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GENEVA

**TECHNICAL WORKING PARTY
FOR
FRUIT CROPS****Thirty-Third Session
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DRAFT TEST GUIDELINES FOR LEMONS AND LIMES

*(Citrus L. – Group 3)**prepared by the Office of the Union*

The attached document TG/LEM-LIM(proj.1) already incorporates the standard wording of document TGP/7.2, which was adopted by the Technical Committee at its thirty-eighth session in April 2002, and includes some additional standard wording from document TGP/7.1 Draft 1, also agreed at that session.

[Document TG/LEM-LIM(proj.1) follows]

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

CITRUS L. – Group 3**(a) LEMONS**

- *Citrus jambhiri* Lush. (Rough Lemons)
- *Citrus limon* (L.) Burm. f. (Lemons)

(b) LIMES

- *Citrus aurantiifolia* (Christm.) Swingle (Mexican Limes)
- *Citrus limettioides* Tan. (Sweet Limes)
- *Citrus limettioides latifolia* Tan. (Acid Limes)

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

Alternative Names:*

	<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
(a)	<i>Citrus jambhiri</i> Lush. <i>Citrus limon</i> (L.) Burm. f.	Lemons	Citronnier	Limone, Sauerzitrone, Zitrone	Limón
(b)	<i>Citrus aurantiifolia</i> (Christm.) Swingle <i>Citrus limettioides</i> Tan. <i>Citrus limettioides latifolia</i> Tan.	Limes	Limettier	Limettenzitrone	Lima

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(proj.1) - (TWF/33/4)
CITRUS L. – GROUP 2: TG/ORANG(proj.1) - (TWF/33/5)
CITRUS L. – GROUP 4: TG/GRA-PUM(proj.1) - (TWF/33/2)
CITRUS L. – GROUP 5: TG/PONCI(proj.1) - (TWF/33/6)

* 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 (<http://www.upov.int>), for the latest information.]

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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 Annex I.

1.2 These Test Guidelines apply to all vegetatively propagated varieties for fruit production and rootstock varieties of the following species of the group lemon and limes of the genus *Citrus* L., and their hybrids:

Group 3. LEMONS AND LIMES AND THEIR HYBRIDS

Citrus aurantiifolia (Christm.) Swingle (Mexican Limes) – SAL

Citrus jambhiri Lush. (Rough Lemons) – RLM

Citrus latifolia Tan. (Acid Limes) – LAL

Citrus limettioides Tan. (Sweet Limes) – SWL

Citrus limon (L.) Burm.f. (Lemons) – LEM

Lemon x Lime Hybrids – HLL

1.3 In the case of hybrids between species within the genus *Citrus* 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 another set of Test Guidelines this other set of Test Guidelines should also be used to examine the variety.

1.4 In the case of hybrids between species within the genus *Citrus* L., 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 it is appropriate to use characteristics from the Test Guidelines covering the parent species, or to select characteristics from the overall set of citrus characteristics presented in Annex I.

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 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 at least two independent growing cycles and must be sufficient for the trees under test to bear a satisfactory crop of fruit in at least two growing periods.

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. 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 old. The age of the plants should be specified.

3.3.3 Information on examining particular characteristics:

3.3.3.1 The table of characteristics provides notes which indicate the recommendations for observing characteristics as follows:

- a** Growth habit: The observation on the growth habit of the tree should be made immediately after harvest.
- b** Young leaf: All observations on the young leaf should be made on actively growing spring flush.
- c** Leaf: All 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.

- d** Flower: Unless otherwise indicated, all 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.

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

- e** Flower bud: All observations on the flower bud should be made when the petal tips are just visible.

- f** Fruit: Unless otherwise indicated, for the observations on the fruit, 10 typical fruits should be selected out from the spring or main blooming of the year of a minimum of 20 fruits from 5 trees. All observations on the fruit should be made at the stage of optimum ripeness. This stage should be determined by the ratio: total soluble solids/acid content of juice. 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.

