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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

CHICKPEA *

UPOV Code(s): CICER_ARI

Cicer arietinum L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from France

to be considered by the

Technical Committee at its fifty-sixth session
to be held in Geneva on October 26 and 27, 2020

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Cicer arietinum L.	Chickpea	Pois chiche	Kichererbse	Garbanzo

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

ASSOCIATED DOCUMENTS

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

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

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Cicer arietinum* L.

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 seeds.

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

5,000 seeds

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

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

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

3. Method of Examination

3.1 Number of Growing Cycles

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

3.1.2 The two independent growing cycles should be in the form of two separate plantings.

3.1.3 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 100 plants, which should be divided between at least 2 replicates.

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

3.5 Additional Tests

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants or Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts of plants taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

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

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

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

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

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

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

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

4.2 Uniformity

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

4.2.2 These Test Guidelines have been developed for the examination of seed-propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of seed-propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 100 plants, 3 off-types are allowed.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

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

5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

(a) Time of flowering (characteristic 8)
(b) Flower: color (characteristic 9)
(c) Seed: color (characteristic 15)
(d) Seed: shape (characteristic 18)
(e) Seed: ribbing (characteristic 19)

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

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 States of Expression and Corresponding Notes

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

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

State	*Note*
small	3
medium	5
large	7

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

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

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1 **2**	**3** **4**	**5** **6**	**7**			
	Name of characteristics in English	**Nom du caractère en français**	**Name des Merkmals auf Deutsch**	**Nombre del carácter en español**		
	states of expression	types d'expression	Ausprägungsstufen	tipos de expresión		

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression
QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)
MG, MS, VG, VS – see Chapter 4.1.5

