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WORKING PAPER ON TEST GUIDELINES FOR MELON
(REVISION)

Document prepared by experts from Spain

<u>TABLE OF CONTENTS</u>		<u>PAGE</u>
I.	Subject of these Guidelines	3
II.	Material Required	3
III.	Conduct of Tests	3
IV.	Methods and Observations.....	4
V.	Grouping of Variety.....	7
VI.	Characteristics and Symbols	9
VII.	Table of Characteristics	10
VIII.	Explanations on the Table of Characteristics	36
IX.	Literature	37
X.	Technical Questionnaire	38

I. Subject of these Guidelines

These Test Guidelines apply to all edible varieties of *Cucumis melo* L.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed required for testing the variety 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 are complied with. As a minimum, for each year of test the following quantity of seed is recommended:

Formula

X= total number of growing trials	3
p=number of plants per growing trial	30
a= level of plant establishment/submitted seeds	1/3
Y = number of special tests	10
r = number of plants per test	60
b =level of plant establishment in test/submitted seed	1/2
Z =number of years of stock required for reference	10
s = rate of deterioration in store	0,60

Number of seeds required

$$N=X(p/a)+Y(r/b)+Z(p/as)=3*(30*3)+10*(60*2)+10*(30*3/0,6)=270+1200+1500=2970 - >3000 \text{ seeds}$$

Quantity of seeds required

$$Q=N/1000*TSW= \quad 2970*50/1000 = \quad 148,5\text{gr} \quad ? \quad 150 \text{ gr}$$

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pest or disease.

III. Conduct of Tests

1. The minimum duration of tests should be normally two independent growing cycles.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing cycle. As a minimum, each test should include a total of 20 plants which should be divided between two or more replicates. Separate plots for observation and for measuring should only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. All observations determined by measurement or counting should be made at least on 10 plants or parts of 10 plants per replication.

2. Distinctness

It is of particular importance for users of these Test Guidelines to consult TG/1/3 currently chapter 5 of TC/37/9 prior making decisions regarding distinctness.

3. Uniformity

For the assessment of uniformity a population standard of 2 % for open pollinated varieties and of 1 % for hybrid varieties with an acceptance probability of 95 % should be applied. Where the test is conducted on 20 plants, the maximum number of off-types allowed would be 1 for hybrid varieties whereas for open-pollinated varieties it would be 2.

4. Timing of Observations

- (a) All observations on the seedling should be made just before the development of the first leaf.

- (b) All observations on the leaf should be made on fully developed but not old leaves in internodes between the 5th and the 8th counting from the apex of main stem, and never in the 3 first internodes counting from the base of the stem.

- (c) All observations on the young fruit should be made on fruits with less than the half of the final size, preferently 7-10 cm of diameter. It is recommended to harvest one small fruit per plant to observe them in groups (for characteristics VG).

(The Netherlands experts have doubts about the necessity to make observations in this state instead of before maturity)

- (d) All observations of the fruit before maturity should be made when the fruit has almost reached its final size, but before the start of corking and the change of color. Can be assessed in fruits in the plant.

- (e) All observations of the fruit at over maturity should be made when the fruit has lost its commercial state.

- (f) All observations on the fruit except the precedent cases should be made on ripened fruit. It is convenient to harvest the fruits to observe them side by side. For the flesh characteristics it is recommended to wait at least a week after the harvesting before opening the fruits.

- (g) All observations on the seed, should be made on mature and dry seeds, after washing and drying in the shade.

5. Observations of Color

General Explanation about Different Components of Colors Characteristics

The color is defined for the resultant of three basic components: blue-green-red.

It is very difficult to quantify visually with sufficient precision each component which would be the exact form of define one color.