- g** Fruit surface and fruit rind: All observations on the fruit surface and on the fruit rind should be made at the middle, between the base and apex of the fruit.

The observation on the oiliness of the fruit rind should be made, by peeling the fruit, within 3 to 7 days after harvesting.

- h** Fruit flesh: All observations on the flesh of the fruit should be made on a cross section through the middle of the fruit.

- i** Seed: All observations on the seed should be made on the fresh seed.

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. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

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 seed or 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) Young leaf: presence of anthocyanin coloration (characteristic 5)
- (b) Fruit: length (characteristic 32)
- (c) Fruit: presence of neck (characteristic 39)
- (d) Fruit: presence of nipple (characteristic 42)
- (e) Fruit surface: predominant color (characteristic 49)

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 are provided to clarify the states of expression of each characteristic. Each example variety is followed by the abbreviation of its group in brackets.

6.5 Legend

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

(*) Asterisked characteristic – see section 6.1.2

(*F) Asterisked characteristic for fruit varieties

(*R) Asterisked characteristic for rootstock varieties

c#. Corresponding number of characteristic in the citrus overall table of characteristics

[#.] Number of characteristic in document TWF/32/3

(QL) Qualitative characteristic – see section 6.3

(QN) Quantitative characteristic – see section 6.3

(PQ) Pseudo-Qualitative characteristic – see section 6.3

Notes for observing characteristics see section 3.3.3.1:

a	Growth habit
b	Young leaf
c	Leaf
d	Flower
e	Flower bud
f	Fruit
g	Fruit surface and fruit rind
h	Fruit flesh
i	Seed

6.6 Abbreviations

- LAL: *Citrus latifolia* Tan. (Acid Limes)
- LEM: *Citrus limon* (L.) Burm.f. (Lemons)
- RLM: *Citrus jambhiri* Lush. (Rough Lemons)
- SAL: *Citrus aurantiifolia* (Christm.) Swingle (Mexican Limes)
- SWL: *Citrus limettioides* Tan. (Sweet Limes)
- HLL: Lemon x Lime Hybrids

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

MoE ^o	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	Ploidy					
	diploid					2
<i>[new]</i>	triploid					3
c1.	tetraploid					4
2. (*)	Tree: growth habit					
	a upright					1
<i>[1.]</i>	spreading				Verna	2
c2.	drooping					3
3.	Tree: density of spines					
	absent or sparse				Colima 02	1
<i>[2.]</i>	intermediate					2
c3.	dense					3
4.	Tree: length of spines					
	short				Eureka	3
<i>[3.]</i>	medium				Fino	5
c4.	long				Chaparro	7
5. (*)	Young leaf: presence of anthocyanin coloration					
<i>[4.]</i>	b absent				Flor de Arancio	1
c6.	present				Verna	9

o

MoE = Method of Examination

MoE ^a	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
6.	Young leaf: intensity of anthocyanin coloration					
	b	weak			Tahiti	3
[5.]		medium			Verna	5
c7.		strong				7
7.	Leaf blade: length (apical leaflet in case of compound leaf)					
	c	short			Mexicana	3
[6.]		medium			Tahiti	5
c10.		long			Fino	7
8.	Leaf blade: width (as for 7)					
	c	narrow			Mexicana	3
[7.]		medium			Tahiti	5
c11.		broad			Fino	7
9.	Leaf blade: ratio length/width (as for 7)					
	c	small				3
[8.]		medium				5
c12.		large				7
10.	Leaf blade: shape in cross section (as for 7)					
	c	straight or weakly concave				1
[9.]		intermediate				2
c17.		strongly concave				3

MoE	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
11.	Leaf blade: twisting					
	c absent or weak				Fino	1
[10.]	intermediate				Eureka	2
c19.	strong					3
12.	Leaf blade: intensity of green color					
	c light					3
[12.]	medium				Fino	5
c21.	dark					7
13.	Leaf blade: undulation of margin					
	c absent or weak				Fino	1
[15.]	intermediate				Eureka	2
c23.	strong					3
14.	Leaf blade: incisions of margin					
	c entire					1
[16.]	crenate					2
c24.	dentate					3
15.	Leaf blade: shape of apex					
(+)	c acuminate					1
	acute					2
[17.]	obtuse					3
c25.	rounded					4

