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GENEVA

DRAFT**JAPANESE PLUM**

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Prunus salicina Lindl.**GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY***prepared by an expert from the European Community**to be considered by the*

*Technical Working Party for Fruit Crops
at its forty first session, to be held in Cuernavaca, Morelos State, Mexico,
from September 27 to October 1, 2010*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Prunus salicina</i> Lindl.	Japanese plum	Prunier Japonais	Ostasiatische Pflaume	Ciruelo Japonés

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	4
3.4 Test Design	4
3.5 Additional Tests	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	4
4.1 Distinctness	4
4.2 Uniformity.....	5
4.3 Stability	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	7
6.1 Categories of Characteristics.....	7
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression.....	8
6.4 Example Varieties	8
6.5 Legend.....	8
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTERES/MERKMALSTABELLE/TABLA DE CARACTERES.....	9
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	25
8.1 Explanations covering several characteristics	25
8.2 Explanations for individual characteristics	25
9. LITERATURE	37
10. TECHNICAL QUESTIONNAIRE	38

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Prunus salicina* Lindl.. For the examination of hybrids involving *Prunus salicina* Lindl., guidance is provided in document TGP/13 “Guidance for new types and species”.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of budsticks, dormant shoots or one-year-old trees grafted on a rootstock selected by the testing authority.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

- 5 budsticks with sufficient buds to propagate 5 trees (to be sent at budding time); or
- 5 dormant shoots for grafting, sufficient to propagate 5 trees (to be sent at grafting time); or
- 5 virus-tested one-year-old trees grafted on a rootstock selected by the testing authority.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

3.1.1 The minimum duration of tests should normally be two independent growing cycles. In particular, it is essential that the trees produce a satisfactory crop of fruit in each of the two growing cycles.

3.1.2 The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new season buds.

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”.

3.3 *Conditions for Conducting the Examination*

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. Trees should only be pruned in the year of planting to ensure good branch formation.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 5 trees.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations for the purposes of distinctness should be made on 5 plants or parts taken from each of 5 plants, disregarding any off-type plants. In the

case of observations of parts of plants, the number of parts to be taken from each of the plants should be 2.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.”

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 5 plants, no off-types are allowed.

4.3 *Stability*

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated

that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.”

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Fruit: size (characteristic 29)
- (b) Fruit: ground color of skin (characteristic 40)
- (c) Fruit: over color of skin (characteristic 42)
- (d) Fruit: color of flesh (characteristic 46)
- (e) Time of beginning of flowering (characteristic 60)
- (f) Time of beginning of fruit ripening (characteristic 61)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 *States of Expression and Corresponding Notes*

6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".

