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GENEVA

DRAFT

CITRUS L. – Group 5

TRIFOLIATE ORANGE

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:

[*See the list of alternative names and corresponding subgroups on page 2*]

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, “General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants” (hereinafter referred to as the “General Introduction”) and its associated “TGP” documents.

Other associated documents:

CITRUS L. – GROUP 1: TG/MANDA*
CITRUS L. – GROUP 2: TG/ORANG*
CITRUS L. – GROUP 3: TG/LEM-LIM*
CITRUS L. – GROUP 4: TG/GRA-PUM*

* Final relevant TG’s reference to be inserted in due time.

GROUP 5 – ALTERNATIVE NAMES AND CORRESPONDING SUBGROUPS**

<i>Latin</i>	<i>Subgroup</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Citrus clementina</i> Hort. ex Tan. x <i>Poncirus trifoliata</i> (L.) Raf.	HPO	Citrentin	Citrentin		
<i>Citrus limon</i> (L.) Burm. x <i>Poncirus trifoliata</i> (L.) Raf.	CTL	Citremon	Citremon		
<i>Citrus paradisi</i> Macf. x <i>Poncirus trifoliata</i> (L.) Raf.	CML	Citrumelo	Citrumelo		
<i>Citrus reticulata</i> Blanco x <i>Poncirus trifoliata</i> (L.) Raf.	CTI	Citrandarin	Citrandarin		
<i>Citrus sinensis</i> (L.) Osb. x <i>Poncirus trifoliata</i> (L.) Raf.	CTG	Citrance	Citrance		
<i>Fortunella</i> sp. x <i>Poncirus trifoliata</i> (L.) Raf.	HPO	Citrumquat	Citrumquat		
<i>Poncirus polyandra</i> S. Q. Ding et al.	PON				
<i>Poncirus trifoliata</i> (L.) Raf.	PON	Golden Apple, Trifoliate Orange	Oranger trifolié	Dreiblättrige Orange, Dreiblättrige Bitterorange	Naranjo trifoliado

** 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 Web Site (www.upov.int), for the latest information.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE GUIDELINES.....	4
2. MATERIAL REQUIRED.....	4
3. METHOD OF EXAMINATION.....	5
3.1 Duration of Tests.....	5
3.2 Testing Place.....	5
3.3 Conditions for Conducting the Examination.....	5
3.4 Test Design.....	5
3.5 Number of Plants / Parts of Plants to be Examined.....	5
3.6 Additional Tests.....	5
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY.....	6
4.1 Distinctness.....	6
4.1.1 <i>General Recommendations</i>	6
4.1.2 <i>Consistent Differences</i>	6
4.1.3 <i>Clear Differences</i>	6
4.2 Uniformity.....	6
4.3 Stability.....	6
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
6.1.1 <i>Standard Test Guidelines Characteristics</i>	7
6.1.2 <i>Asterisked Characteristics</i>	7
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression.....	7
6.4 Example Varieties.....	8
6.5 Legend.....	8
6.6 Abbreviations.....	8
7. TABLE OF CHARACTERISTICS.....	9
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS.....	34
8.1 Explanations covering several characteristics.....	34
8.2 Explanations for individual characteristics.....	35
9. LITERATURE.....	42
10. TECHNICAL QUESTIONNAIRE.....	43

1. Subject of these Guidelines

1.1 The following Test Guidelines have been developed from the standard Citrus Test Guidelines template. In particular, the Table of Characteristics has been selected from the overall set of citrus characteristics presented in the Annex.

1.2 These Test Guidelines apply to all varieties of the following group of the genus *Poncirus* L. (Rutaceae), and their hybrids:

Group 5. TRIFOLIATE ORANGE AND ITS HYBRIDS

See page 2 for the list of species and their subgroups.

1.3 In the case of hybrids between species within the genus *Poncirus* L., the Test Guidelines to be used should be those for which the overall appearance of fruit is most suited. However, if the variety cannot be clearly distinguished from all varieties covered by other Test Guidelines, those other Test Guidelines should also be used to examine the variety.

1.4 In the case of hybrids between species within the genus *Citrus* L., even where the variety is clearly distinguishable from all other varieties covered by other Test Guidelines, it may still be necessary to use additional citrus characteristics to examine the variety. In these circumstances the characteristics from the Test Guidelines covering the parent species, or characteristics from the overall set of citrus characteristics, presented in the Annex, may be particularly useful.

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 bud sticks of 6 to 10 mm in diameter (one year old), each cut just behind a typical fruit or, if required by the competent authorities, one-year-old grafted trees. In the case of rootstock varieties, rooted cuttings or polyembryonic seeds may be required in addition.

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

10 bud sticks sufficient to establish 10 plants or,
if required by the competent authorities,
10 one-year-old grafted trees.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. It should preferably not be obtained from *in vitro* propagation. If it has been produced by *in vitro* propagation this fact must be stated by the applicant.

2.5 The plant material must 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 *Duration of Tests*

The minimum duration of tests should normally be two independent growing cycles. For the purposes of these Test Guidelines, a growing cycle refers to the fruiting cycle.

3.2 *Testing Place*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

3.3 *Conditions for Conducting the Examination*

3.3.1 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. In particular, a satisfactory crop of fruit must be produced in at least two fruiting cycles. Where necessary for the examination of fruit varieties, a standard specified rootstock should be used for each group.

3.3.2 All observations should be made on plants of the same age not less than 3 years after planting. The age of the plants should be specified.

3.4 *Test Design*

3.4.1 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.

3.4.2 Each test should be designed to result in a total of, at least, 5 plants.

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations determined by measuring or counting should be made on 5 plants or 2 parts taken from each of 5 plants.

3.6 *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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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.

4.2 *Uniformity*

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:

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 tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous 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 is 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) Leaf: caducity (characteristic 7)
- (b) Leaf: number of leaflets (characteristic 8)
- (c) Fruit surface: presence of pubescence (characteristic 72)
- (d) Fruit: number of seeds (controlled manual self-pollination) (characteristic 100)
- (e) Seed: polyembryony (characteristic 102).

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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*

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.

6.3 *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 or, in some cases, species are provided to clarify the states of expression of each characteristic. Each example variety or species is followed by the abbreviation of its subgroup in brackets.

6.5 *Legend*

- (*) Asterisked characteristic – see section 6.1.2
- (+) See Explanations on the Table of Characteristics in Chapter 8, Section 8.2
- QL Qualitative characteristic – see section 6.3
- QN Quantitative characteristic – see section 6.3
- PQ Pseudo-Qualitative characteristic – see section 6.3
- c#. Corresponding number of characteristic in the citrus overall table of characteristics
- (a)-(h) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

6.6 *Abbreviations*

See page 2 for the list of species and their subgroups.