5 (+) See Explanations on the Table of Characteristics in Chapter 8.2

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

7 Not applicable

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	**(*)**	**QN VG**	**(a)**				
		Plant: habit	**Plante : port**	**Pflanze: Wuchsform**	**Planta: hábito**		
		erect	dressé	aufrecht	erecto	Olga, Tauriton	1
		semi-erect	demi-dressé	halbaufrecht	semierecto	Flamenco, Lambada, Rondo, Twist	3
		prostrate	étalé	liegend	postrado	Lechoso, Solera	5
2.	**(*)**	**QN VG**	**(+) (a)**				
		Plant: ramification	**Plante : ramification**	**Pflanze: Verzweigung**	**Planta: ramificación**		
		weak	faible	gering	escasa	Castor	3
		medium	moyenne	mittel	media	Flamenco, Lechoso, Puchero, Rondo	5
		strong	forte	stark	abundante	Tauriton	7
3.	**(*)**	**QN MS/VG**	**(a)**				
		Plant: height	**Plante : hauteur**	**Pflanze: Höhe**	**Planta: altura**		
		short	courte	niedrig	baja	Castor	3
		medium	moyenne	mittel	media	Tauriton	5
		tall	haute	hoch	alta	Fardon	7
4.	**(*)**	**QL VG**	**(a)**				
		Stem: anthocyanin coloration	**Tige : coloration anthocyanique**	**Stängel: Anthocyanfärbung**	**Tallo: pigmentación antociánica**		
		absent	absente	fehlend	ausente	Benito, Twist	1
		present	présente	vorhanden	presente	Castor, Elmo, Olga	9
5.	**(*)**	**QN VG**	**(a)**				
		Foliage: intensity of green color	**Feuillage : intensité de la couleur verte**	**Laub: Intensität der Grünfärbung**	**Follaje: intensidad del color verde**		
		light	claire	hell	clara	Benito	3
		medium	moyenne	mittel	media	Elvar	5
		dark	foncée	dunkel	oscura	Tizon	7
6.	**(*)**	**QN MS/VG**	**(+) (a)**				
		Leaflet: size	**Foliole : taille**	**Fiederblatt: Größe**	**Folíolo: tamaño**		
		very small	très petite	sehr klein	muy pequeño	Castor	1
		small	petite	klein	pequeño	Elmo, Melgar	3
		medium	moyenne	mittel	medio	Lambada	5
		large	grande	groß	grande	Benito	7
		very large	très grande	sehr groß	muy grande		9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7.	**(*)**	**QL** **VG**	**(+)**				
		Leaf: type	**Feuille : type**	**Blatt: Typ**	**Hoja: tipo**		
		bipinnate	bipenné	doppelt gefiedert	bipinnada	Benito, Castor	1
		pinnate	penné	gefiedert	pinnada	Royal, Sierra	2
8.	**(*)**	**QN** **MG**	**(+)**				
		Time of flowering	**Époque de floraison**	**Zeitpunkt der Blüte**	**Época de floración**		
		very early	très précoce	sehr früh	muy temprana	Benito	1
		early	précoce	früh	temprana	Amethyst, Italica	3
		medium	moyenne	mittel	intermedia	Kaveri	5
		late	tardive	spät	tardía	Tizon, Twist	7
		very late	très tardive	sehr spät	muy tardía	Salsa	9
9.	**(*)**	**QL** **VG**					
		Flower: color	**Fleur : couleur**	**Blüte: Farbe**	**Flor: color**		
		white	blanche	weiß	blanco	Benito, Twist	1
		purplish pink	rose pourpre	purpurrosa	rosa purpúreo	Amethyst, Castor	2
10.	**(*)**	**QN** **MS/VG**	**(+)** **(b)**				
		Pod: peduncle length	**Gousse : longueur du pédoncule**	**Hülse: Länge des Stiels**	**Vaina: longitud del pedúnculo**		
		short	courte	kurz	corta	Elmo	1
		medium	moyenne	mittel	media	Twist	2
		long	longue	lang	larga	Tauriton	3
11.	**(*)**	**QN** **MS/VG**	**(b)**				
		Pod: size	**Gousse : taille**	**Hülse: Größe**	**Vaina: tamaño**		
		very small	très petite	sehr klein	muy pequeño	Castor	1
		small	petite	klein	pequeño	Elmo	3
		medium	moyenne	mittel	medio	Duraton	5
		large	grande	groß	grande	Lechoso	7
		very large	très grande	sehr groß	muy grande	Italica	9
12.		**QN** **VG**	**(b)**				
		Pod: intensity of green color	**Gousse : intensité de la couleur verte**	**Hülse: Intensität der Grünfärbung**	**Vaina: intensidad del color verde**		
		light	claire	hell	clara	Benito	3
		medium	moyenne	mittel	media	Twist	5
		dark	foncée	dunkel	oscura	Tizon	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13.		**QN MS/VG**	**(+) (b)**				
		Pod: length of beak	**Gousse : longueur du bec**	**Hülse: Länge des Schnabels**	**Vaina: longitud del pico**		
		short	courte	kurz	corta	Elmo	1
		medium	moyenne	mittel	media	Elvar, Twist	2
		long	longue	lang	larga	Garbine	3
14.	**(*)**	**QN MS**	**(+) (b)**				
		Pod: number of seeds	**Gousse : nombre de graines**	**Hülse: Anzahl Samen**	**Vaina: número de semillas**		
		predominantly one	essentiellement une	vorwiegend einer	predominantemente una	Lechoso	1
		one and two	une et deux	einer und zwei	una y dos	Olga	2
		predominantly two	essentiellement deux	vorwiegend zwei	predominantemente dos	Elmo	3
15.	**(*)**	**PQ VG**	**(+)**				
		Seed: color	**Graine : couleur**	**Samen: Farbe**	**Semilla: color**		
		whitish	blanchâtre	weißlich	blanquecino	Benito, Lechoso	1
		yellow	jaune	gelb	amarillo	Castor	2
		greyed brown	brun-gris	graubraun	marrón grisáceo	Twist	3
		brown	brune	braun	marrón	Amethyst	4
		reddish brown	brun rougeâtre	rötlichbraun	marrón rojizo	Olga	5
		brownish green	vert brunâtre	bräunlichgrün	verde amarronado	CDC Jade	6
		black	noire	schwarz	negro	Elmo	7
16.		**QN VG**					
		Excluding varieties with Seed: color: black: Seed: intensity of color	**À l'exclusion des variétés à Graine : couleur : noire : Graine : intensité de la couleur**	**Ohne Sorten mit Samen: Farbe: schwarz: Samen: Intensität der Farbe**	**Excluidas las variedades con Semilla: color: negro: Semilla: intensidad del color**		
		light	claire	hell	clara		1
		medium	moyenne	mittel	media		2
		dark	foncée	dunkel	oscura		3
17.	**(*)**	**QN MG**	**(+)**				
		Seed: weight	**Graine : poids**	**Samen: Gewicht**	**Semilla: peso**		
		very low	très petit	sehr gering	muy bajo	Castor	1
		low	petit	gering	bajo	Elmo	3
		medium	moyen	mittel	medio	Twist	5
		high	élevé	hoch	alto	Benito	7
		very high	très élevé	sehr hoch	muy alto	Italica, Ituci, Lechoso	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18.	**(*)**	**PQ VG**	**(+)**				
		Seed: shape	**Graine : forme**	**Samen: Form**	**Semilla: forma**		
		round	ronde	rund	redonda	Olga, Vulcano	1
		round to angular	ronde à angulaire	rund bis winklig	entre redonda y angular	Flamenco, Twist	2
		angular	angulaire	winklig	angular	Amethyst, Castor	3
19.	**(*)**	**QN VG**	**(+)**				
		Seed: ribbing	**Graine : sinuosités**	**Samen: Rippung**	**Semilla: acostillado**		
		absent or very weak	absentes ou très faibles	fehlend oder sehr gering	ausente o muy débil	Fardon, Olga	1
		weak	faibles	gering	débil	Tauriton	3
		medium	moyennes	mittel	medio	Twist	5
		strong	fortes	stark	fuerte	Benito	7
		very strong	très fortes	sehr stark	fuerte	Castor, Italica, Ituci, Lechoso	9
20.	**(*)**	**QN MG**	**(+)**				
		Time of seed maturity	**Époque de maturité du grain**	**Zeitpunkt der Samenreife**	**Época de madurez de las semillas**		
		very early	très précoce	sehr früh	muy temprana	Amethyst	1
		early	précoce	früh	temprana	Inmaculada, Lerma	3
		medium	moyenne	mittel	intermedia	Rondo, Tauriton	5
		late	tardive	spät	tardía	Twist	7
		very late	très tardive	sehr spät	muy tardía	Reale	9

