beaucouzé
49000 Angers
France

Prof. M. Monet
Station de Recherches
d'Arboriculture Frutièere
de la Grande Ferrade, INRA
33140 - Pont-de-la-Maye
France

Dr. A. Monin
Station de Cultures
Fruitières et Marsichères
Chaussée de Charleroi, 234
5800 Gembloux
Belgium

Dr. N.O. O'Kennedy
Botany Research Station Ballygagin
Dungarvan Co. Waterford
Ireland

Prof. Dr. S.A. Puannovic
University of "Svetozar Markovic"
Agronomy Faculty
Department of Horticulture
Cara Dusane 34
3200 Cacak
Yugoslavia

Prof. A. Pena
Inst. Nacional de
Investigaciones Agronomicas
Registro de Variedades
Av. Puerto de Hierro S/N
Madrid 3
Spain

Dr. G. Perraudin
Centre d'Arboriculture
Station Federale de Recherches
Agronomiques de Changins
CH-1964 Contey
Switzerland

Dr. C. Populer
Station de Phytopathologie
Avenue Marechal Juin, 13
B - 5800 Gembloux
Belgium

Prof. M. Saunier
Station de Recherches
d'Arboriculture Frutièere
de la Grande Ferrade, INRA
33140 Pont-de-la-Maye
France

Dr. H. Schmidt
Bundesforschungsanstalt für
Gartenbauliche
Pflanzenzüchtung
Bornkampsweg 31
D 2070 Ahrensburg
Federal Republic of Germany

Mr. R.A. Smith
East Malling Research Station
Maidstone, Kent, ME19 6BJ
UK

Prof. P. Spiegel-Roy
The Volcani Agricultural Center
Institute of Horticulture
P.O. Box 6
Bet-Dagan 50 - 250
Israel

Dr. H.H. Van der Borg
Directorate of Agricultural Research
Manshotlann 4 P.B. 59
6700 AB Wageningen
Netherlands

Dr. J. Vittrup-Christensen
Research Station Blangstedegaard
5220 Odense S0
Denmark

Dr. S.J. Wertheim
Research Station for Fruit Growing
Brugstraat 51
4475 AN Wilhelminadorp
Netherlands

Dr. D. Wilson
Long Ashton Research Station
Long Ashton
Bristol BS18 9AF
UK
Experts from non-European Countries:

Prof. L.R. Andersen
Michigan State University
Department of Horticulture
East Lansing, Michigan 48824
USA

Dr. C.H. Bailey
Rutgers University
College of Agriculture
and Environmental Sciences
P.O. Box 231
New Brunswick, NY 03930
USA

Prof. N.H. Fogle
Horticultural Science Institute
Beltsville Agricultural
Research Centre
Beltsville, Maryland 20705
USA

Dr. P.G. Glucina
Pomologist D.S.I.R.
Plant Diseases Division
Private Bag
Auckland, 3
New Zealand

A.J. Heyns
Department of Agriculture
Fruit and Food Technology
Research Institute
Private Bag X5013
Stellenbosch 7600
South Africa

Dr. A.F. Iezzoni
Michigan State University
College of Agriculture and
Natural Resources
East Lansing, Michigan 48824
USA

Prof. M. Iizuka
Faculty of Horticulture
Chiba University
Matsudo-shi
Chiba-ken 271
Japan

Mr. O. Jahn
Northwest Plant Germplasm Repository
33447 Peoria Road
Corvallis, Oregon 97333
USA

Mr. P.S. Johannsen
L.I.S.A.
419 Canyon, Suite 320
Fort Collins, Colorado 80521
USA

Dr. Q. Jones
Agricultural Research
National Program Staff
Room 332-B, Building 005
Barc-West
Beltsville, Maryland 20705
USA

Dr. R.E.C. Layne
Agriculture Canada Research Station
Harrow
Ontario NOR 150
Canada

Dr. S.J. Lenty
Horticultural Research Institute
of Ontario
Vineland Station
Ontario LOR 2EO
Canada

Dr. D.R. Ramming
U.S. Horticultural Field Station
Agricultural Research
P.O. Box 8143
Fresno, California 93747
USA

Prof. R.H. Sharpe
Fruit Crops Dept.
Inst. of Food &
Agricultural Sciences
University of Florida
Gainesville, Florida 36611
USA
Dr. J.H. Terblanche  
Department of Agriculture  
Fruit and Fruit Technology  
Research Institute  
Stellenbosch 7600  
South Africa

Prof. M. Yoshida  
Fruit Tree Research Station  
Div. of Fruit Breeding  
Ministry of Agriculture and Forestry  
Yatabe, Ibaraki 300 21  
Japan

Dr. D.J. Werner  
Peach Breeding and Genetics  
Horticulture Dept.  
North Carolina State Univ.  
268 Kilgore Hall  
Raleigh, NC 27650  
USA