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: growth habit	Arbre: port	Baum: Wuchstyp	Árbol: porte		
PQ	upright	droit	aufrecht	erguido	<i>Poncirus trifoliata</i> (PON)	1
	spreading	étalé	breitbuschig	abierto	CPB 4475 (CML)	2
c2.	drooping	retombant	hängend	colgante		3
2.	Tree: density of spines	Arbre: densité des épines	Baum: Dichte der Stacheln	Árbol: densidad de las espinas		
QN	absent or sparse	absentes ou éparses	fehlend oder locker	ausente o laxa		1
	intermediate	intermédiaires	mittel	media		2
c3.	dense	denses	dicht	densa	<i>Poncirus trifoliata</i> (PON)	3
3.	Tree: length of spines	Arbre: longueur des épines	Baum: Länge der Stacheln	Árbol: longitud de las espinas		
QN	short	courtes	kurz	cortas		3
	medium	moyennes	mittel	medias		5
c4.	long	longues	lang	largas	<i>Poncirus trifoliata</i> (PON)	7
4.	Branch: expression of lenticels	Branche: expression des lenticelles	Zweig: Ausprägung der Lentizellen	Rama: expresión de las lenticelas		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	media		5
c5.	strong	forte	stark	fuerte	Cunningham (CTG)	7
5. (*)	(a) Young leaf: presence of anthocyanin coloration	Jeune feuille: présence de pigmentation anthocyanique	Junges Blatt: Vorhandensein von Anthocyanfärbung	Hoja joven: presencia de pigmentación antocianica		
QL	absent	absente	fehlend	ausente	Troyer (CTG)	1
c6.	present	présente	vorhanden	presente		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
6. (a)	Young leaf: intensity of anthocyanin coloration	Jeune feuille: intensité de la pigmentation anthocyanique	Junges Blatt: Intensität der Anthocyanfärbung	Hoja joven: intensidad de la pigmentación antocianica		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	media		5
c7.	strong	forte	stark	fuerte		7
7. (*)	(b) Leaf: caducity	Feuilles: persistance	Blatt: Frühzeitiges Abfallen	Hoja: caducidad		
PQ	perennial	persistantes	überdauernd	perenne	CPB 4475 (CML)	1
	partially caducous	partiellement caduques	teilweise frühzeitig abfallend	parcialmente caduca	Troyer (CTG)	2
c8.	caducous	caduques	frühzeitig abfallend	caduca	<i>Poncirus trifoliata</i> (PON)	3
8. (*)	(b) Leaf: number of leaflets	Feuille: nombre de folioles	Blatt: Anzahl Teilblätter	Hoja: número de foliolos		
PQ	one only	une seule	nur eines	sólo uno		1
	variable	variable	variabel	variable	Troyer (CTG)	2
c9.	three only	trois seulement	nur drei	sólo tres	<i>Poncirus trifoliata</i> (PON)	3
9.	(b) Leaf blade: length (apical leaflet in case of compound leaf)	Limbe: longueur (foliole apicale en cas de feuille composée)	Blattspreite: Länge (apikales Teilblatt bei zusammengesetztem Blatt)	Limbo: longitud (foliolo atípico en caso de hoja compuesta)		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c10.	long	long	lang	largo		7
10.	(b) Leaf blade: width (as for 9)	Limbe: largeur (comme pour 9)	Blattspreite: Breite (wie für 9)	Limbo: anchura (como para 9)		
QN	narrow	étroit	schmal	estrecho		3
	medium	moyen	mittel	medio		5
c11.	broad	large	breit	ancho		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
11. (b)	Leaf blade: ratio length/width (as for 9)	Limbe: rapport longueur/largeur (comme pour 9)	Blattspreite: Verhältnis Länge/Breite (wie für 9)	Limbo: relación longitud/anchura (como para 9)		
QN	small	faible	klein	pequeño	<i>Poncirus trifoliata</i> (PON)	3
	medium	moyen	mittel	medio		5
c12.	large	élevé	groß	grande		7
12. (b)	Leaf blade: length (lateral leaflet in case of compound leaf)	Limbe: longueur (foliole latérale en cas de feuille composée)	Blattspreite: Länge (seitliches Teilblatt bei zusammengesetztem Blatt)	Limbo: longitud (foliolo lateral en caso de hoja compuesta)		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c13.	long	long	lang	largo		7
13. (b)	Leaf blade: width (as for 12)	Limbe: largeur (comme pour 12)	Blattspreite: Breite (wie für 12)	Limbo: anchura (como para 12)		
QN	narrow	étroit	schmal	estrecho		3
	medium	moyen	mittel	medio		5
c14.	broad	large	breit	ancho		7
14. (b)	Leaf blade: ratio length/width (as for 12)	Limbe: rapport longueur/largeur (comme pour 12)	Blattspreite: Verhältnis Länge/Breite (wie für 12)	Limbo: relación longitud/anchura (como para 12)		
QN	small	faible	klein	pequeño	<i>Poncirus trifoliata</i> (PON)	3
	medium	moyen	mittel	medio		5
c15.	large	élevé	groß	grande		7
15. (b)	Leaf blade: ratio length of blade of apical leaflet/length of blade of lateral leaflet	Limbe: rapport longueur du limbe de la foliole apicale/longueur du limbe de la foliole latérale	Blattspreite: Verhältnis Länge der Spreite des apikalen Teilblattes/ Länge der Spreite des seitlichen Teilblattes	Limbo: relación entre la longitud del limbo del foliolo apical y la longitud del limbo del foliolo lateral		
QN	small	faible	klein	pequeño		3
	medium	moyen	mittel	medio		5
c16.	large	élevé	groß	grande		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
16. (b) Leaf blade: shape in cross section (as for 9)		Limbe: forme en section transversale (comme pour 9)	Blattspreite: Form im Querschnitt (wie für 9)	Limbo: forma en sección transversal (como para 9)		
QN	straight or weakly concave	droit ou légèrement concave	gerade oder leicht konkav	recto o ligeramente cóncavo		1
	intermediate	intermédiaire	mittel	intermedio		2
c17.	strongly concave	fortement concave	stark konkav	fuertemente cóncavo		3
17. (b) Leaf blade: twisting		Limbe: torsion	Blattspreite: Drehung	Limbo: torsión		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil		1
	intermediate	intermédiaire	mittel	media		2
c18.	strong	forte	stark	fuerte		3
18. (b) Leaf blade: blistering		Limbe: cloûre	Blattspreite: Blasigkeit	Limbo: abullonado o ampollado		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil		1
	intermediate	intermédiaire	mittel	medio		2
c19.	strong	forte	stark	fuerte		3
19. (b) Leaf blade: intensity of green color		Limbe: intensité de la couleur verte	Blattspreite: Intensität der Grünfärbung	Limbo: intensidad del color verde		
QN	light	claire	hell	claro		3
	medium	moyenne	mittel	medio		5
c20.	dark	foncée	dunkel	oscuro		7
20. (b) Leaf blade: pubescence on lower side		Limbe: pilosité sur la face inférieure	Blattspreite: Behaarung an der Unterseite	Limbo: pubescencia en el envés		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil		1
	intermediate	intermédiaire	mittel	media		2
c21.	strong	forte	stark	fuerte		3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
21. (b)	Leaf blade: undulation of margin	Limbe: ondulation du bord	Blattspreite: Randwellung	Limbo: ondulación del borde		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil		1
	intermediate	intermédiaire	mittel	media		2
c22.	strong	forte	stark	fuerte		3
22. (*)	Leaf blade: incisions of margin	Limbe: incisions du bord	Blattspreite: Randeinschnitte	Limbo: incisiones del borde		
PQ	absent	absentes	fehlend	ausentes		1
	crenate	crénelées	gekerbt	crenadas		2
c23.	dentate	dentelées	gezähnt	dentadas		3
23. (*) (+)	Leaf blade: shape of apex	Limbe: forme de l'extrémité	Blattspreite: Form der Spitze	Limbo: forma del ápice		
PQ	acuminate	acuminée	mit aufgesetzter Spitze	acuminado		1
	acute	pointue	spitz	agudo		2
	obtuse	obtuse	stumpf	obtuso		3
c24.	rounded	arrondie	abgerundet	redondeado		4
24. (+)	Leaf blade: emargination at tip	Limbe: échancrure à l'extrémité	Blattspreite: Einkerbung an der Spitze	Limbo: emarginado en la parte superior		
QL	absent	absente	fehlend	ausente		1
c25.	present	présente	vorhanden	presente		9
25. (b)	Petiole: length	Pétiole: longueur	Blattstiel: Länge	Pecíolo: longitud		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c26.	long	long	lang	largo		7