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16.		Leaf blade: emargination at tip					
(+)							
[18.]	e	absent					1
c26.		present					9
17.		Petiole: length					
	d	short					3
[19.]		medium				Fino	5
c27.		long					7
18.		Petiole: presence of wings					
[20.]	d	absent				Fino, Colima 02	1
c28.		present					9
19.		Petiole: width of wings					
	d	narrow					3
[21.]		medium					5
c29.		broad					7
20.		Flower bud: presence of anthocyanin coloration					
[22.]	d	absent				Flor de Arancio	1
c30.	e	present				Verna	9
21.		Flower bud: intensity of anthocyanin coloration					
	d	weak				Tahiti	3
[23.]	e	medium					5
c31.		strong				Verna	7

	M _{0E}	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22.		Flower: diameter of calyx					
	d	small					3
[24.]		medium					5
c32.		large					7
23.		Flower: length of petal					
	d	short					3
[25.]		medium					5
c33.		long					7
24.		Flower: width of petal					
	d	narrow					3
[26.]		medium					5
c34.		broad					7
25.		Flower: ratio length/width of petal					
	d	small					3
[27.]		medium					5
c35.		large					7
26.		Flower: length of stamens					
	d	short					3
[28.]		medium					5
c36.		long					7
27.		Flower: basal union of stamens					
[29bis]	d	absent				Fino	1
c37.		present					9

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.		Anther: color					
	d	white					1
[29.]		light yellow					2
c39.		medium yellow				Verna	3
29.		Anther: viable pollen					
[30.]	d	absent				Tahiti	1
c40.		present					9
30.		Style: length					
	d	short					3
[31.]		medium					5
c41.		long					7
31.		Infructescence: clustering of fruits					
[32.]		absent				Fino	1
c44.		present				Eureka	9
32. (*)		Fruit: length					
	f	short				Mexicana	3
[33.]		medium				Tahiti	5
c45.		long				Eureka	7
33. (*)		Fruit: diameter					
	f	small				Mexicana	3
[34.]		medium				Lunario Ambrojo	5
c46.		large				Fino	7

	M _{CoE}	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
34.		Fruit: ratio					
(*)		length/diameter					
	f	small				Tahiti	3
[35.]		medium				Fino	5
c47.		large				Verna	7
35.		Fruit: position of					
(*)		broadest part					
	f	towards stalk end					1
[36.]		at middle				Fino	2
c48.		towards distal end					3
36.		Fruit: general shape					
(+)		of proximal part					
		(excluding neck,					
		collar and depres-					
		sion at stalk end)					
	f	flattened					1
		slightly rounded					2
[38.]		strongly rounded					3
c50.		tapered					4
37.		Fruit: presence of					
(*)		depression at stalk					
(+)		end (excluding					
		necked varieties)					
[39.]	f	absent				Lunario	1
c51.		present				Messina	9
38.		Fruit: depth of					
		depression at stalk					
		end (excluding					
		necked varieties)					
	f	shallow					3
[40.]		medium					5
c52.		deep					7

MCoE	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
39. (* (+)	Fruit: presence of neck					
[41.]	<input type="checkbox"/> absent				Lunario	1
c53.	present				Verna	9
40.	Fruit: length of neck					
	<input type="checkbox"/> short				Fino	3
[42.]	medium				Lisbon Frost	5
c54.	long				Verna	7
41. (+)	Fruit: general shape of distal part (excluding nipple, bulging of navel and depression at distal end)					
	<input type="checkbox"/> flattened				Messina	1
[53.]	slightly rounded				Eureka	2
c65.	strongly rounded				Verna	3
42. (* (+)	Fruit: presence of nipple					
[57.]	<input type="checkbox"/> absent				Mexicana, Tahiti	1
c69.	present				Verna Lemon	9
43.	Fruit: prominence of nipple					
	<input type="checkbox"/> weak				Messina	1
[58.]	medium				Fino	2
c70.	strong				Verna	3
44.	Fruit: diameter of stylar scar					
	<input type="checkbox"/> small					3
[64.]	medium					5
c74.	large					7