6.3 *Types of Expression*

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

(a)-(c) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	Tree: type of bearing					
PQ	on spurs only				Examples	1
	on spurs and long shoots				Angeleno,Shiro	2
	on long shoots only				Examples	3
2.	Tree: vigor					
(+)						
QN	weak				Black Gold, Satsuma	3
	medium				Autumn Giant, Black Diamond	5
	strong				Robusto, Royal Diamond, Taiyou	7
3.	Tree: habit					
PQ	upright				Formosa, Freedom, Taiyou	1
	semi-upright				Laroda	2
	spreading				Ozark, Premier, Shiro	3
	drooping				Weeping Santa Rosa	4
4.	One-year-old shoot: color					
(+)						
PQ	(a) green				Examples by RSA	1
	green brown				Examples by RSA	2
	yellow brown				Examples by RSA	3
	red brown				Examples by RSA	4
	purple red				Examples by RSA	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	Spur: length					
QN	short				Laroda, Sordum	3
	medium				Frontier	5
	long				October Purple	7
6.	Vegetative bud: size					
(+)						
QN	(a) small				Harry Pickstone	1
	medium				Black Gold, Great Yellow	2
	large				Examples	3
7.	Vegetative bud: shape of apex					
(+)						
PQ	(a) acute				Eldorado	1
	obtuse				Songold	2
	rounded				Satsuma	3
8.	One-year-old shoot: position of vegetative bud in relation to shoot					
(+)						
QN	(a) adpressed				Queen Ann	1
	slightly held out				Satsuma	2
	markedly held out				Songold	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota	
9.	Leaf blade: length						
QN	(a)				Examples	1	
					very short		
					short	Honey Rosa	3
					medium	Taiyou	5
					long	Ozark Premier, Sordum	7
					very long	Examples	9
10.	Leaf blade: width						
QN	(a)				Examples	1	
					very narrow		
					narrow	Beauty	3
					medium	Black Diamond, Sordum	5
					broad	Combination	7
					very broad	Examples	9
11.	Leaf blade: length/width ratio						
QN	(a)						
					slightly elongated	Casselman	1
					moderately elongated	Pioneer	2
					very elongated	Eclipse	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12. (*) (+)	Leaf blade: shape					
QN	(a)	ovate			Myrobalan 96009	1
		elliptic			Black Gold, October Purple, Syokou, Taiyou	2
		obovate			Kanro, Kelsey	3
13. (*) (+)	Leaf blade: angle of apex (excluding tip)					
QN	(a)	acute			Ozark Premier, Taiyou	1
		right angled			Satsuma	2
		obtuse			Methley	3
14.	Leaf blade: intensity of green color of upper side					
QN	(a)	light			Flaming Delicious, Taiyou	3
		medium			Abundance, Laroda	5
		dark			Gaviota, Shiro	7
15.	Leaf: glossiness of upper side					
QN	(a)	weak			Ozark Premier, Taiyou	1
		medium			Frontier, Shiro	2
		strong			Nubiana	3
16.	Leaf blade: pubescence of lower side					
QN	(a)	sparse			Angeleno, Redheart, Taiyou	1
		medium			Queen Ann, Shiro	2
		dense			Obilnaja	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. (+)	Leaf blade: incisions of margin					
PQ	(a)	crenate			Gaviota, Harry Pickstone	1
		bi-crenate			Golden Kiss, Pioneer	2
		serrate			Dapple Dandy	3
		bi-serrate			Examples	4
18. (*)	Petiole: length					
QN		short			Kelsey	3
		medium			Frontier	5
		long			Combination	7
19.	Leaf: position of nectaries					
QN	(a)	predominantly on base of leaf blade			Methley	1
		equally on base of leaf blade and on petiole			Nubiana	2
		predominantly on petiole			Queen Ann	3
20. (*)	Pedicel: length					
QN		short			Laroda, Methley	3
		medium			Queen Ann, Shiro	5
		long			Red Ace, Taiyou	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	Plant: number of flowers with more than five petals					
(+)						
QN	(b)	few			Examples by JP	3
		medium			Laroda	5
		many			Examples by JP	7
22.	Flower: diameter					
QN						
	(b)	small			Black Gold, Nubiana	3
		medium			October Purple, Shiro, Taiyou	5
		large			Kiyou, Methley, Ozark Premier	7
23.	Flower: arrangement of petals (flowers with 5 petals only)					
(+)						
QN	(b)	free			Apple, Laroda	1
		touching			Harry Pickstone, Shiro	2
		overlapping			Beauty	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	Sepal: shape					
	(+) PQ (b)					
	triangular				Mariposa	1