26. (*)	Petiole: presence of wings	Pétiole: présence d'ailes	Blattstiel: Vorhandensein von Flügeln	Pecíolo: presencia de alas		
QL	absent	absentes	fehlend	ausentes		1
c27.	present	présentes	vorhanden	presentes		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
27. (b)	<u>Varieties with petiole wings present only:</u> Petiole: width of wings	<u>Seulement les variétés présentant des ailes au pétiole:</u> Pétiole: largeur des ailes	<u>Nur Sorten mit vorhandenen Flügel am Blattstiel:</u> Blattstiel: Breite der Flügel	<u>Sólo variedades con alas presentes en el pecíolo:</u> Pecíolo: anchura de las alas		
QN	narrow	étroites	schmal	estrechas		3
	medium	moyennes	mittel	medias		5
c28.	broad	larges	breit	anchas		7
28. (c) (d)	Flower bud: presence of anthocyanin coloration	Bouton floral: présence de pigmentation anthocyanique	Blütenknospe: Vorhandensein von Anthocyanfärbung	Yema floral: presencia de pigmentación antocianica		
QL	absent	absente	fehlend	ausente		1
c29.	present	présente	vorhanden	presente		9
29. (c) (d)	Flower bud: intensity of anthocyanin coloration	Bouton floral: intensité de la pigmentation anthocyanique	Blütenknospe: Intensität der Anthocyanfärbung	Yema floral: intensidad de la pigmentación antocianica		
QN	weak	faible	schwach	débil		3
	medium	moyenne	mittel	media		5
c30.	strong	forte	stark	fuerte		7
30. (c)	Flower: diameter of calyx	Fleur: diamètre du calice	Blüte: Durchmesser des Kelches	Flor: diámetro del cáliz		
QN	small	petit	klein	pequeño		3
	medium	moyen	mittel	medio		5
c31.	large	grand	groß	grande		7
31. (c)	Flower: length of petal	Fleur: longueur du pétale	Blüte: Länge des Blütenblattes	Flor: longitud del pétalo		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c32.	long	long	lang	largo		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
32. (c) Flower: width of petal		Fleur: largeur du pétale	Blüte: Breite des Blütenblattes	Flor: anchura del pétalo		
QN	narrow	étroit	schmal	estrecho		3
	medium	moyen	mittel	medio		5
c33.	broad	large	breit	ancho		7
33. (c) Flower: ratio length/width of petal		Fleur: rapport longueur/largeur du pétale	Blüte: Verhältnis Länge/Breite des Blütenblattes	Flor: relación longitud/anchura del pétalo		
QN	small	faible	klein	pequeño		3
	medium	moyen	mittel	medio		5
c34.	large	élevé	groß	grande		7
34. (c) Flower: length of stamens		Fleur: longueur des étamines	Blüte: Länge der Staubfäden	Flor: longitud de los estambres		
QN	short	courtes	kurz	cortos		3
	medium	moyennes	mittel	medios		5
c35.	long	longues	lang	largos		7
35. (c) Stamen: color of filament		Étamine: couleur du filament	Staubfaden: Farbe des Fadens	Estambre: color del filamento		
QL	white	blanc	weiß	blanco	Carrizo (CTG)	1
c37.	pink	rose	rosa	rosa	Ferner Alcaide 13 (CTI)	2
36. (c) Anther: color		Anthère: couleur	Anthere: Farbe	Antera: color		
PQ	white	blanc	weiß	blanco		1
	light yellow	jaune clair	hellgelb	amarillo claro		2
c38.	medium yellow	jaune moyen	mittelgelb	amarillo medio		3
37. (c) Anther: viable pollen		Anthère: pollen viable	Anthere: keimfähiger Pollen	Antera: polen viable		
QL	absent	absent	fehlend	ausente		1
c39.	present	présent	vorhanden	presente		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
38. (c) Style: length		Style: longueur	Griffel: Länge	Estilo: longitud		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c40.	long	long	lang	largo		7
39. Ovary: pubescence		Ovaire: pilosité	Fruchtknoten: Behaarung	Ovario: pubescencia		
QL	absent	absente	fehlend	ausente		1
c42.	present	présente	vorhanden	presente	<i>Poncirus trifoliata</i> (PON)	9
40. (e) Fruit: length (*)		Fruit: longueur	Frucht: Länge	Fruto: longitud		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c44.	long	long	lang	largo		7
41. (e) Fruit: diameter		Fruit: diamètre	Frucht: Durchmesser	Fruto: diámetro		
QN	small	petit	klein	pequeño		3
	medium	moyen	mittel	medio		5
c45.	large	grand	groß	grande		7
42. (e) Fruit: ratio length/diameter		Fruit: rapport longueur/diamètre	Frucht: Verhältnis Länge/Durchmesser	Fruto: relación longitud/diámetro		
QN	small	faible	klein	pequeño		3
	medium	moyen	mittel	medio		5
c46.	large	élevé	groß	grande		7
43. (e) Fruit: position of broadest part		Fruit: position de la partie la plus large	Frucht: Position des breitesten Teils	Fruto: posición de la parte más amplia		
QN	towards stalk end	vers l'extrémité pédonculaire	zum Stielende hin	hacia el extremo peduncular		1
	at middle	au milieu	in der Mitte	en el medio		2
c47.	towards distal end	vers la partie distale	zum distalen Ende hin	hacia el extremo distal		3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
44 (+)	(e) Fruit: shape in transverse section	Fruit: forme en section transverse	Frucht: Form im Querschnitt	Fruto: forma en sección transversal		
PQ	circular	circulaire	rund	circular	<i>Poncirus trifoliata</i> (PON)	1
	somewhat angular	légèrement anguleuse	etwas kantig	ligeramente angular		2
c48.	scalloped	dentelée	muschelförmig	festoneado		3
45 (+)	(e) Fruit: general shape of proximal part (excluding neck, collar and depression at stalk end)	Fruit: forme générale de la partie proximale (à l'exclusion du col, de la collerette et de la dépression à l'extrémité pédonculaire)	Frucht: allgemeine Form des proximalen Teils (ohne Hals, Kragen und Einsenkung am Stielende)	Fruto: forma general de la parte proximal (excluido el cuello, el collar y la depresión del extremo peduncular)		
PQ	flattened	aplatie	abgeflacht	aplanada		1
	slightly rounded	légèrement arrondie	leicht abgerundet	ligeramente redondeada		2
	strongly rounded	fortement arrondie	stark abgerundet	fuertemente redondeada		3
c49.	tapered	effilée	spitz	afilada		4
46 (+)	(e) Fruit: presence of neck	Fruit: présence d'un col	Frucht: Vorhandensein eines Halses	Fruto: presencia de un cuello		
QL	absent	absent	fehlend	ausente		1
c50.	present	présent	vorhanden	presente		9
47 (+)	(e) <u>Necked varieties only:</u> Fruit: length of neck	<u>Seulement les variétés dont le fruit présente un col:</u> Fruit: longueur du col	<u>Nur Sorten mit Fruchthals:</u> Frucht: Länge des Halses	<u>Sólo variedades con fruto con cuello:</u> Fruto: longitud del cuello		
QN	short	court	kurz	corto		3
	medium	moyen	mittel	medio		5
c51.	long	long	lang	largo		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
48.	(e) <u>Necked varieties only:</u> Fruit: thickness of neck	<u>Seulement les variétés dont le fruit présente un col:</u> Fruit: épaisseur du col	<u>Nur Sorten mit Fruchthals:</u> Frucht: Dicke des Halses	<u>Sólo variedades con fruto con cuello:</u> Fruto: grosor del cuello		
QN	thin	mince	dünn	delgado		3
	medium	moyen	mittel	medio		5
c52.	thick	épais	dick	grueso		7
49.	(e) <u>Only varieties without fruit neck:</u> Fruit: presence of depression at stalk end	<u>Seulement les variétés dont le fruit ne présente pas de col:</u> Fruit: présence d'une dépression à l'extrémité pédonculaire	<u>Nur Sorten ohne Fruchthals:</u> Frucht: Vorhandensein einer Einsenkung am Stielende	<u>Sólo variedades con fruto sin cuello:</u> Fruto: presencia de una depresión en el extremo peduncular		
QL	absent	absente	fehlend	ausente		1
c53.	present	présente	vorhanden	presente		9
50.	(e) <u>Only varieties without fruit neck:</u> Fruit: depth of depression at stalk end	<u>Seulement les variétés dont le fruit ne présente pas de col:</u> Fruit: profondeur de la dépression à l'extrémité pédonculaire	<u>Nur Sorten ohne Fruchthals:</u> Frucht: Tiefe der Einsenkung am Stielende	<u>Sólo variedades con fruto sin cuello:</u> Fruto: profundidad de la depresión en el extremo peduncular		