Existing indexes or ratios composed with the relative quantities of the components that are easier to perceive by the human eye:

the *saturation*: this is a parameter that indicates the vivacity of the colors. The bigger the difference between the quantity of the dominant and the less abundant component, the higher the saturation. The opposite concept is the *grey hue* of the colors, also named *glaucescence* in many crops, that is easy to observe;

the *brightness*: this parameter varies depending on the total quantity of the addition of both the dominant and the less abundant components. This opposite concept is the *intensity* of the color, easily assessed by eyes;

the *hue*: is determined by the relative proportion of 2 principal components: There is a continuous transition between adjacent hues. Others, non-adjacent hues are clearly separated. This type of characteristic can be considered as pseudo-qualitative or qualitative characteristics, depending on the types of hue that appear in one concrete crop. In the case of qualitative characteristic, it will be simply called “color”, as for the case of pseudo-qualitative, to be of possible use for grouping, it must be divided in two characteristics: one named “*color*”, that will join different hues in the common basic color, clearly different of all the others basic colors. One different characteristic would describe adjacent hues, and would be used not for grouping, but mainly for distinctness.

Examples in melon:

Color of young fruit (always green)

There are different *grey* hues (saturation), and different intensities (brightness). The basic color can be considered always green, but would be a lineal gradation from the yellowish hue (slight predominance of the red over the blue “perfect” green) (red and blue components in similar proportion). Bluish hues (when the blue component is slightly stronger than the red one) is not included in the possible expressions of this characteristic because no examples varieties are known by us. In order not to too much increase the number of characteristics, we propose to include in characteristic number 14, two authentic hues: (yellowish, and green). The expression *greyish* represents not a hue but a low saturation and the whitish varieties with a very light intensity of green, is not a significative hue.

Color of mature fruit

All the Galia type would be considered as yellow. Hues with a cream orange or greenish color can be considered into the group, but in a separate characteristic.

All the Charentais type would be considered as *grey*. Greenish, white or yellowish hues can be used for distinctness, but no recommended for grouping.

Color at over maturity.

Is always yellow (if there is change of color after the maturity). The differences would be in hue cream orange, greenish, or in intensity of the yellow color.

Changing of Colors in Melon

The growing fruit of melon can have one, two or three different colors. The speed of evolution of the color varies a lot depending on the group of the variety, but also into the same group. It is very difficult to conduct one or several occasions for observation that would be sufficient for characterizing all the varieties, as the description should include a complete information about an important grouping characteristic, without introducing differences in the description that could produce mistakes in the grouping.

These characteristics could be named as “dynamic” characteristics. A good solution could be to divide them in several qualitative characteristics, expressing the different steps in evolution of color, completed with the information of the speed of changing between the different steps.

Thus for melon the description of the colors could be:

1. color of the young fruit (stage 1)
2. speed of changing to color at maturity
3. color at maturity (stage 2)
4. speed of changing to color at over maturity
5. color at over maturity (stage 3).

The three stages mentioned must be considered in various ways. Thus, the description of the color in a stage must not vary for differences in the speed of changing (only if there is no change).

Some examples could illustrate these arguments:

Variety	Stage 1 color of the young fruit	Speed St1- >St2 Ch.26 color at maturity	Stage 2 Ch32	Speed St2- >St3 Ch.55	Stage 3 color at over maturity
Galia	Green	Slow	yellow	No	Yellow
Amarillo Oro	Green	Medium	yellow	No	yellow
Charentais	Green	Quick	grey	Quick	yellow
Alfa	Green	Quick	grey	Medium	yellow
Clipper	Green	Quick	grey	No	grey
Albino	Green	Medium	white	no	white
Dulcinea	Green	Medium	white	medium	yellow
Futuro	Green	No	green	quick	yellow
Piel de Sapo	Green	No	green	no	green

V. Grouping of Varieties

1. The collection to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics that are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly within a variety and which in their various states are fairly evenly distributed within the collection.