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a) Observations should be made at the time of flowering.

(b) Observations should be made at the green stage of seeds fully developed in size.

8.2 Explanations for individual characteristics

Ad. 2: Plant: ramification

3
weak

5
medium

7
strong

Ad. 6: Leaflet: size

3
small

5
medium

7
large

Ad. 7: Leaf: type

1
bipinnate

2
pinnate

Ad. 8: Time of flowering

The time of flowering is reached when 80% of plants present at least one flower.

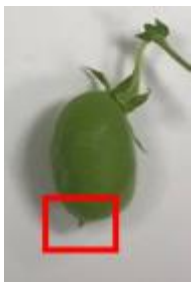
Ad. 10: Pod: peduncle length

1
short

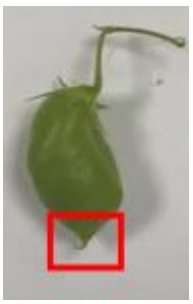
2
medium

3
long

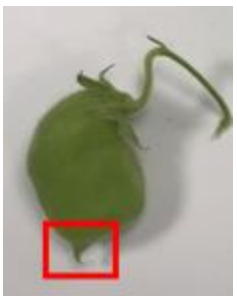
Ad. 13: Pod: length of beak



1
short



2
medium



3
long

Ad. 14: Pod: number of seeds

percentage of pods with at least 2 seeds

≤ 10%	between 10% to 60%	> 60%
predominantly one	one and two	predominantly two
1	2	3

Ad. 15: Seed: color

1
whitish

2
yellow

3
greyed brown

4
brown

5
reddish brown

6
brownish green

7
black

Ad. 17: Seed: weight

Measure two samples of 100 seeds per replicate.

Ad. 18: Seed: shape

1
round

2
round to angular

3
angular

Ad. 19: Seed: ribbing

1
absent or very weak

3
weak

5
medium

7
strong

9
very strong

Ad. 20: Time of seed maturity

Observations should be made one month after harvest.

9. Literature

Canadian Food Inspection Agency, 2017: Instructions particulières : Procédures d'inspection des cultures de semences de légumineuses - Annexe III : Pois chiche - description et illustrations https://www.inspection.gc.ca/protection-des-vegetaux/semences/methodes-d-inspection/legumineuses-a-grains/fra/1347350063134/1347350364579#app3

ICRISAT, ICARDA, IBPGR, 1985: Chick-pea descriptors. IBPGR Secretariat. Rome, IT, 15 pp.