QN	shallow	peu profonde	flach	poco profunda		3
	medium	moyenne	mittel	media		5
c54.	deep	profonde	tief	profunda		7
51.	(e) <u>Fruit: presence of constriction at stalk end</u>	<u>Fruit: présence d'un étranglement à l'extrémité pédonculaire</u>	<u>Frucht: Vorhandensein einer Einschnürung am Stielende</u>	<u>Fruto: presencia de un estrechamiento en el extremo peduncular</u>		
QL	absent	absent	fehlend	ausente		1
c55.	present	présent	vorhanden	presente		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
52.	(e) Fruit: expression of constriction at stalk end	Fruit: expression de l'étranglement à l'extrémité pédonculaire	Frucht: Ausprägung der Einschnürung am Stielende	Fruto: expresión del estrechamiento en el extremo peduncular		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	medio		5
c56.	strong	forte	stark	fuerte		7
53.	(e) Fruit: number of radial grooves at stalk end	Fruit: nombre de cannelures radiales à l'extrémité pédonculaire	Frucht: Anzahl radialer Furchen am Stielende	Fruto: número de acanaladuras radiales en el extremo peduncular		
QN	absent or few	absentes ou peu nombreuses	fehlend oder sehr gering	ausente o bajo		1
	intermediate	moyennement nombreuses	mittel	medio		2
c57.	many	nombreuses	groß	alto		3
54.	(e) Fruit: length of radial grooves at stalk end	Fruit: longueur des cannelures radiales à l'extrémité pédonculaire	Frucht: Länge der radialen Furchen am Stielende	Fruto: longitud de las acanaladuras radiales en el extremo peduncular		
QN	short	courtes	kurz	cortas		3
	medium	moyennes	mittel	medias		5
c58.	long	longues	lang	largas		7
55.	(e) <u>Necked varieties only:</u> Fruit: depression at stalk attachment	<u>Seulement les variétés dont le fruit présente un col:</u> Fruit: dépression à l'attache pédonculaire	<u>Nur Sorten mit Fruchthals:</u> Frucht: Einsenkung am Stielansatz	<u>Sólo variedades con fruto con cuello:</u> Fruto: depresión en la inserción peduncular		
QN	absent or shallow	absente ou peu profonde	fehlend oder flach	ausente o poco profunda		1
	intermediate	intermédiaire	mittel	intermedia		2
c59.	deep	profonde	tief	profunda		3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
56. (+)	(e) Fruit: presence of collar	Fruit: présence d'une corolle	Frucht: Vorhandensein eines Kragens	Fruto: presencia de un collar		
QL	absent	absente	fehlend	ausente		1
c60.	present	présente	vorhanden	presente		9
57. (+)	(e) Fruit: abscission layer between floral disc and fruit	Fruit: abscission entre le disque floral et le fruit	Frucht: Trennschicht zwischen Blütenscheibe und Frucht	Fruto: capa de abscisión entre el disco floral y el fruto		
QN	absent or weakly developed	absente ou faiblement développée	fehlend oder schwach entwickelt	ausente o débilmente desarrollada		1
	intermediate	intermédiaire	mittel	intermedia		2
c63.	strongly developed	fortement développée	stark entwickelt	fuertemente desarrollada		3
58. (+)	(e) Fruit: general shape of distal part (excluding nipple, bulging of navel and depression at distal end)	Fruit: forme générale de la partie distale (à l'exclusion du mamelon, de la courbure du fruit secondaire et de la dépression à l'extrémité distale)	Frucht: allgemeine Form des distalen Teils (ohne Warze, Wölbung der sekundären Frucht und Einsenkung am distalen Ende)	Fruto: forma general de la parte distal (excluido el mamelón o pezón, el abultamiento del ombligo y la depresión en el extremo distal)		
QN	flattened	aplatie	abgeflacht	aplanada		1
	slightly rounded	légèrement arrondie	leicht abgerundet	ligeramente redondeada		2
c64.	strongly rounded	fortement arrondie	stark abgerundet	fuertemente redondeada		3
59. (+)	(e) Fruit: presence of depression at distal end	Fruit: présence d'une dépression à l'extrémité distale	Frucht: Vorhandensein der Einsenkung am distalen Ende	Fruto: presencia de una depresión en el extremo distal		
QL	absent	absente	fehlend	ausente		1
c65.	present	présente	vorhanden	presente		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
60.	(e) Fruit: depth of depression at distal end	Fruit: profondeur de la dépression à l'extrémité distale	Frucht: Tiefe der Einsenkung am distalen Ende	Fruto: profundidad de la depresión en el extremo distal		
QN	shallow	peu profonde	flach	poco profunda		3
	medium	moyenne	mittel	media		5
c66.	deep	profonde	tief	profunda		7
61.	(e) Fruit: presence of nipple	Fruit: présence d'un mamelon	Frucht: Vorhandensein einer Warze	Fruto: presencia de un mamelón o pezón		
	(*)					
	(+)					
QL	absent	absent	fehlend	ausente		1
c68.	present	présent	vorhanden	presente		9
62.	(e) Fruit: prominence of nipple	Fruit: proéminence du mamelon	Frucht: Herausragen der Warze	Fruto: prominencia del mamelón o pezón		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	medio		5
c69.	strong	forte	stark	fuerte		7
63.	(e) Fruit: presence of areola	Fruit: présence d'une aréole	Frucht: Vorhandensein einer Areola	Fruto: presencia de un areola		
QL	absent	absente	fehlend	ausente		1
	incomplete	incomplète	unvollständig	incompleta		2
c70.	complete	complète	vollständig	completa		3
64.	(e) Fruit: type of areola	Fruit: type d'aréole	Frucht: Typ der Areola	Fruto: tipo de areola		
	(+)					
QL	smooth	régulière	glatt	lisa		1
	grooved	cannelée	gerieft	acanalada		2
c71.	ridged	annelée	geringelt	acrestada		3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
65.	(e) Fruit: diameter of areola	Fruit: diamètre de l'aréole	Frucht: Durchmesser der Areola	Fruto: diámetro de la areola		
QN	small	petit	klein	pequeña		3
	medium	moyen	mittel	media		5
c72.	large	grand	groß	grande		7
66.	(e) Fruit: diameter of stylar scar	Fruit: diamètre de la cicatrice stylaire	Frucht: Durchmesser der Griffelnarbe	Fruto: diámetro de la cicatriz estilar		
QN	small	petit	klein	pequeña		3
	medium	moyen	mittel	media		5
c73.	large	grand	groß	grande		7
67.	(e) Fruit: protruding stylar point	Fruit: point stylaire protubérant	Frucht: herausragende Griffelspitze	Fruto: protuberancia del punto estilar		
QN	small	petit	klein	pequeño		3
	medium	moyen	mittel	medio		5
c74.	large	grand	groß	grande		7
68.	(e) Fruit: persistence of style	Fruit: persistance du style	Frucht: Persistenz des Griffels	Fruto: persistencia del estilo		
PQ	none	aucune	fehlend	ninguna		1
	partial	partielle	teilweise gegeben	parcial		2
c75.	total	totale	vollständig gegeben	total		3
69.	(e) Fruit: bulging of navel	Fruit: courbure du fruit secondaire	Frucht: Wölbung der sekundären Frucht	Fruto: abultamiento del ombligo		
QN	absent or weak	absente ou faible	fehlend	ausente o débil		1
	intermediate	intermédiaire	mittel	medio		2
c78.	strong	forte	stark	fuerte		3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
70.	(e) Fruit: presence of radial grooves at distal end	Fruit: présence de cannelures radiales à l'extrémité distale	Frucht: Vorhandensein radialer Furchen am distalen Ende	Fruto: presencia de acanaladuras radiales en el extremo distal		
QL	absent	absentes	fehlend	ausentes		1
c79.	present	présentes	vorhanden	presentes		9
71.	(e) Fruit surface: (f) predominant color	Fruit: couleur prédominante à la surface	Fruchtoberfläche: Hauptfarbe	Superficie del fruto: color predominante		
PQ	green	vert	grün	verde		1
	yellow green	vert-jaune	gelbgrün	verde amarillento		2
	green and yellow	vert et jaune	grün und gelb	verde y amarillo		3
	light yellow	jaune clair	hellgelb	amarillo claro		4
	medium yellow	jaune moyen	mittelgelb	amarillo medio		5
	yellow orange	orange-jaune	gelborange	naranja amarillento		6
	medium orange	orange moyen	mittelorange	naranja medio		7
	dark orange	orange foncé	dunkelorange	naranja oscuro		8