	M ^o E	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
45.		Fruit: persistence of style					
	f	none					1
<i>[64bis]</i>		partial					2
c76.		total					3
46.		Fruit: presence of radial grooves at distal end					
<i>[70.]</i>	f	absent					1
c80.		present					9
47.		Fruit: expression of radial grooves at distal end					
	f	weak					3
<i>[71.]</i>		medium					5
c81.		strong					7
48.		Fruit: variegation					
<i>[new]</i>	f	absent					1
c82.		present					2
49.		Fruit surface: predominant color					
	f	green					1
	g	yellow green				Tahiti	2
		light yellow				Fino	3
<i>[72.]</i>		medium yellow				Canaria	4
c83.		yellow orange				Variegado	5

	M _{0E}	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
50.		Fruit surface: glossiness					
(*)	f	absent or very weak					1
	g	weak					3
		medium					5
[75.]		strong					7
c86.		very strong					9
51.		Fruit surface: roughness					
	f	smooth				Lunario	3
[76.]	g	medium				Fino	5
c87.		rough				Campisi	7
52.		Fruit surface: size of oil glands					
[77.]	f	all more or less the same size					1
c88.	g	larger ones interspersed by smaller ones					2
53.		Fruit surface: size of larger oil glands					
	f	small					3
[78.]	g	medium					5
c89.		large					7
54.		Fruit surface: conspicuousness of larger oil glands					
	f	weak					3
[79.]	g	medium					5
c90.		strong					7

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
55.		Fruit surface: presence of pitting and pebbling on oil glands					
	f	pitting and pebbling absent					1
	g	pitting absent, pebbling present					2
[80.]		pitting present, pebbling absent					3
c91.		pitting and pebbling present					4
56.		Fruit surface: density of pitting on oil glands					
	f	sparse					3
[81.]	g	medium					5
c92.		dense					7
57. (*)		Fruit rind: thickness					
	f	thin					3
[85.]	g	medium				Messina, Mexicana	5
c96.		thick				Verna	7
58. (*)		Fruit rind: oiliness					
	f	dry					3
[88.]	g	medium					5
c99.		oily					7
59. (*)		Fruit: main color of flesh					
	f	light green				Tahiti	1
[97.]	h	light yellow				Eureka	2
c108.		medium pink				Variegado	3

	M _{0E}	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60.		Fruit: filling of core					
	f	absent or very sparse					1
		sparse				Messina	3
		medium				Lunario	5
[98.]		dense				Eureka	7
c110.		very dense				Fino	9
61.		Fruit: diameter of core					
	f	small				Fino	3
[99.]		medium					5
c111.		large				Santa Teresa	7
62.		Fruit: rudimentary segments					
	f	absent or weak					1
[100.]	h	intermediate					2
c112.		strong					3
63.		Fruit: number of well developed segments					
	f	few					3
[101.]	h	medium					5
c113.		many					7
64.		Fruit: strength of segment walls					
	f	weak					3
[103.]	h	medium					5
c115.		strong					7

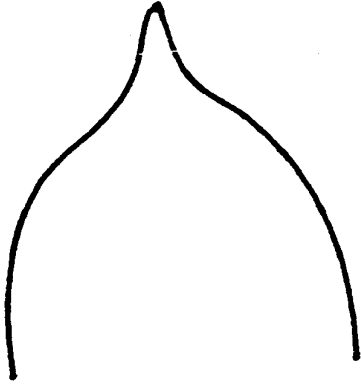
MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
65.	Fruit: length of juice vesicles					
	f short					3
[104.]	h medium					5
c116.	long					7
66.	Fruit: thickness of juice vesicles					
	f thin					3
[105.]	h medium					5
c117.	thick					7
67.	Fruit: conspicuousness of juice vesicle walls					
	f low					3
[106.]	h medium					5
c118.	high					7
68.	Fruit: coherence of juice vesicles					
	f weak					3
[107.]	h medium					5
c119.	strong					7
69.	Fruit: juice content					
	f low					3
[110.]	medium					5
c122.	high					7