	medium ovate				Harry Pickstone	2
	broad ovate				George Wilson	3
	narrow elliptic				Laroda	4
	medium elliptic				Nubiana	5
25.	Petal: length					
	QN (b)					
	short				Laroda, Shigyoku	3
	medium				Santa Rosa	5
	long				Burbank	7
26.	Petal: shape					
	(*) (+)					
	PQ (b)					
	elliptic				Red Ace, Taiyou	1
	circular				Shiro, Wickson	2
	oblate				Wright's Early	3
	obovate				Mammoth Cardinal	4
27.	Petal: undulation of margin					
	QN (b)					
	weak				Redheart, Shiro, Taiyou	1
	medium				Queen Ann	2
	strong				Lady Red, Morettini 355, Showtime	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.	Stigma: position in relation to anthers					
QN	(b)					
	below				Mariposa	1
	same level				Methley	2
	above				Mammoth Cardinal	3
29. (*)	Fruit: size					
QN	(c)					
	very small				Methley	1
	small				Allo, Eldorado	3
	medium				Shiro	5
	large				Angeleno, Taiyou	7
	very large				Songold	9
30.	Fruit: height					
	(+)					
QN	(c)					
	short				Eclipse	3
	medium				Harry Pickstone	5
	tall				Valentine	7
31.	Fruit: width					
	(+)					
QN	(c)					
	narrow				Amber Jewel	3
	medium				Casselman	5
	broad				Simka	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32. (*) (+)	Fruit: general shape (in lateral view)					
PQ	(c)	oblong			Reubennel	1
		elliptic			Ozark Premier, Taiyou	2
		circular			Red Beauty, Shiro	3
		oblate			Friar	4
		cordate			Morettini 355	5
		obovate			Examples	6
		obcordate			Santa Rosa	7
33. (+)	Fruit: symmetry					
QN	(c)	symmetric or slightly asymmetric			Laroda, Shiro	1
		moderately asymmetric			Friar, Harry Pickstone	2
		strongly asymmetric			Ozark Premier	3
34. (*) (+)	Fruit: shape of apex					
	(c)	pointed			Morettini 355, Taiyou	1
		truncate			Black Gold, Green Sun	2
		depressed			Calita, Durado, Gabora	3
35. (+)	Fruit: shape of base					
PQ	(c)	pointed			Golden Plumza	1
		rounded			Shiro	2
		truncate			Angeleno	3
		depressed			Friar, Tereda	4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36.	Fruit: depth of stalk cavity					
QN	(c) shallow				Taiyou	3
	medium				Angeleno,Nubiana	5
	deep				Black Gold, Laroda	7
37.	Fruit: width of stalk cavity					
(+)						
QN	(c) narrow				Koike Sumomo	3
	medium				Beni Ryozen	5
	broad				Finroza	7
38.	Fruit: depth of suture					
(+)						
QN	absent or very shallow				Sunrise	1
	(c) shallow				Taiyou	2
	medium				Sordum	3
	deep				Akihime	4
39.	Fruit: bloom of skin					
(+)						
QN	absent or very weak					1
	weak				Red June	3
	medium				Ooishi Nakate	5
	strong				Sordum	7
	very strong					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40. (*) (+)	Fruit: ground color of skin					
	(c)	not visible			Angeleno	1
		green			Gaviota, Santa Rosa	2
		yellowish-green			Songold, Taiyou	3
		yellow			Shiro	4
		red			Hollywood	5
41. (*) (+)	Fruit: relative area of over color					
QN	(c)	absent or very small			Green Sun, Shiro	1
		small			Bragialla	3
		medium			Fortune	5
		large			Taiyou	7
		very large or whole surface			Black Diamond, Friar	9
42. (*) (+)	Fruit: over color of skin					
PQ	(c)	yellow			Golden Japan	1
		orange yellow			Formosa	2
		medium red			Red Beauty	3
		dark red			Starking Delicious, Taiyou	4
		purple			Karari, Morettini 355	5
		dark blue			Black Amber	6
		black			Angeleno	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43.	Fruit: pattern of over color					
(+)						
PQ	(c)	flecks only			Examples	1
		mottled			Omega	2
		solid flush with flecks				3
		solid flush only			Friar, Taiyou	4
44.	Fruit: number of lenticels					
QN	(c)	few			<u>ARC PR 3</u>	3
		medium			<u>Sunrise</u>	5
		many			<u>Polar Eclipse</u>	7
45.	Fruit: size of lenticels					
QN	(c)	small			<u>Sunset</u>	3
		medium			<u>Extreme</u>	5
		large			<u>Southern Belle</u>	7
46.	Fruit: color of flesh					
(*)						
PQ	(c)	whitish			Taiyou	1
		green			Reina Claudia	2
		yellowish green			Shiro	3
		yellow			Angeleno, Golden Japan, Reubennel	4
		orange			Black Amber, Sun Gold	5
		medium red			Satsuma, Sordum	6
		dark red			Beauty, Hawera, Karari, Stark Delicious	7
		purplish			Sangue di Drago	8