- (b) Characteristics to be used for grouping:
- (a) Fruit type: (according to upper table)
 - (b) Inflorescence: sex expression (characteristic 13)
 - (c) Young fruit: intensity of green color (characteristic 15) (*Netherlands propose not include*)
 - (d) Fruit before maturity: density of patches (characteristic 22)
 - (c) Fruit: ground color of skin at maturity (characteristic 32)
 - (e) Fruit: grooves: (characteristic 46)
 - (f) Fruit: density of pattern of cork formation (characteristic 53)
 - (g) Fruit: main color of flesh (characteristic 59)
 - (h) Seed: color (characteristic 67)
 - (f) Resistance to Fusarium o.m.Race 0

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (1 to 9), for the purposes of electronic data processing, are given opposite the states of the different characteristics.

3. Legend:

(*) Characteristics that should be used every growing cycle for the examinations of all varieties and should always be included in the description of the variety, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

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

- G Grouping characteristic
- QL Qualitative characteristic
- QN Quantitative characteristic
- PQ Pseudo-Qualitative characteristic
- MS Measurement of a number of individual plants or parts of plants
- VG Visual assessment of a group of plants or part of plants
- VS Visual assessment of a number of individual plants or part of plants
- A Observed in plant by plant
- B Observed in plot by plot
- C Observed in variety by variety

VII. Table of Characteristics/Tableau des caractères/Merkmaltabelle/Tabla de caracteres

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. VG QN	Seed: hypocotyledon length					
	very short (to delete)					
	short				Arava, Clipper	3
	medium				Doral, Futuro	5
	long				Bimbo, Ronda	7
very long (to delete)						
2. VG QN	Seed: size of cotyledons					
	very small (to delete)					1
	small				Candy, Lunasol	3
	medium				Futuro, Sancho	5
	large				Bimbo, Nicolás	7
very large (to delete)					9	

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
3.	VG	Seed: green color of cotyledons					
QN		light				Bimbo, Lucas	3
		medium				Candy, Piel de Sapo	5
		dark				Clipper, Lunasol	7
		Plant: number of nodes on main stem (up to 1st tendril) (Only interesting in open field, to delete)					
		few					3
		medium					5
		many					7
4.	VG	to delete (*) Leaf blade: size (in plant state of 7-10 nodes)					
QN		small				Geaprince, Lunasol,	3
		medium				Candy, Total	5
		large				Don, Subrero	7
5.	VG	Leaf blade: glaucescence	(Netherlands propose to name glossiness)				
QN		weak				Almerino, Gallardo	3
		medium				Doral, Toledo	5
		strong				Arava, Piel de Sapo,	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	VG	Leaf blade: intensity of green color				
QN		light			Fimel, Yuma	3
		medium			Doral, Galia	5
		dark			Gama, Gustal	7
7.	VG	Leaf blade: development of lobes				
(+)		weak			Boule d'or	3
QN		medium			Piel de Sapo	5
		strong			Galia	7
8.	VG	Leaf blade: length (Netherlands of terminal lobe propose to delete)				
(+)		short			Perlita	3
QN		medium			Clipper, Gama	5
		long			Gustal, Primal	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9.	Leaf blade: dentation of margin					
VG						
QN						
	weak				Clipper, Gama	3
	medium				Piel de Sapo	5
	strong				Portoluz	7
	Leaf blade: nodulation of margin to delete					
	weak					3
	medium					5
	strong					7
10.	Leaf blade: blistering					
VG						
QN						
	weak				Galia	3
	medium				Costa	5
	strong				Haros	7
11.	Petiole: attitude to delete	(Netherlands propose to keep it)				
	erect					3
	semi-erect					5
	horizontal					7

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12		Petiole: length					
QN	MS						
		short				Costa	3
		medium				Arava, Sancho	5
		long				Goldgen	7
13.		Inflorescence: sex expression					
G QL	VS						
		monoecius				Alpha, Categoría	1
		andromonoecius				Piel de Sapo	2
14.		Young fruit: hue of green color of skin	(Netherlands propose to observe it before maturity)				
PQ	VG						
		whitish				Geasol	1
		yellowish				Fimel	2
		green				Lucas	3
		greyish				Spanglia	4
15. (*)		Young fruit: intensity of green color of skin	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it only in green hue varieties)			
QN	VG						
		very light				Solarking	1
		light				Fimel	3
		medium				Eros	5
		dark				Galia	7
		very dark				Edén	9