	M ^o E	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
70.		Fruit juice: total soluble solids					
	f	low					3
<i>[111.]</i>		medium					5
c123.		high					7
71.		Fruit juice: acidity					
	f	low					3
<i>[112.]</i>		medium					5
c124.		high					7
72.		Fruit: strength of fibre					
	f	weak					3
<i>[113.]</i>		medium					5
c125.		strong					7
73.		Fruit: number of seeds (controlled self pollination)					
	f	absent or very few				Colima 03, Tahiti	1
		few					3
		medium					5
<i>[114.]</i>		many					7
c126.		very many					9
74.		Fruit: number of seeds (open pollination)					
(+)	f	absent or very few					1
		few					2
<i>[new]</i>		moderate					3
c127.		many					4

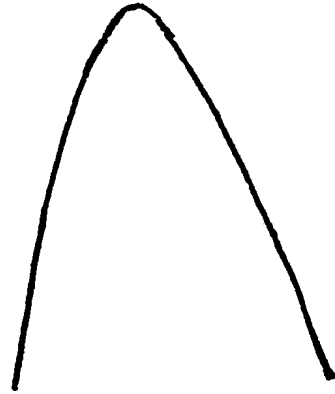
	M ₀ E	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
75. (*)		Seed: polyembryony					
[115.]	<input type="checkbox"/>	absent					1
c128.		present				Eureka	9
76. (*)		Flowering habit					
[124.]		flowering once				Fino	1
c136.		flowering more than once				Lunario, Mexicana	2
77. (*)		Time of maturity of fruit for consumption					
		early				Tahiti	3
[125.]		medium				Fino	5
c137.		late				Verna	7
78. (*)		Fruit: parthenocarpy					
[126.]	<input type="checkbox"/>	absent					1
c138.		present				Tahiti	9
79. (+)		Plant: self-incompatibility					
[127.]		absent					1
c139.		present				Tahiti	9