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
47.	Fruit: firmness					
	(+)					
QN	(c)	soft			Shiro	3
		medium			Frontier	5
		firm			Laroda, Taiyou	7
48.	Fruit: juiciness					
	(+)					
QN	(c)	low			Autumn Giant, Laroda	3
		medium			Gaviota, Ozark Premier	5
		high			Reubennel, Shiro, Santa Rosa	7
50.	Fruit: acidity					
	(+)					
QN	(c)	low			Angeleno, Durado	1
		medium			Green Sun, Shiro, Taiyou	2
		high			Carmen, Obilnaja	3
51.	Fruit: sweetness					
	(+)					
QN	(c)	low			Durado, Obilnaja, Shiro	1
		medium			Angeleno	2
		high			Black Gold, Laroda, Taiyou	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
52. (*)	Fruit: adherence of stone to flesh					
QN	(c)	non-adherent			Fortune	1
		semi-adherent			Nubiana, Taiyou	2
		adherent			Shiro, Sungold	3
53. (*)	Stone: size					
QN	(c)	small			Angeleno, Eldorado	3
		medium			Taiyou, Wickson	5
		large			Freedom	7
54. (*) (+)	Stone: shape in lateral view					
PQ	(c)	narrow elliptic			Eldorado	1
		medium elliptic			Santa Rosa, Taiyou	2
		circular			Angeleno, Kelsey	3
		broad ovate			Examples	4
55. (+)	Stone: shape in ventral view					
QN	(c)	narrow elliptic			Kelsey	1
		medium elliptic			Santa Rosa, Taiyou	2
		broad elliptic			Eldorado	3
56.	Stone: shape in basal view					
PQ	(c)	narrow elliptic			Shiro, Songold	1
		medium elliptic			Bragialla	2
		broad elliptic			Black Gold, Frontier	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
57.	Stone: symmetry in lateral view					
QN	(c)				Angeleno, Frontier	1
					Shiro	2
					Examples	3
58.	Stone: texture of lateral surfaces					
(+)						
PQ	(c)				Eldorado	1
					Nubiana	2
					Laroda, Songold	3
					Harry Pickstone	4
59.	Stone: width of stalk-end					
(+)						
QN	(c)				Frontier	3
					Harry Pickstone	5
					Angeleno, Lady Red	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60. (*) (+)	Time of beginning of flowering					
QN	very early				Durado, Red Beaut, Karari	1
	early				Fortune, Mariposa, Taiyou	3
	medium				Green Sun, Nubiana	5
	late				Gaviota, Shiro	7
	very late				Angeleno, Simka	9
61. (*) (+)	Time of beginning of fruit ripening					
QN	very early				Beauty, Durado, Red Noble	1
	early				Mariposa, Shiro	3
	medium				Black Gold, Gaviota	5
	late				Angeleno, Nubiana, Taiyou	7
	very late				Autumn Giant, Golden King, Akihime	9