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16.		Young fruit: density of dots (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it in all groups)			
QN	VG						
		absent or very sparse				Solarking	1
		sparse				Fimel	3
		medium				Lucas	5
		dense				Arava	7
		Very dense				Edén	9
17.		Young fruit: Size of dots (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it in all groups)			
QN	VG						
		small				Lucas	3
		medium				Arava	5
		big				Spanglia	7
18.		Young fruit: contrast of dots color/ground color (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it in all groups)			
QN	VG						
		weak				Lucas	3
		medium				Arava	5
		strong				Total	7

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19.		Young fruit: extension of grooves color (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it in all groups)	(Netherlands propose to add an explanation)		
QN	VS						
		absent or very weak				Solarking	1
		weak				Geaprince, Total	3
		medium				Gama	5
		strong				Clipper, Galia	7
		very strong				Nembo	9
20.		Young fruit: intensity of grooves color (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose to observe it before maturity)	(Netherlands propose to observe it in all groups)			
QN	VS						
		light					3
		medium				Gama, Topper	5
		dark				Century, Drake	7
21.		Young fruit: creasing of surface (Only in groups with densely corked fruit at maturity varieties)	(Netherlands propose not to add)				
(+) QN	VG						
		absent/very weak				Century	1
		weak				Total	3
		medium				Edén	5
		strong					7
		very strong					9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. (*) QNG	VG	Fruit before maturity: density of patches				
		absent or very weak			Rochet	1
		sparse				3
		medium			Braco	5
		dense			Piel de Sapo	7
		very dense				9
23. QNG	VG	Fruit before maturity: size of patches				
		small			Baltasar	3
		medium			Sancho	5
		big			Taurus	7
24. QNG	VG	Fruit before maturity: intensity of patches color				
		weak				3
		medium				5
		strong				7
25. QNG	VG	Fruit before maturity: green shoulder				
		absent or very weak			Doral	1
		weak			Boule d'or	3
		medium			Mirasol	5
		strong				7

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26.	VG	Speed of changing from green to ripen color		(Netherlands propose to add an explanation)			
QN		no change				Piel de Sapo	1
		slow				Galia	3
		medium				Doral, Eloro	5
		quick				Drake, Geaprince	7
27. (*)	MS	Fruit: length					
QN		very short				Doublon, Golden Crispy	1
		short				Topper, Total	3
		medium				Marina, Spanglia	5
		long				Categoría, Toledo	7
		very long				Katsura Giant, Valdivia	9
28. (*)	MS	Fruit: diameter					
QN		very narrow				Banana, Golden Crispy	1
		narrow				Alpha, Maestro	3
		medium				Categoría, Galia	5
		broad				Albino, Kinka	7
		very broad				Noir des Carmes	9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. (*)	Fruit: ratio length/diameter					
MS						
G						
QN						
	very small				Noir des Carmes	1
	very small to small				Arava, Clipper	2
	small				Buster, Galia	3
	small to medium				Aril, Edén	4
	medium				Doral, Tendral Negro	5
	medium to large				Sirocco, Verdol	6
	large				Categoría, Futuro	7
	large to very large				Iguana, Trujillo	8
	very large				Banana	9
30. (*) (+) PQ	Fruit: position of maximum width					
	toward blossom end				Edén, Katsura Giant	1
	at center				Piel de Sapo, Vedrantais	2
	toward stem end				Piolín , Sapo de Oro	3