8. Explanations on the Table of Characteristics

Ad. 15 (c25.): Leaf blade: shape of apex



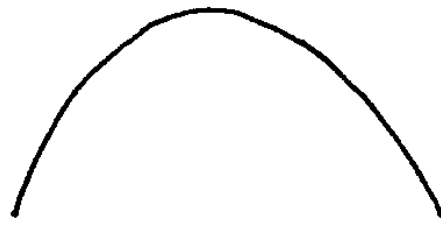
1
acuminate



2
acute

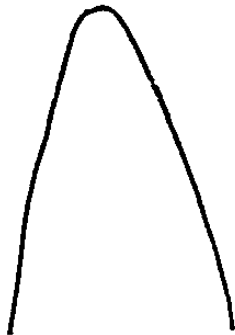


3
obtuse

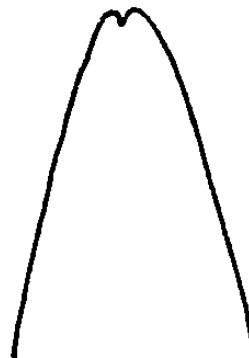


4
rounded

Ad. 16 (c26.): Leaf blade: emargination at tip

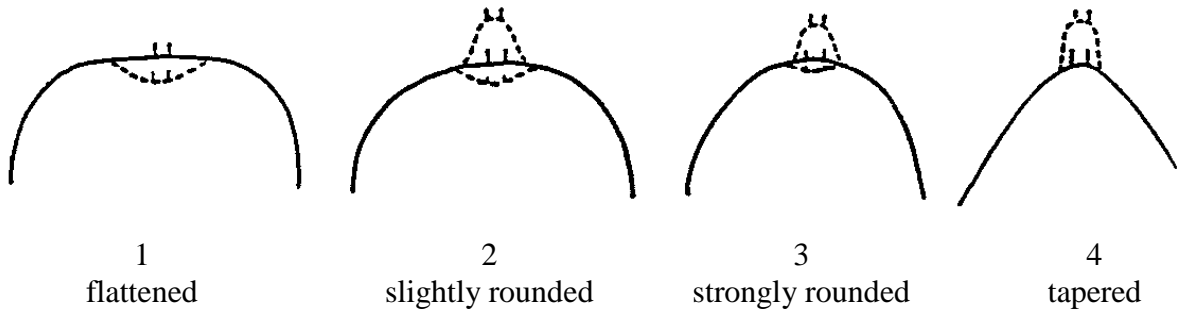


1
absent

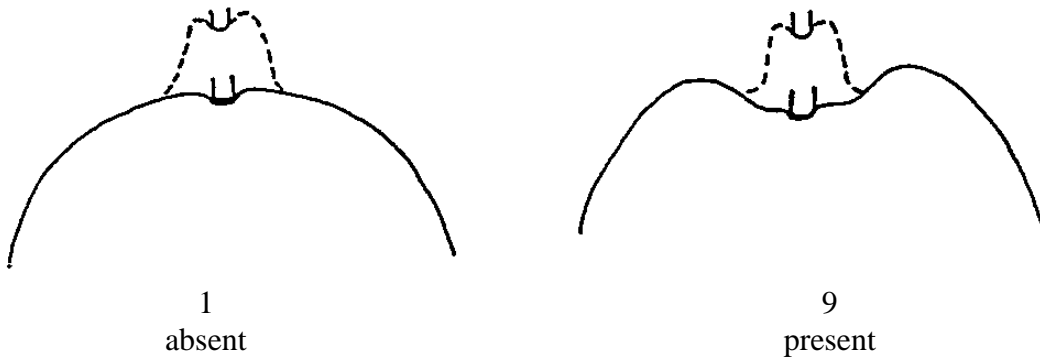


9
present

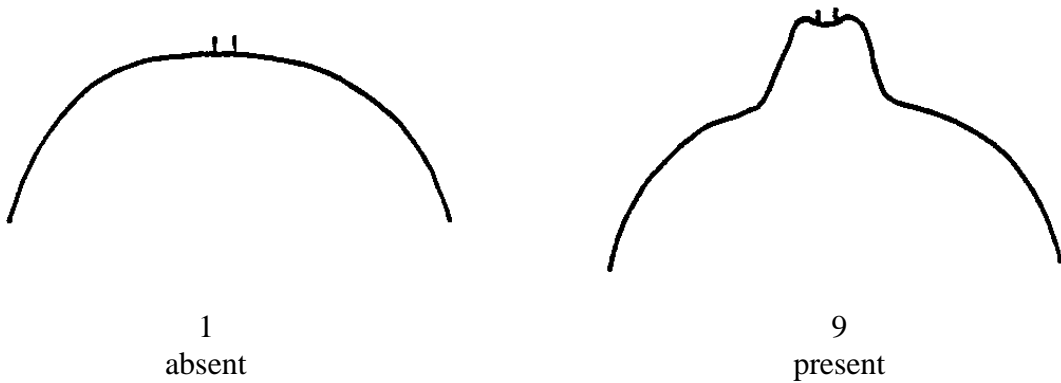
Ad. 36 (c50.): Fruit: general shape of proximal part (excluding neck, collar and depression at stalk end)



Ad. 37 (c51.): Fruit: presence of depression at stalk end (excluding necked varieties)



Ad. 39 (c53.): Fruit: presence of neck



Ad. 41 (c65.): Fruit: general shape of distal part (excluding nipple, bulding of navel and depression at distal end)