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) All observations on the bud, the leaf and the shoot should be made at the central third of the shoot. The observations on the leaf should be made on mature leaves from current season's shoots.
- (b) All observations on the flower should be made at the time of full flowering.
- (c) All observations on the fruit should be made at full maturity for consumption [To be described in a more objective manner].

8.2 *Explanations for individual characteristics*

Ad. 2: Tree: vigor

The vigor of the tree is observed as the overall abundance of vegetative growth.

Ad. 4: One-year-old shoot: color

To be observed on the sunny side after removal of cuticle

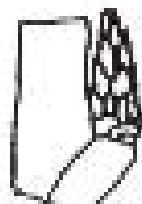
Ad. 6: Vegetative bud: size



3
small

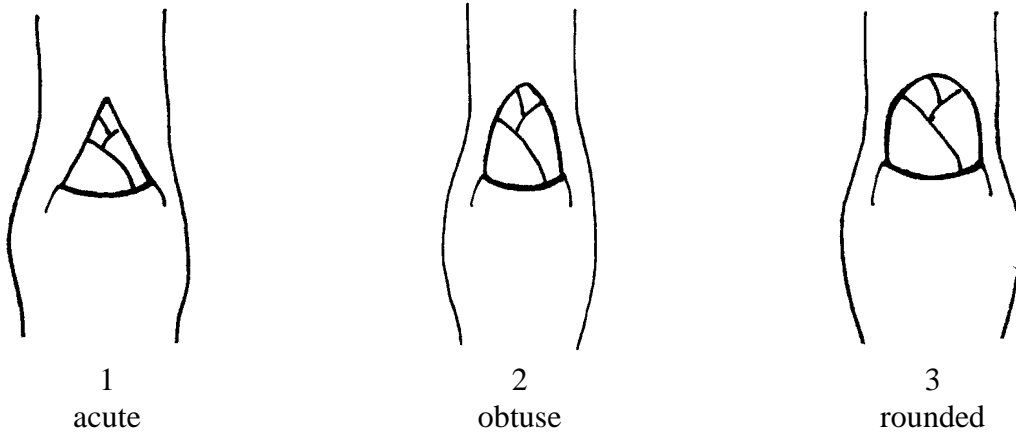


5
medium

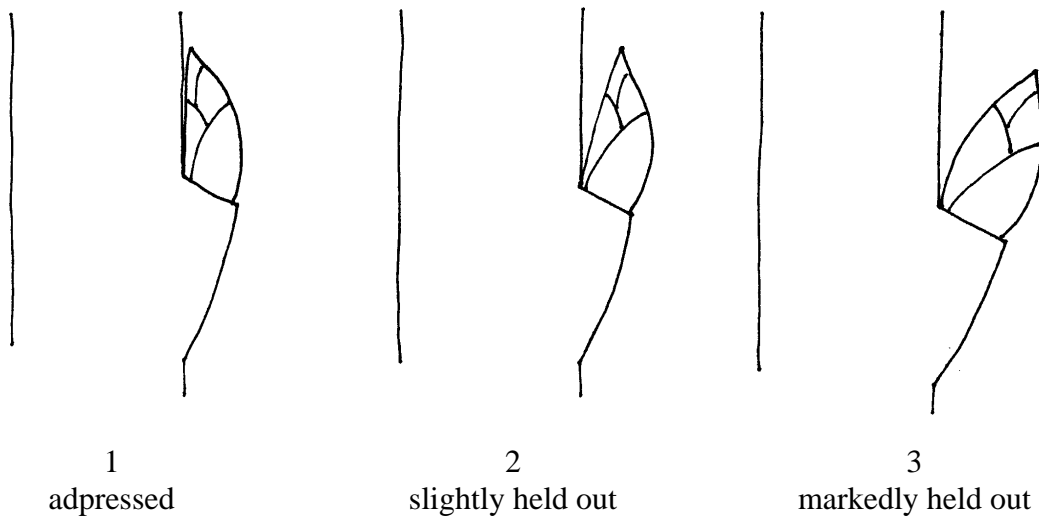


7
large

Ad. 7: Vegetative bud: shape of apex

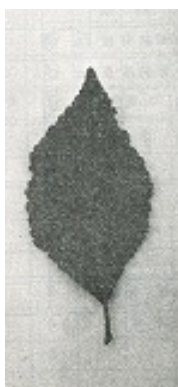


Ad. 8: One-year-old shoot: position of vegetative bud in relation to shoot



Ad. 12: Leaf blade: shape

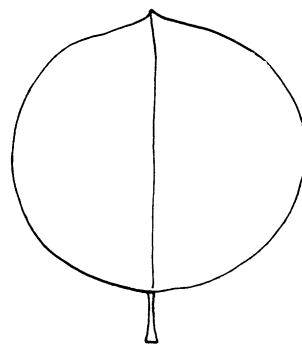
New illustrations to be provided by JP



1
ovate



2
elliptic

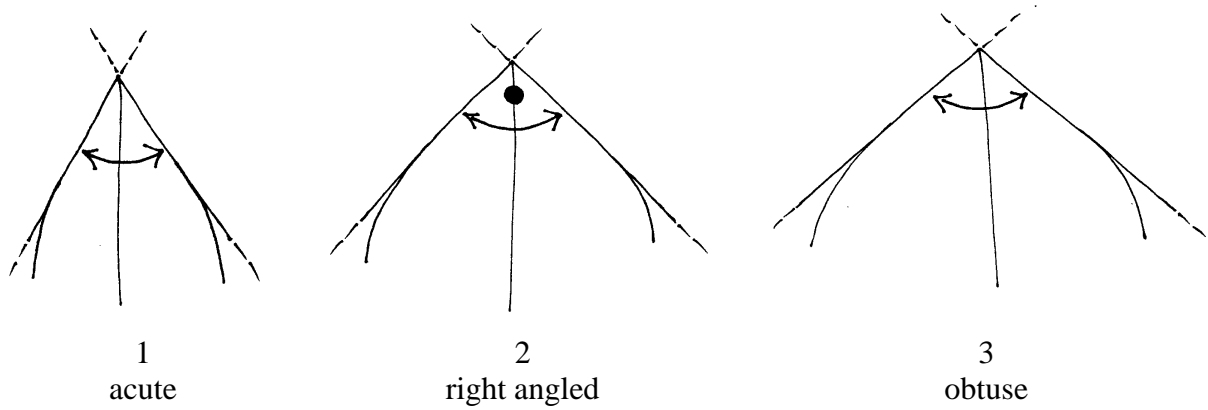


3
circular

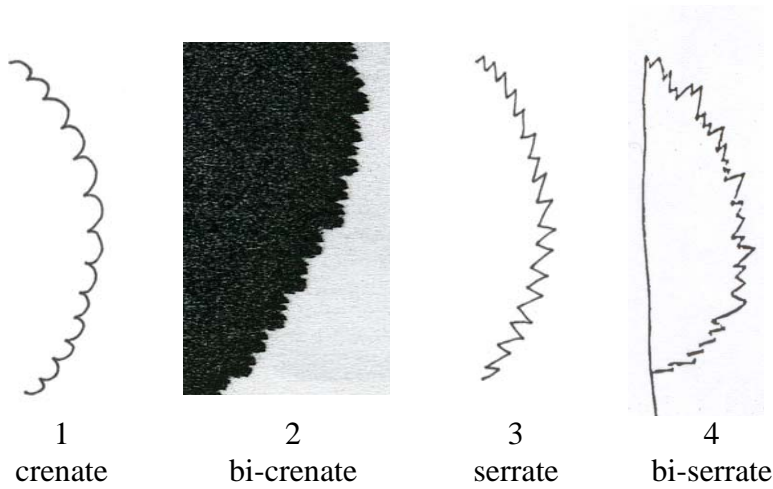


4
obovate

Ad. 13: Leaf blade: angle of apex (excluding tip)