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31. (*) (+) PQ	VG	Fruit: shape of longitudinal section				
		oblate			Jívaro	1
		circular			Galia	2
		ovate			Piolín	3
		broad elliptic (proposed by Netherlands)				
		elliptic			Piel de Sapo	4
		elongated			Banana	5
quadrangular (proposed by Italy)			Zatta	6		
32. (*) G QL	VG	Fruit: ground color of skin <u>at</u> maturity				
		white			Albino	1
		yellow			Galia	2
		green			Piel de Sapo	4
		grey			Vedrantais	5

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33.	Fruit: hue of skin color at maturity					
VG						
PQ						
	whitish				(Charentais type)	
	yellowish				(Charentais type)	
	orange				Edén (Ananá type)	
	ochre				Passport (Galia type)	
	creme				(Charentais type)	
	greenish				Geamar (Charentais type), Solarking (Galia type), Honey Dew (White type)	
	greyish				Clipper (Charentais type)	
34.	Fruit: intensity of ground color of skin at maturity					
VG						
QN						
	light					3
	medium					5
	dark					7
	To delete Fruit: secondary colors of skin					
	absent					1
	present					9
	To delete Fruit: distribution of secondary color of skin					
	in dots					1
	in dots and in patches					2

	Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35.	VS	Fruit: density of dots	(Netherlands propose to delete)				
QN		Only in not or slightly corked types					
		absent or very sparse				Charentais	1
		sparse					3
		medium					5
		dense				Piel de Sapo	7
		very dense				Albino	9
36.	VG	Fruit: color of the dots					
Q							
		white				Edén	
		yellow				Piel de Sapo	
		green				Tendral Negro	
37.	VS	Fruit: intensity of the yellow color of the dots					
QN							
		light				Kinka, Mesol	
		medium				Sapiel, Toledo	
		dark				Soprano, Víctor	
38.	VS	Fruit: Size of the dots (Only in not or slightly corked types)	(Netherlands propose not to add)				
QN							
		small				Doral	
		medium				Toledo	
		big				Futuro	