	green and orange	vert et orange	grün und orange	verde y naranja		9
	yellow and orange	jaune et orange	gelb und orange	amarillo y naranja		10
	orange red	rouge orangé	orangerot	rojo anaranjado		11
	yellow and red	jaune et rouge	gelb und rot	amarillo y rojo		12
c82.	orange and red	orange et rouge	orange und rot	naranja y rojo		13
72.	(e) Fruit surface: (* (f) presence of pubescence	Surface du fruit: présence de pilosité	Fruchtoberfläche: Vorhandensein der Behaarung	Superficie del fruto: presencia de pubescencia		
QL	absent	absente	fehlend	ausente		1
c83.	present	présente	vorhanden	presente	<i>Poncirus trifoliata</i> (PON)	9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
73. (*)	(e) Fruit surface: (f) intensity of pubescence	Surface du fruit: intensité de la pilosité	Fruchtoberfläche: Intensität der Behaarung	Superficie del fruto: intensidad de la pubescencia		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	media		5
c84.	strong	forte	stark	fuerte		7
74.	(e) Fruit surface: (f) roughness	Surface du fruit: rugosité	Fruchtoberfläche: Rauheit	Superficie del fruto: rugosidad		
QN	smooth	lisse	glatt	lisa		3
	medium	intermédiaire	mittel	media		5
c86.	rough	rugueuse	rauh	rugosa		7
75.	(e) Fruit surface: size of (f) oil glands	Surface du fruit: taille des glandes à huile	Fruchtoberfläche: Größe der Öldrüsen	Superficie del fruto: tamaño de las glándulas de aceite		
PQ	all more or less the same size	toutes plus ou moins de la même taille	alle mehr oder weniger gleich groß	todas más o menos del mismo tamaño		1
c87.	larger ones interspersed by smaller ones	grandes et petites intercalées	größere vermischt mit kleineren	glándulas grandes intercaladas con otras más pequeñas		2
76.	(e) Fruit surface: size of (f) larger oil glands	Surface du fruit: taille des glandes à huile les plus grosses	Fruchtoberfläche: Größe der größeren Öldrüsen	Superficie del fruto: tamaño de las glándulas de aceite más grandes		
QN	small	petites	klein	pequeñas		3
	medium	moyennes	mittel	medianas		5
c88.	large	grosses	groß	grandes		7
77.	(e) Fruit surface: (f) conspicuousness of larger oil glands	Surface du fruit: netteté des glandes à huile les plus grosses	Fruchtoberfläche: Sichtbarkeit der größeren Öldrüsen	Superficie del fruto: visibilidad de las glándulas de aceite más grandes		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	media		5
c89.	strong	forte	stark	fuerte		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
78.	(e) Fruit surface:	Surface du fruit:	Fruchtoberfläche:	Superficie del fruto:		
	(f) presence of pitting and pebbling on oil glands	présence de dépression et de protubérance sur les glandes à huile	Vorhandensein von Grübchen und Körnern an den Öldrüsen	presencia de picado y granulado en las glándulas de aceite		
PQ	pitting and pebbling absent	dépression et protubérance absentes	Grübchen und Körner fehlend	picado y granulado ausentes		1
	pitting absent, pebbling present	dépression absente, protubérance présente	Grübchen fehlend, Körner vorhanden	picado ausente, granulado presente		2
	pitting present, pebbling absent	dépression présente, protubérance absente	Grübchen vorhanden, Körner fehlend	picado presente, granulado ausente		3
c90.	pitting and pebbling present	dépression et protubérance présentes	Grübchen und Körner vorhanden	picado y granulado presentes		4
79.	(e) <u>Varieties with</u>	<u>Variétés avec dé-</u>	<u>Nur Sorten mit</u>	<u>Sólo variedades con</u>		
	(f) <u>pitting only:</u> Fruit surface: density of pitting on oil glands	<u>pression seulement:</u> Surface du fruit: densité de la dépression sur les glandes à huile	<u>Grübchen:</u> Fruchtoberfläche: Dichte der Grübchen an den Öldrüsen	<u>picado:</u> Superficie del fruto: densidad del picado en las glándulas de aceite		
QN	sparse	éparse	locker	dispersa		3
	medium	moyenne	mittel	media		5
c91.	dense	dense	dicht	densa		7
80.	(e) <u>Varieties with</u>	<u>Variétés avec dé-</u>	<u>Nur Sorten mit</u>	<u>Sólo variedades con</u>		
	(f) <u>pitting only:</u> Fruit surface: depth of pitting on oil glands	<u>pression seulement:</u> Surface du fruit: profondeur de la dépression sur les glandes à huile	<u>Grübchen:</u> Fruchtoberfläche: Tiefe der Grübchen an den Öldrüsen	<u>picado:</u> Superficie del fruto: profundidad del picado en las glándulas de aceite		
QN	shallow	peu profonde	flach	poco profundo		3
	medium	moyenne	mittel	medio		5
c92.	deep	profonde	tief	profundo		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
81.	(e) Varieties with (f) pebbling only: Fruit surface: density of pebbling on oil glands	Variétés avec protubérance seulement: Surface du fruit: densité de la protubérance sur les glandes à huile	Nur Sorten mit Körnern: Fruchtoberfläche: Dichte der Körner an den Öldrüsen	Sólo variedades con granulado: Superficie del fruto: densidad del granulado en las glándulas de aceite		
QN	sparse	éparse	locker	dispersa		3
	medium	moyenne	mittel	media		5
c93.	dense	dense	dicht	densa		7
82.	(e) Varieties with (f) pebbling only: Fruit surface: degree of pebbling on oil glands	Variétés avec protubérance seulement: Surface du fruit: degré de protubérance sur les glandes à huile	Nur Sorten mit Körnern: Fruchtoberfläche: Grad der Körnerbildung an den Öldrüsen	Sólo variedades con granulado: Superficie del fruto: nivel de granulado en las glándulas de aceite		
QN	weak	faible	gering	débil		3
	medium	moyen	mittel	medio		5
c94.	strong	fort	stark	fuerte		7
83.	(e) Fruit rind: thickness (f)	Écorce du fruit: épaisseur	Fruchtschale: Dicke	Corteza del fruto: espesor		
QL	thin	fine	dünn	delgada		3
	medium	moyenne	mittel	media		5
c95.	thick	épaisse	dick	gruesa		7
84.	(e) Fruit rind: (f) adherence to flesh	Écorce du fruit: adhérence à la chair	Fruchtschale: Anhaften am Fleisch	Corteza del fruto: adherencia a la pulpa		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	media		5
c96.	strong	forte	stark	fuerte		7
85.	(e) Fruit rind: strength (f)	Écorce du fruit: rigidité	Fruchtschale: Festigkeit	Corteza del fruto: vigor		
QN	weak	faible	gering	débil		3
	medium	moyenne	mittel	medio		5
c97.	strong	forte	groß	fuerte		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
86.	(e) Fruit rind: (f) conspicuousness of oil glands on inner surface	Écorce du fruit: netteté des glandes à huile sur la face interne	Fruchtschale: Sichtbarkeit der Öldrüsen an der inneren Oberfläche	Corteza del fruto: glándulas de aceite en la superficie interna		
QN	absent or weakly conspicuous	absentes ou peu nettes	fehlend oder schwach sichtbar	ausentes o poco visibles		1
	intermediate	moyennes	mittel	intermedias		2
c99.	strongly conspicuous	très nettes	gut sichtbar	muy visibles		3
87.	(e) Fruit: color of albedo	Fruit: couleur de l'albédo	Frucht: Farbe der Albedo	Fruto: color del albedo		
PQ	greenish	verdâtre	grünlich	verdoso		1
	white	blanc	weiß	blanco		2
	light yellow	jaune clair	hellgelb	amarillo claro		3
	light orange	orange clair	hellorange	naranja claro		4
	pink	rose	rosa	rosa		5
c100.	reddish	rougeâtre	rötlich	rojizo		6
88.	(e) Fruit: density of albedo	Fruit: densité de l'albédo	Frucht: Dichte der Albedo	Fruto: densidad del albedo		
QN	loose	faible	locker	laxo		3
	medium	moyenne	mittel	medio		5
c101.	dense	dense	dicht	denso		7
89.	(e) Fruit: amount of albedo adhering to flesh (strands excluded)	Fruit: quantité d'albédo adhérent à la chair (à l'exclusion des brins)	Frucht: Umfang der anhaftenden Albedo (ohne Fasern)	Fruto: cantidad de albedo que se adhiere a la pulpa (excluidos los filamentos)		