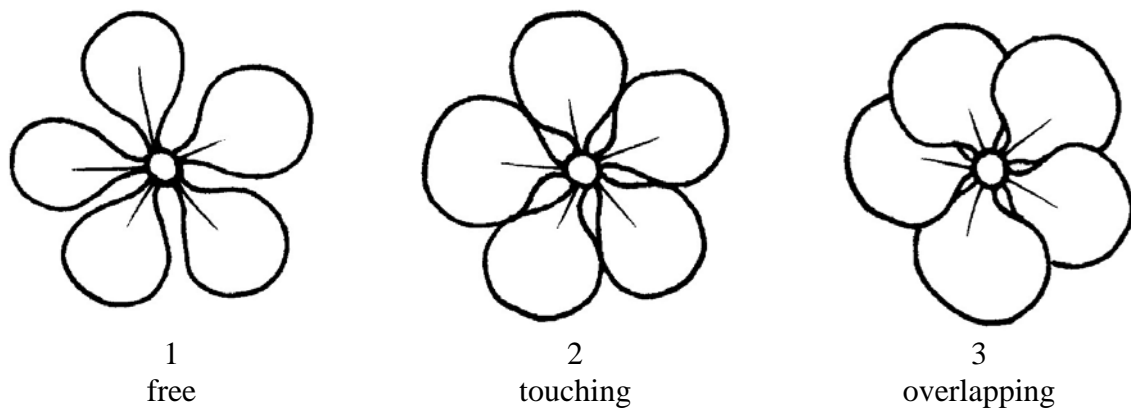
Ad. 17: Leaf blade: incisions of margin




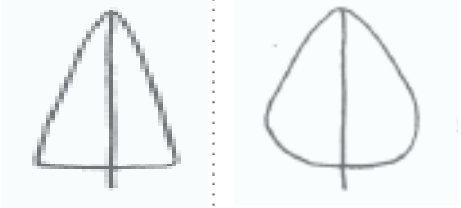

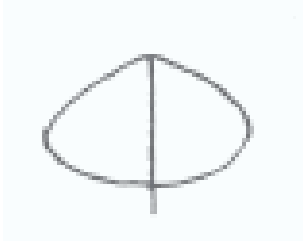
Ad. 21: Plant: number of flowers with more than five petals

Explanation to be provided by JP

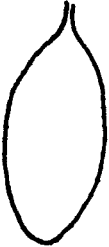
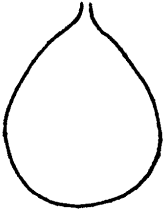
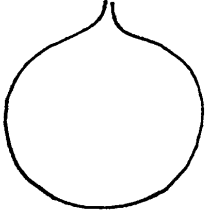
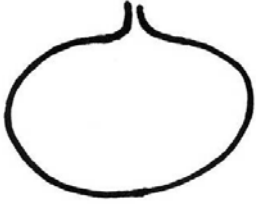
Ad. 23: Flower: arrangement of petals (flowers with 5 petals only)



Ad. 24: Sepal: shape

		← broadest part →		
		(below middle)	at middle	(above middle)
narrow → width (ratio length/width) ← broad (compressed)			 4 narrow elliptic	
	 (angular) 1 (rounded) 2 triangular medium ovate		 2 medium elliptic	
		 broad ovate		

Ad. 26: Petal: shape

		← broadest part →		
		(below middle)	at middle	(above middle)
narrow (elongated) → width (ratio length/width) ← broad (compressed)			 1 elliptic	
		 4 obovate	 2 circular	
			 3 oblate	


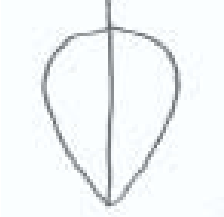


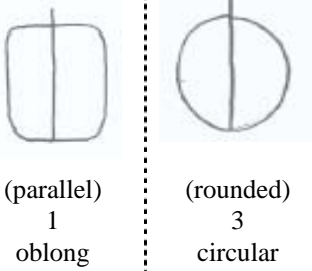
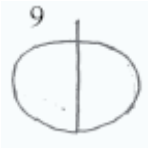
Ad. 30: Fruit: height

Height to be observed from ventral view

Ad. 31: Fruit: width

Width to be observed from ventral view

Ad. 32: Fruit: general shape (in lateral view)

		← broadest part →		
		(below middle)	at middle	(above middle)
width (ratio length/width)	→ narrow		 2 elliptic	 5 cordate
	← broad (compressed)	 7 obcordate	 6 obovate	 1 (parallel) 3 (rounded) oblong circular
	→		 9 5 oblate	
	←			