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
	Fruit: density of patches (to delete)	To be observed before of maturity				
	absent or very sparse					
	sparse					3
	medium					5
	dense					7
	very dense					
	Fruit: size of the patches (to delete)	To be observed before of maturity				
	small					3
	medium					5
	big					7
39.	VG	Fruit: warts (Proposed by Italy)				
Q		absent			Piel de Sapo	1
		present			Zatta	9
40.	MS	Fruit: length of peduncle				
QN		short			Lince Haros	3
		medium			Arava, Romeo	5
		long			Corín	7
41.	MS	Fruit: thickness of peduncle 1 cm from fruit (Netherlands propose to delete)				
QN		thin				3
		medium				5
		thick				7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42. (*)	VS	Fruit: abscission of peduncle				
QN						
		absent or very weak			Daimiel, Eloro	1
		weak			Clipper, Costa	3
		medium			Doral, Gama, Vedrantais	5
		strong			Arava, Maestro	7
		Very strong			Edén	
43. (*)	VS	Fruit: shape of base				
PQ						
		pointed			Edén	1
		rounded			Arava	2
		flattened			Zatta	3
44. (*)	VS	Fruit: shape of apex				
PQ						
		pointed			Futuro	1
		rounded			Alpha	2
		flattened			Noir des Carmes	3
45. (*)	VS	Fruit: size of pistil scar				
QN						
		small			Alpha, Categoría	3
		medium			Charentais, Eros, Verdol	5
		large			Colmo, Drake	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46. (*) VG Q	Fruit: grooves					
	absent or very weak				Piel de Sapo	1
	present				Vedrantais	9
	Fruit: maximum width between grooves (to delete)					
	narrow					3
	medium					5
	broad					7
47. VS QN	Fruit: width of grooves					
	narrow				Auraprince	3
	medium				Biga	5
	broad				Nembo, Sirio	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
48.	Fruit: depth of grooves					
VS						
QN						
	very shallow				Amber	1
	shallow				Galia	3
	medium				Alpha	5
	deep				Panamá	7
	very deep				Noir des Carmes	9
49.	Fruit: creasing of surface					
(*)	VS					
(+)						
QN						
	absent or very weak				Vedrantaïs	1
	weak				Melchor, Sirocco	3
	medium				Costa, Piolín	5
	strong				Tendral Negro	7
	very strong					9
50.	Fruit: cork formation (to delete)	(Netherlands propose to keep it)				
(*)						
	absent					1
	present					9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
51. (*) QN VS	Fruit: thickness of cork layer					
	very thin					1
	thin				Riosol	3
	medium				Marina	5
	thick				Geamar	7
	very thick				Honey Rock	9
52. (*) PQ VS	Fruit: pattern of cork formation					
	in small dots				Hermes, Vedrantaïs	1
	dots and linear				Jívaro, Topper	2
	linear				Futuro, Riosol	3
	linear and netted				Anatol, Chantal	4
	netted				Galia, Perlita	5
53. (*) QN G VS	Fruit: density of pattern of cork formation					
	absent or very sparse	(Netherlands propose only very sparse)			Alpha, Amarillo Oro	1
	sparse				Vedrantaïs	3
	medium				Regal, Vital	5
	dense				Galia, Geamar	7
	very dense				Honey Rock, Perlita	9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
54. (*)	To delete asterisk					
Q	VG	Fruit: color of grooves/ground skin				
	similar				Galia	1
	different				Vedrantais	2
.	To delete	To observe in young fruit				
	Fruit: intensity of color of grooves					
	light					3
	medium					5
	large					7
55.	Fruit: Speed of changing to over maturity color					
QN	VG					
	no change				Clipper, Doral, Galia, Honey dew, Piel de Sapo	
	slow				Dulcinea, Goloso	3
	medium				Futuro, Vendôme	5
	quick				Corin, Marina, Nembo	7
56.	Fruit at over maturity: Hue of yellow color (only in the case of changed color)					
PQ	VG					
	yellow				Futuro, Marina	3
	orange				Drake, Gama	5
	cream				Figaro, Vendôme	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
57.	Fruit at over maturity:					
QN	Intensity of color					
VS	(only in the case of changed color)					
	light					3
	medium					5
	dark					7
58.	Fruit: maximum width of flesh in cross section					
(+)	thin				Gama	3
	medium				Toledo	5
	thick				Tito	7
	Fruit: maximum width of thin outer layer of flesh in cross section (to delete)					
	thin					3
	medium					5
	thick					7
59.	Fruit: <u>main color</u> of flesh					
(*)	white				Piel de Sapo	1
	green				Galia	2
	orange				Vedrantais	3

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60.	Fruit: salmon hue of flesh					
QN	(Only for green and white flesh types)					
VS	absent or very weak				Gustal	1
	weak				Floraprince, Toledo	3
	medium				Arizo, Eloro	5
	strong					7
61.	Fruit: intensity of main color of flesh					
(+)						
QN	light					3
VS	medium					5
	dark					7
	To delete					
	Fruit: color of flesh of <u>outer layer</u>					
	cream					1
	green					2
	orange					3
63.	Fruit: Firmness of the flesh	(Netherlands ask to give an explanation on how to assess)				
QN						
VS	soft				Galia, Marina	
	medium				Sancho, Supporter	
	firm				Braco, Geamar	

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota	
64.	Seed: length						
	MS						
QN							
	very short				Golden Crispi	1	
	short				Katsura Giant	3	
	medium				Arava, Sancho	5	
	long				Amarillo Oro, Toledo	7	
	very long				Albino	9	
65.	Seed :width						
	MS						
QN							
	very narrow				Golden Crispi		
	narrow				Aurabel		
	medium				Arava, Sancho		
	llarge				Amarillo Oro	7	
	very large				Ronda	9	
	To delete						
	Seed: shape at hilum end						
	sharply pointed						
	bluntly pointed						
	To delete						
	Seed: shape of cross section						
	narrow elliptic						
	elliptic						