QN	absent or very small	absente ou très faible	fehlend oder sehr gering	ausente o muy pequeña		1
	small	faible	gering	pequeña		3
	medium	moyenne	mittel	media		5
	large	forte	groß	grande		7
c102.	very large	très forte	sehr groß	muy grande		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
90.	(e) Fruit: presence of albedo strands	Fruit: présence de brins d'albédo	Frucht: Vorhandensein von Albedofasern	Fruto: presencia de filamentos de albedo		
QL	absent	absents	fehlend	ausentes		1
c103.	present	présents	vorhanden	presentes		9
91.	(e) Fruit: amount of albedo strands	Fruit: quantité de brins d'albédo	Frucht: Anzahl Albedofasern	Fruto: cantidad de filamentos de albedo		
QN	small	faible	klein	baja		3
	medium	moyenne	mittel	media		5
c104.	large	forte	groß	alta		7
92.	(e) Fruit: main color of (g) flesh	Fruit: couleur principale de la chair	Frucht: Hauptfarbe des Fleisches	Fruto: color principal de la pulpa		
PQ	whitish	blanchâtre	weißlich	blanquecino		1
	light green	vert clair	hellgrün	verde claro		2
	light yellow	jaune clair	hellgelb	amarillo claro		3
	medium yellow	jaune moyen	mittelgelb	amarillo medio		4
	light orange	orange clair	hellorange	naranja claro		5
	medium orange	orange moyen	mittlorange	naranja medio		6
	dark orange	orange foncé	dunkelorange	naranja oscuro		7
	red	rouge	rot	rojo		8
	purple	violet	purpur	púrpura		9
c107.	yellow and red	jaune et rouge	gelb und rot	amarillo y rojo		10
93.	(e) Fruit: bitterness of (g) flesh	Fruit: amertume de la chair	Frucht: Bitterkeit des Fleisches	Fruto: amargor de la pulpa		
QL	absent	absente	fehlend	ausente		1
c108.	present	présente	vorhanden	presente		9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
94.	(e) Fruit: filling of core	Fruit : structure du cœur	Frucht: Ausfüllung des inneren Fruchtfleisches	Fruto: relleno del hueco central		
(g)						
QN	absent or very sparse	absente ou très lâche	fehlend oder sehr locker	ausente o muy laxo		1
	sparse	lâche	locker	laxo		3
	medium	intermédiaire	mittel	medio		5
	dense	dense	dicht	denso		7
c109.	very dense	très dense	sehr dicht	muy denso		9
95.	(e) Fruit: presence of rudimentary segments	Fruit: présence de segments rudimentaires	Frucht: Vorhandensein von unvollständigen Segmenten	Fruto: presencia de gajos rudimentarios		
(g)						
QN	absent or weak	nulle ou faible	null oder gering	nula o débil		1
	intermediate	intermédiaire	mittel	intermedia		2
c111.	strong	forte	stark	fuerte		3
96.	(e) Fruit: number of well developed segments	Fruit: nombre de segments bien développés	Frucht: Anzahl gut entwickelter Segmente	Fruto: número de gajos bien desarrollados		
(g)						
QN	few	peu	gering	bajo		3
	medium	moyen	mittel	medio		5
c112.	many	beaucoup	groß	alto		7
97.	(e) Fruit: strength of segment walls	Fruit: rigidité des parois des segments	Frucht: Festigkeit der Segmentwände	Fruto: firmeza de las paredes de los gajos		
(g)						
QN	weak	faible	schwach	débil		3
	medium	moyenne	mittel	media		5
c114.	strong	forte	stark	fuerte		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
98. (e)	Fruit: presence of navel (viewed internally)	Fruit: présence de fruit secondaire (vue interne)	Frucht: Vorhandensein von sekundären Früchten (von innen gesehen)	Fruto: presencia de ombligo (visto internamente)		
PQ	absent or very rare	absent ou très rare	fehlend oder sehr selten	ausente o muy rara		1
	occasionally present	présent occasionnellement	zuweilen vorhanden	ocasionalmente presente		2
c119.	always present	toujours présent	immer vorhanden	siempre presente		3
99. (e)	Fruit: juiciness	Fruit: succulence	Frucht: Saftigkeit	Fruto: contenido de jugo		
QN	low	faible	gering	baja		3
	medium	moyenne	mittel	media		5
c121.	high	élevée	hoch	alta		7
100. (e)	Fruit: number of seeds (controlled manual self-pollination)	Fruit: nombre de pépins (autopollinisation manuelle contrôlée)	Frucht: Anzahl Samen (manuell kontrollierte Selbstbefruchtung)	Fruto: número de semillas (autopollinización manual controlada)		
QN	absent or very few	absents ou très peu nombreux	fehlend oder sehr gering	ausente o muy bajo		1
	few	peu nombreux	gering	bajo		3
	medium	moyennement nombreux	mittel	medio		5
	many	nombreux	groß	alto		7
c125.	very many	très nombreux	sehr groß	muy alto		9
101. (e)	Fruit: number of seeds (open pollination)	Fruit: nombre de pépins (fécondation libre)	Frucht: Anzahl Samen (frei abblühend)	Fruto: número de semillas (polinización libre)		
QN	absent or very few	absents ou très peu nombreux	fehlend oder sehr gering	ausente o muy bajo		1
	few	peu nombreux	gering	bajo		3
	moderate	modérément nombreux	mittel	moderado		5
c126.	many	nombreux	groß	alto		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
102. (h) Seed: polyembryony (*)		Pépin: polyembryonnie	Samen: Polyembryonie	Semilla: poliembrionía		
QL	absent	absente	fehlend	ausente		1
c127.	present	présente	vorhanden	presente		9
103. (h) Seed: length		Pépin: longueur	Samen: Länge	Semilla: longitud		
QN	short	court	kurz	corta		3
	medium	moyen	mittel	media		5
c128.	long	long	lang	larga		7
104. (h) Seed: width		Pépin: largeur	Samen: Breite	Semilla: anchura		
QN	narrow	étroit	schmal	estrecha		3
	medium	moyen	mittel	media		5
c129.	broad	large	breit	ancha		7
105. (h) Seed: surface		Pépin: surface	Samen: Oberfläche	Semilla: superficie		
QL	smooth	lisse	glatt	lisa		1
c130.	wrinkled	ridée	runzlig	arrugada		2
106. (h) Seed: external color		Pépin: couleur externe	Samen: Außenfarbe	Semilla: color externo		
PQ	greenish	verdâtre	grünlich	verdoso		1
	whitish	blanchâtre	weißlich	blanquecino		2
	yellowish	jaunâtre	gelblich	amarillento		3
	pinkish	rosâtre	rosa	rosado		4
c132.	brownish	brunâtre	bräunlich	amarronado		5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
107. (h)	Seed: color of inner seed coat	Pépin: couleur du tégument interne	Samen: Farbe der inneren Samenschale	Semilla: color de la cubierta interna		
PQ	white	blanc	weiß	blanco		1
	light yellow	jaune clair	hellgelb	amarillo claro		2
	light brown	marron clair	hellbraun	marrón claro		3
	medium brown	marron moyen	mittelbraun	marrón medio		4
	dark brown	marron foncé	dunkelbraun	marrón oscuro		5
	red	rouge	rot	rojo		6
c133.	purple	violet	purpur	púrpura		7
108. (h)	<u>Polyembryonic varieties only:</u> Seed: color of cotyledons	<u>Variétés poly-embryonnaires seulement:</u> Pépin: couleur des cotylédons	<u>Nur polyembryonische Sorten:</u> Samen: Farbe der Kotyledonen	<u>Sólo variedades poliembriónicas:</u> Semilla: color de los cotiledones		
PQ	white	blanc	weiß	blanco		1
	cream	crème	cremefarben	crema		2
	light green	vert clair	hellgrün	verde claro		3
c134.	dark green	vert foncé	dunkelgrün	verde oscuro		4
109. (*)	Flowering habit	Floraison	Blühverhalten	Tipo de floración		
QL	flowering once	une seule	einmal blühend	una floración		1
c135.	flowering more than once	plusieurs	mehr als einmal blühend	más de una floración		2
110.	Time of maturity of fruit for consumption	Époque de maturité du fruit pour la consommation	Zeitpunkt der Genußreife	Época de madurez del fruto para su consumo		
QN	early	précoce	früh	temprana		3
	medium	moyenne	mittel	media		5
c136.	late	tardive	spät	tardía		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
111.	Plant: self-incompatibility	Plante: auto-incompatibilité	Pflanze: Selbstinkompatibilität	Planta: auto-incompatibilidad		
QL	absent	absente	fehlend	ausente		1
c138.	present	présente	vorhanden	presente		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) Young leaf: Observations on the young leaf should be made on actively growing spring flush.
[Not applicable for Groups 1 (Mandarin) and 2 (Oranges).]