1
flattened



2
slightly rounded

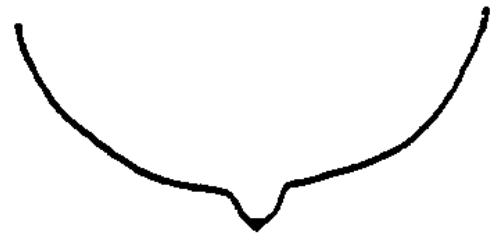


3
strongly rounded

Ad. 42 (c69.): Fruit: presence of nipple



1
absent



9
present

Ad. 74 (c127.): Fruit: number of seeds (open pollination)

Ad. 79 (c139.): Plant: self-incompatibility

LIST OF EXAMPLE VARIETIES FOR LEMONS AND LIMES

Variety denomination	Group or species	Observations
BEARSS	LAL	Tahiti, Lima de Persia
CANARIA	SWL	
CHAPARRO	LEM	
EUREKA	LEM	
CAMPISI	LEM	Feminello Campisi
FLOR DE ARANCIO	LEM	Feminello Flor de arancio
FINO	LEM	
LISBON FROST	LEM	
LUNARIO AMBROJO	LEM	
MESSARA	LEM	
MESSINA	LEM	
MEXICANA	SAL	Mexican Lime, limón mexicano
SANTA TERESA	LEM	
VARIEGADO	LEM	
VERNA	LEM	

9. Literature

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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

1.1 *Latin Name*

(a) <i>Citrus jambhiri</i> Lush. – RLM	[]
<i>Citrus limon</i> (L.) Burm. f. – LEM	[]
(b) <i>Citrus aurantiifolia</i> (Christm.) Swingle– SAL	[]
<i>Citrus limettioides</i> Tan. – SWL	[]
<i>Citrus latifolia</i> Tan. – LAL	[]
(c) Hybrid – HLL:	[]

1.2 Common Name

(a) Rough Lemons – RLM	[]
Lemons – LEM	[]
(b) Mexican Limes – SAL	[]
Sweet Limes – SWL	[]
Acid Limes – LAL	[]
(c) Hybrid – HLL:	[]

2. Applicant

Name

Address

Telephone No.

Fax No.

E-mail address

Breeder (if different from applicant)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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3. Proposed denomination and breeder's reference

Proposed denomination
(if available)

Breeder's reference

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)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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4.2 Method of Propagating the Variety

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 Young leaf: presence of anthocyanin coloration (5)		
absent	Flor de Arancio	1[]
present	Verna	9[]
5.2 Young leaf: intensity of anthocyanin coloration (6)		
weak	Tahiti	3[]
medium	Verna	5[]
strong		7[]
5.3 Fruit: length (32)		
short	Mexicana	3[]
medium	Tahiti	5[]
long	Eureka	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
5.4 Fruit: diameter		
(33)		
small	Mexicana	3[]
medium	Lunario Ambrojo	5[]
large	Fino	7[]
5.5 Fruit: presence of neck		
(39)		
absent	Lunario	1[]
present	Verna	9[]
5.6 Fruit: presence of nipple		
(42)		
absent	Mexicana, Tahiti	1[]
present	Verna Lemon	9[]
5.7 Fruit surface: predominant color		
(49)		
green		1[]
yellow green	Tahiti	
light yellow	Fino	3[]
medium yellow	Canaria	4[]
yellow orange	Variegado	5[]
5.8 Fruit: main color of flesh		
(59)		
light green	Tahiti	1[]
light yellow	Eureka	2[]
medium pink	Variegado	3[]
5.11 Time of maturity of fruit for consumption		
(77)		
early	Tahiti	3[]
medium	Fino	5[]
late	Verna	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
5.12 Fruit: parthenocarpy (78)			
absent			1[]
present		Tahiti	9[]
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>Plant: height</i>	<i>e.g. note 3</i>	<i>note 7</i>
		<i>e.g. short</i>	<i>tall</i>
		<i>e.g. 90 cm</i>	<i>130 cm</i>
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			