Ad. 33: Fruit: symmetry

Symmetry to be observed from ventral view, along suture

Ad. 34: Fruit: shape of apex



1
pointed



2
truncate



3
depressed

Ad. 35: Fruit: shape of base



1
pointed



2
rounded



3
truncate



4
depressed

Ad. 37: Fruit: width of stalk cavity



3
narrow



5
medium



7
broad

Ad. 38: Fruit: depth of suture



1
shallow



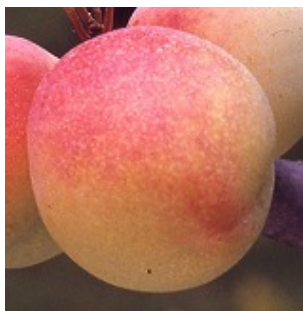
2
medium



3
deep

Ad. 39: Fruit: bloom of skin

The bloom is the waxy layer that can be removed by rubbing



3
weak



5
medium



7
strong

Ad. 40: Fruit: ground color of skin

To be observed without the bloom. The ground color is the first color to appear chronologically during the development of the skin and upon which other colors will develop in time in the form of spots, a macule, or a color flush or blush. It is not always necessarily the largest part of the (part of the) organ concerned.

Ad. 41: Fruit: relative area of over color

The over color is the development over time of a second coloration over the ground color. The coloration does not necessarily cover the smallest area of color on the fruit and consists of a pattern such as a flush or flecking

Ad. 42: Fruit: over color of skin

The over color is the development over time of a second coloration over the ground color. The coloration does not necessarily cover the smallest area of color on the fruit and consists of a pattern such as a flush or flecking

Ad. 43: Fruit: pattern of over color

The over color is the development over time of a second coloration over the ground color. The coloration does not necessarily cover the smallest area of color on the fruit and consists of a pattern such as a flush or flecking