(b) Leaf: Observations on the leaf should be made on fully developed leaves on the middle third of the youngest spring flush branch sections not showing signs of active growth.

(c) Flower: Unless otherwise indicated, observations on the flower bud and the flower should be made on the terminal flower bud and flower, at the time of full flowering of the variety.

Observations on the open flower should be made on the first day of opening.

(d) Flower bud: Observations on the flower bud should be made when the petal tips are visible just before the opening of the bud.
[Not applicable for Groups 1 (Mandarin), 2 (Oranges) and 5 (Trifoliate Orange).]

(e) Fruit: Observations on the fruit should be made at the stage of optimum ripeness. The fruit should be tested weekly and harvested as soon as this stage has been reached.

All fruits for observation should be taken from the periphery of the tree and fruit misformed as a result of clustering should not be sampled.

(f) Fruit surface and fruit rind: Observations on the fruit surface and on the fruit rind should be made at the middle, between the base and apex of the fruit.

(g) Fruit flesh: Observations on the flesh of the fruit should be made on a cross section through the middle of the fruit.

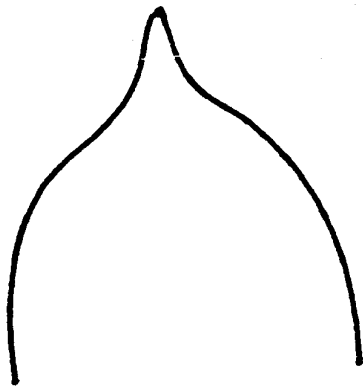
(h) Seed: Observations on the seed should be made on the fresh seed.

8.2 *Explanations for individual characteristics*

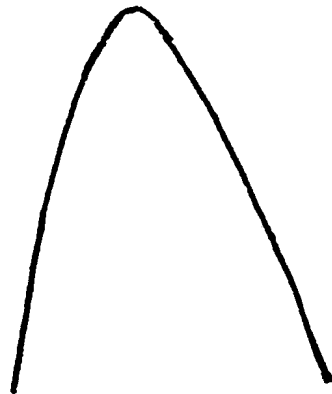
Ad. 1 (c2.): Tree: Growth habit

The observation on the growth habit of the tree should be made immediately after harvest.

Ad. 23 (c24.): Leaf blade: shape of apex



1
acuminate



2
acute

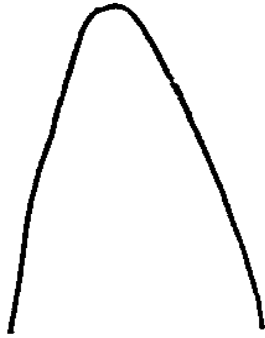


3
obtuse

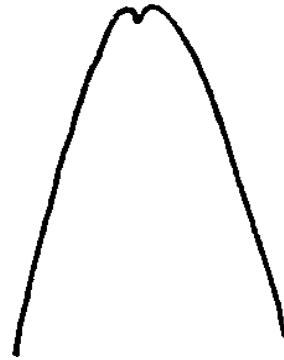


4
rounded

Ad. 24 (c25.): Leaf blade: emargination at tip

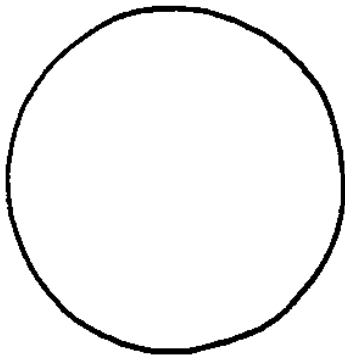


1
absent

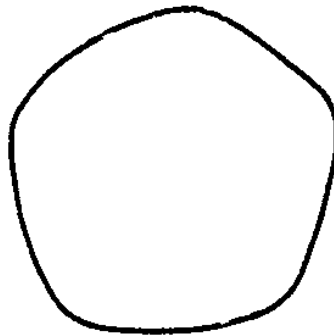


9
present

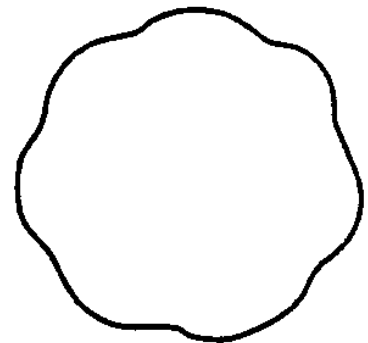
Ad. 44 (c48.): Fruit: shape in transverse section



1
circular

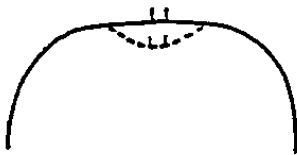


2
somewhat angular



3
scalloped

Ad. 45 (c49.): Fruit: general shape of proximal part (excluding neck, collar and depression at stalk end)



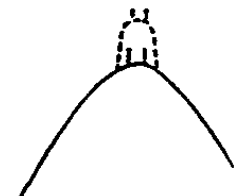
1
flattened



2
slightly rounded



3
strongly rounded



4
tapered

Ad. 46 (c50.): Fruit: presence of neck

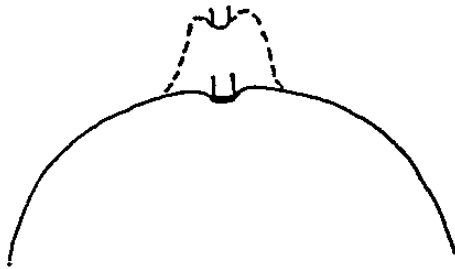


1
absent

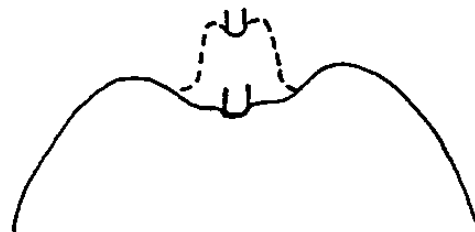


9
present

Ad. 49 (c53.): Only varieties without fruit neck: Fruit: presence of depression at stalk end