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
66.	Seed: shape					
(+) PQ VS						
	Not pine-nut shape				Toledo	10
	Pine-nut shape				Piel de Sapo	2
67.	Seed: color					
(*) VG G Q						
	ivory				Amarillo Oro s.b.	1
	cream-yellow				Piel de Sapo	2
68.	Seed: intensity of color	(Netherlands propose not to add)				
VG QN						
	light				Goldgen	3
	medium				Galia	5
	dark				Doral	7
69.	Time of male flowering					
MS QN						
	early				Clipper, Vital	3
	medium				Categoría	5
	late				Nicolás, Rocín	7
70.	Time of female flowering					
MS QN						
	early				Clipper	
	medium				Categoría, Braco, Vital	
	late				Nicolás	

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
71.	Time of ripening					
	MS					
QN						
	early					
	medium					
	late					
72.	Conservation of fruits					
QN						
VS						
	short	(Netherlands propose to add an explanation)			Charentais, Galia	3
	medium				Clipper	5
	long				Piel de Sapo	7
	very long				Tendral Negro	9
73.	Resistance to <u>race</u> <u>0</u> of <i>Fusarium oxysporum</i> f. sp. <i>melonis</i>					
(+)						
	absent				Jaune Canari 2	1
	present				Jador, Joker, Vedrantaïs	9
74.	Resistance to <u>race</u> <u>1</u> of <i>Fusarium oxysporum</i> f. sp. <i>melonis</i>					
(+)						
	absent				Jaune Canari 2, Vedrantaïs	1
	present				Jador, Joker	9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
75.	Resistance to <u>race</u>					
(+)	<u>2</u> of Fusarium oxysporum f. sp. Melonis					
	absent				Jaune Canari 2, Joker	1
	present				Jador, Vedrantaï	9
76.	Resistance to <u>race</u>					
(+)	<u>1-2</u> of Fusarium oxysporum f. sp. melonis					
	absent				Jaune Canari2 Joker, Vedrantaï	1
	present				Jador	9
77.	Resistance to Sphaeroteca fuliginea	(Netherlands propose to gives races and define a protocol)				
	absent				Piel de Sapo	
	present				Eloro	
78.	Resistance to colonization by <u>Aphis gossypii</u>					
(+)						
	absent				Charentais	1
	present				AR, Margot, Top Mark	9
79.	Resistance to <u>race</u>					
(+)	<u>F</u> of Zucchini Yellow Mosaic Virus (ZYMV)					
	absent				Alpha, Boule d'Or Cantor, Doublon	1
	present				Eloro, Hermes, Vedrantaï	9

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
80.	Resistance to <u>race</u>					
(+)	<u>GVA</u> of Papaya					
	Ringspot Virus (PRV)					
	absent				Vedrantais	1
	present				WMRV 29, 72025	9
81.	Resistance to <u>race</u>					
(+)	<u>E₂</u> of Papaya					
	Ringspot Virus (PRV)					
	absent				Vedrantais, 72025	1
	present				WMRV 29	9
82.	Resistance to <u>race</u>					
(+)	<u>E_{g.}</u> of Muskmelon					
	Necrotic Spot Virus (MNSV)					
	absent				Vedrantais	1
	present				Primal, VA 435	9

VIII. Explanations on the Table of Characteristics

To add the pictures of TG104/4 for characteristics 7, 8, 30, 49

To change picture of TG104/4 for characteristic 31

To add a new picture for characteristic 29: Fruit: ratio (length / width)

To add an explanation with a photo for characteristic 66: Seed shape

Not to include the explanation for characteristics 47, 50

Not to include the explanation about stage of maturity

IX. Literature

INVUFLEC, 1976: "Le melon cantaloup", publication de l' Institut National de Vulgarisation pour les fruits, légumes et champignons, FR (191 pp.)

CTIFL, 1985: "Melon, marché et techniques de production", publication du Centre technique interprofessionnel des fruits et légumes, FR (270 pp.)