Ad. 47: Fruit: firmness

To be observed at eating ripeness with a penetrometer

Ad. 48: Fruit: juiciness

Explanation to be provided

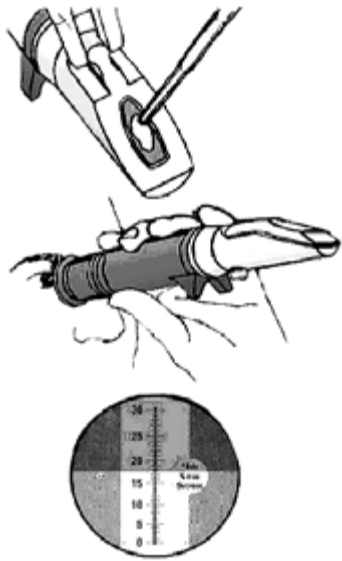
Ad. 50: Fruit: acidity

Further explanation required

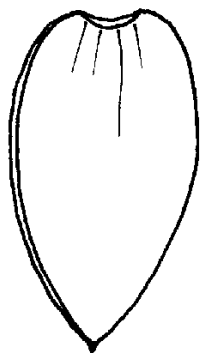


Ad. 51: Fruit: sweetness

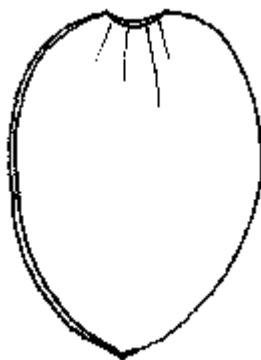
Further explanation required



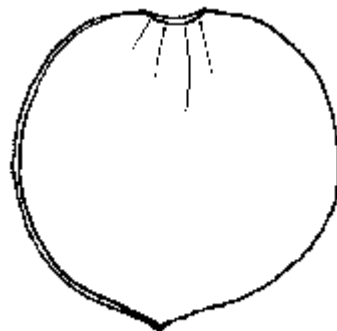
Ad. 54: Stone: shape in lateral view



1
narrow elliptic

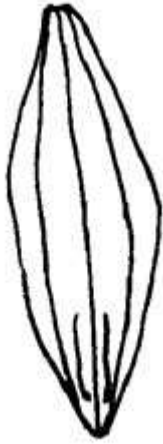


2
medium elliptic

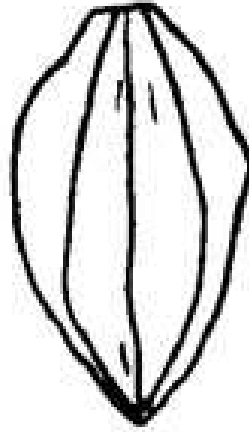


3
broad elliptic

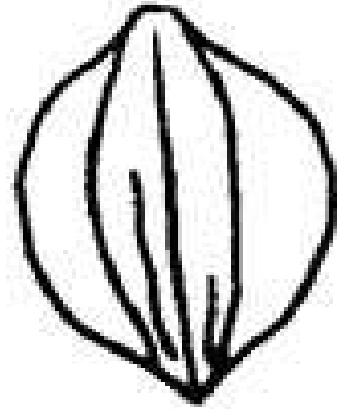
Ad. 55: Stone: shape in ventral view



1
narrow elliptic



2
medium elliptic



3
broad elliptic

Ad. 58: Stone: texture of lateral surfaces

Illustrations to be provided

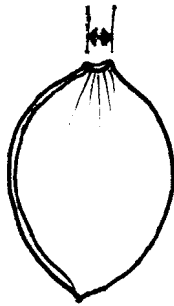
1
fine grained

2
granular

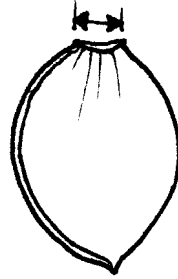
3
rough

4
hammered

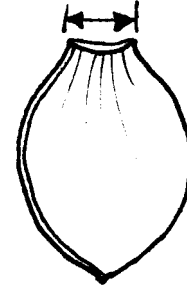
Ad. 59: Stone: width of stalk-end



3
narrow



5
medium



7
broad

Ad. 60: Time of beginning of flowering

The time of beginning of flowering is when all trees have 10% open flowers.

Ad. 61: Time of beginning of fruit ripening

The time of fruit ripening should be considered as the time of eating ripeness, when the fruit is most easily removed.

9. Literature

No specific literature.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	<input type="text" value="Prunus salicina Lindl."/>	
1.2 Common name	<input type="text" value="Japanese plum"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross []
 (please state parent varieties)

(.....)	x	(.....)
female parent		male parent

(b) partially known cross []
 (please state known parent variety(ies))

(.....)	x	(.....)
female parent		male parent

(c) unknown cross []

4.1.2 Mutation []
 (please state parent variety)

--

4.1.3 Discovery and development []
 (please state where and when discovered and how developed)

--

4.1.4 Other []
 (please provide details)

--

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE

Page {x} of {y}

Reference Number:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

- (a) cuttings []
- (b) *in vitro* propagation []
- (c) other (state method) []

--

4.2.2 Seed [to be deleted?] []

4.2.3 Other []

--

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

Characteristics	Example Varieties	Note
5.1 Fruit: size (29)		
very small	Methley	1[]
very small to small		2[]
small	Allo, Eldorado	3[]
small to medium		4[]
medium	Shiro	5[]
medium to large		6[]
large	Angeleno, Taiyou	7[]
large to very large		8[]
very large	Songold	9[]
5.2 Fruit: ground color of skin (40)		
not visible	Angeleno	1[]
green	Gaviota, Santa Rosa	2[]
yellowish-green	Songold, Taiyou	3[]
yellow	Shiro	4[]
5.3 Fruit: over color of skin (42)		
yellow	Golden Japan	1[]
orange-yellow		2[]
red	Red Beauty, Taiyou	3[]
purple		4[]
violet-blue		5[]
dark blue	Black Amber	6[]
black	Angeleno	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5.4 Fruit: color of flesh		
(46)		
whitish		1[]
green	Taiyou	2[]
yellowish green	Reina Claudia, Santa Rosa	3[]
yellow	Angeleno, Golden Japan, Reubennel	4[]
orange	Black Amber, Sun Gold	5[]
red	Santa Rosa	6[]
dark red		7[]
purplish		8[]
5.5 Time of beginning of flowering		
(60)		
very early	Durado, Red Beaut	1[]
very early to early		2[]
early	Fortune, Mariposa, Taiyou	3[]
early to medium		4[]
medium	Green Sun, Nubiana	5[]
medium to late		6[]
late	Gaviota, Shiro	7[]
late to very late		8[]
very late	Angeleno, Simka	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5.6 Time of beginning of fruit ripening (61)		
very early	Beauty, Durado, Red Noble	1[]
very early to early		2[]
early	Mariposa, Shiro	3[]
early to medium		4[]
medium	Black Gold, Gaviota	5[]
medium to late		6[]
late	Angeleno, Nubiana, Taiyou	7[]
late to very late		8[]
very late	Autumn Giant, Golden King	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Angeleno</i>	<i>Fruit: ground color of skin</i>	<i>Not visible</i>	<i>Green</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [] No []

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [] No []

(If yes, please provide details)

7.3 Other information

A representative color image of the variety should accompany the Technical Questionnaire.

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

If the answer to (b) is yes, please attach a copy of the authorization.

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
-------------------------	-----------------	-------------------

9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- | | | |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma) | Yes [] | No [] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [] | No [] |
| (c) Tissue culture | Yes [] | No [] |
| (d) Other factors | Yes [] | No [] |

Please provide details for where you have indicated "yes".

.....

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes []
(please provide details as specified by the Authority)

No []

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature Date

[End of document]