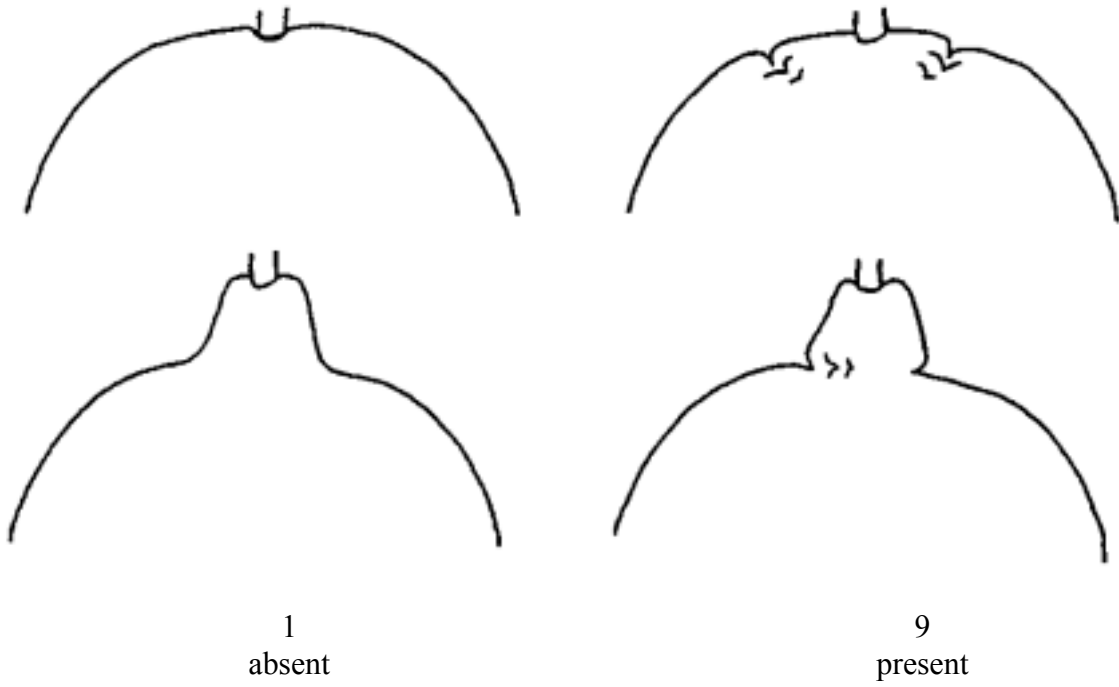


1
absent

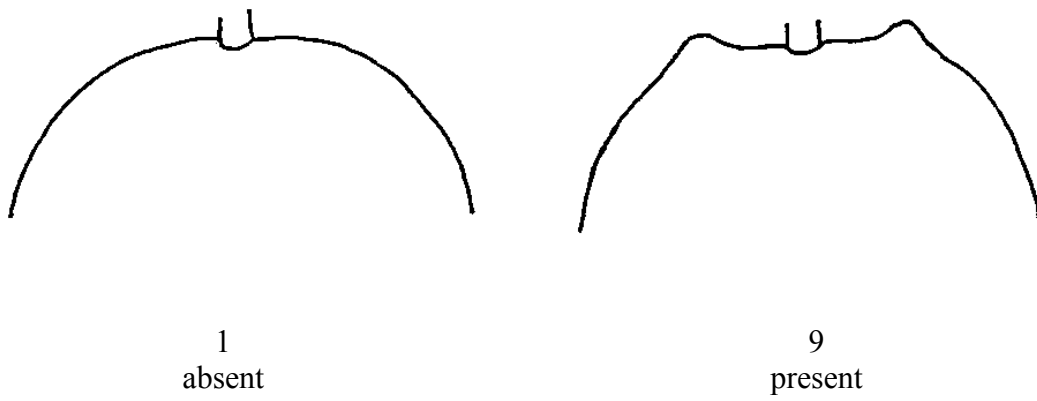


9
present

Ad. 51 (c55.): Fruit: presence of constriction at stalk end



Ad. 56 (c60.): Fruit: presence of collar



Ad. 58 (c64.): Fruit: general shape of distal part (excluding nipple, bulging of navel and depression at distal end)



1
flattened



2
slightly rounded



3
strongly rounded

Ad. 59 (c65.): Fruit: presence of depression at distal end



1
absent

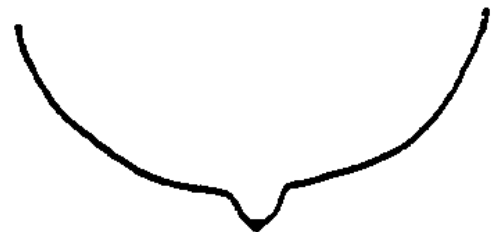


9
present

Ad. 61 (c68.): Fruit: presence of nipple



1
absent



9
present

Ad. 64 (c71.): Fruit: type of areola



1
smooth



2
grooved



3
ridged

LIST OF EXAMPLE VARIETIES FOR TRIFOLIATE ORANGE

Variety denomination	Subgroup
CPB 4475	CML
Carrizo	CTG
Cunningham	CTG
Fornier Alcaide 13	CTI
<i>Poncirus trifoliata</i>	PON
Troyer	CTG

9. Literature

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Saunt, J., 1990: "Citrus varieties of the world: an illustrated guide," Sinclair International Ltd., Norwich, England, 126 pp.

Shannon, L.M., Frolich, E.F., Cameron, S.H., 1960: Characteristics of *Poncirus trifoliata* selections. Am. Soc, Hort. Sci, 76: 163-169.

Webber, H. J. and Batchelor, L. D. (Editors), 1946: "The Citrus Industry", Volume I. University of California Press. 1028 pp.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Application date: (not to be filled in by the applicant)
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TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

- (a) Subgroup: (i) PON [] (iv) CTI----- []
 (ii) CLM [] (v) CTG --- []
 (iii) CTL [] (vi) HPO --- []

(b) Species (please specify):

2. Applicant: Name

Address

Telephone No.

Fax No.

E-mail address

Breeder (if different from applicant)

3. Proposed denomination and breeder's reference

Proposed denomination (if available)

Breeder's reference

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

4.1.1 Variety resulting from:

- (a) controlled cross []
(please state parent varieties)
- (b) partially unknown cross []
(please state known parent variety(ies))
- (c) totally unknown cross []

4.1.2 Mutation []
(please state parent variety)

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

4.1.4 Other []
(please provide details)

4.2 Method of Propagating the Variety

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 Leaf: caducity (7)		
perennial	CPB 4475 (CML)	1[]
partially caducous	Troyer (CTG)	2[]
caducous	<i>Poncirus trifoliata</i> (PON)	3[]
5.2 Leaf: number of leaflets (8)		
one only		1[]
variable	Troyer (CTG)	2[]
three only	<i>Poncirus trifoliata</i> (PON)	3[]
5.3 Fruit surface: presence of pubescence (72)		
absent		1[]
present	<i>Poncirus trifoliata</i> (PON)	9[]
5.4 Fruit: number of seeds (controlled manual self pollination) (100)		
absent or very few		1[]
few		3[]
medium		5[]
many		7[]
very many		9[]
5.5 Seed: polyembryony (102)		
absent		1[]
present		9[]

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

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>(Example)</i>	<i>Leaf blade: shape of apex</i>	<i>acute</i>	<i>obtuse</i>
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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 Special conditions for the examination of the variety

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

Yes [] No []

7.2.2 If yes, please give details:

7.3 Other information

A representative color photograph 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.

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

Applicant's name

Signature

Date

[Annex follows]