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>	
1. Species	<p style="text-align: center;"><i>Cucumis melo</i> L. MELON</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	
4. Information on origin, maintenance and reproduction of the variety	
4.1 Method of maintenance and reproduction	
4.2 Other information	

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in the Test Guidelines; please mark the state of expression which best corresponds).

Characteristics	Example Varieties	Note
5.1 Inflorescence: sex expression (13)		
monoecius	Alpha, Categoría	1[...]
andromonoecius	Piel de Sapo	2[...]
5.2 Young fruit: intensity of green color of skin (15)		
very light	Solarking	1[...]
light	Fimel	3[...]
medium	Eros	5[...]
dark	Galia	7[...]
very dark	Eden	9[...]
5.3 Fruit before maturity: density of patches (22)		
absent or very weak	Rochet	1[...]
sparse		3[...]
medium	Braco	5[...]
dense	Piel de Sapo	7[...]
very dense		9[...]

Characteristics	Example Varieties	Note
5.4 Fruit: ratio length/diameter (29)		
very small	Noir des Carmes	1[...]
very small to small	Arava, Clipper	2[...]
small	Buster, Galia	3[...]
small to medium	Aril, Edén	4[...]
medium	Doral, Tendral Negro	5[...]
medium to large	Sirocco, Verdol	6[...]
large	Categoría, Futuro	7[...]
large to very large	Iguana, Trujillo	8[...]
very large	Banana	9[...]
5.5 Fruit: shape of longitudinal section (31)		
oblate	Jívaro	1[...]
circular	Galia	2[...]
ovate	Piolín	3[...]
broad elliptic		
elliptic	Piel de Sapo	4[...]
elongated	Banana	5[...]
quadrangular	Zatta	6[...]
5.4 Fruit: ground color of skin <u>at maturity</u> (32)		
white	Albino	1[...]
yellow	Galia	2[...]
green	Piel de Sapo	4[...]
grey	Vedrantsais	5[...]

Characteristics	Example Varieties	Note
5.6 Fruit: grooves (46)		
absent or very weak	Piel de Sapo	1[]
present	Vedrantaís	9[]
5.7 Fruit: pattern of cork formation (52)		
in small dots	Hermes, Vedrantaís	1[]
dots and linear	Jívaro, Topper	2[]
linear	Futuro, Riosol	3[...]
linear and netted	Anatol, Chantal	4[...]
netted	Galia, Perlita	5[...]
5.8 Fruit: density of pattern of cork formation (53)		
absent or very sparse	Hermes, Vedrantaís	1[]
sparse	Jívaro, Topper	3[...]
medium	Futuro, Riosol	5[...]
dense	Anatol, Chantal	7[...]
very dense	Galia, Perlita	9[]
5.9 Fruit: <u>main color</u> of flesh (59)		
white	Piel de Sapo	1[...]
green	Galia	2[...]
orange	Vedrantaís	3[...]
5.10 Seed:color (67)		3[...]
ivory	Amarillo oro s.b.	1[...]
cream-yellow	Piel de Sapo	2[...]

Characteristics		Example Varieties	Note
5.11 (72)	Conservation of fruits		
	short	Charentais, Galia	3[...]
	medium	Clipper	5[...]
	long	Piel de Sapo	7[...]
	very long	Tendral Negro	9[...]
6. Similar varieties and differences between these varieties			
Denomination of similar variety	Characteristic in which the similar variety is different ^{o)}	State of expression of similar variety	State of expression of candidate variety
^{o)} In the case of identical states of expressions of both varieties, please indicate the size of the difference.			
7. Additional information which may help to distinguish the variety			
7.1 Resistance to pests and diseases			
7.2 Type of fruit (according table)			
7.3 Shape of the seed (specially for green fruit types)			
7.4 Speed of changing color at over-maturity			

7.5 Special conditions for the examination of the variety

7.6 Other information

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 that question is yes, please attach a copy of such an authorization.

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