Maesen, L.J.G. van der, 1972: *Cicer* L., a monograph of the genus with special reference to the chick-pea (*C. arietinum* L.), its ecology and cultivation". Meded. Landbouwhogeschool. Wageningen, NL, 72, pp. 1-136

Saxena, M.C. and Singh, K.B., 1987: The Chick-pea. C.A.B. International (ICARDA). SY, 409 pp.

Smartt, J., 1990: Grain Legumes (especially Chapter 6: "Pulses of the classical world, pp. 176-244), Cambridge University Press, Cambridge, GB

10. Technical Questionnaire

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

	Application date: (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1 Botanical name	*Cicer arietinum* L.
1.2 Common name	Chick-Pea

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:

[#]4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]

(b) partially known cross [ ]

(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(Please provide details)

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

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

4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

(a) Self-pollination [ ]
(b) Inbred line [ ]
(c) Other (please provide details) [ ]

4.2.2 Other [ ]
(Please provide details)

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

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 (1)	**Plant: habit**		
	erect	Olga, Tauriton	1 [ ]
	erect to semi-erect		2 [ ]
	semi-erect	Flamenco, Lambada, Rondo, Twist	3 [ ]
	semi-erect to prostrate		4 [ ]
	prostrate	Lechoso, Solera	5 [ ]
5.2 (2)	**Plant: ramification**		
	very weak		1 [ ]
	very weak to weak		2 [ ]
	weak	Castor	3 [ ]
	weak to medium		4 [ ]
	medium	Flamenco, Lechoso, Puchero, Rondo	5 [ ]
	medium to strong		6 [ ]
	strong	Tauriton	7 [ ]
	strong to very strong		8 [ ]
	very strong		9 [ ]
5.3 (3)	**Plant: height**		
	very short		1 [ ]
	very short to short		2 [ ]
	short	Castor	3 [ ]
	short to medium		4 [ ]
	medium	Tauriton	5 [ ]
	medium to tall		6 [ ]
	tall	Fardon	7 [ ]
	tall to very tall		8 [ ]
	very tall		9 [ ]
5.4 (7)	**Leaf: type**		
	bipinnate	Benito, Castor	1 [ ]
	pinnate	Royal, Sierra	2 [ ]

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

	Characteristics	Example Varieties	Note
5.5 (8)	**Time of flowering**		
	very early	Benito	1 [ ]
	very early to early		2 [ ]
	early	Amethyst, Italica	3 [ ]
	early to medium		4 [ ]
	medium	Kaveri	5 [ ]
	medium to late		6 [ ]
	late	Tizon, Twist	7 [ ]
	late to very late		8 [ ]
	very late	Salsa	9 [ ]
5.6 (9)	**Flower: color**		
	white	Benito, Twist	1 [ ]
	purplish pink	Amethyst, Castor	2 [ ]
5.7 (14)	**Pod: number of seeds**		
	predominantly one	Lechoso	1 [ ]
	one and two	Olga	2 [ ]
	predominantly two	Elmo	3 [ ]
5.8 (15)	**Seed: color**		
	whitish	Benito, Lechoso	1 [ ]
	yellow	Castor	2 [ ]
	greyed brown	Twist	3 [ ]
	brown	Amethyst	4 [ ]
	reddish brown	Olga	5 [ ]
	brownish green	CDC Jade	6 [ ]
	black	Elmo	7 [ ]

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

	Characteristics	Example Varieties	Note
5.9 (17)	**Seed: weight**		
	very low	Castor	1 [ ]
	very low to low		2 [ ]
	low	Elmo	3 [ ]
	low to medium		4 [ ]
	medium	Twist	5 [ ]
	medium to high		6 [ ]
	high	Benito	7 [ ]
	high to very high		8 [ ]
	very high	Italica, Ituci, Lechoso	9 [ ]
5.10 (18)	**Seed: shape**		
	round	Olga, Vulcano	1 [ ]
	round to angular	Flamenco, Twist	2 [ ]
	angular	Amethyst, Castor	3 [ ]
5.11 (19)	**Seed: ribbing**		
	absent or very weak	Fardon, Olga	1 [ ]
	very weak to weak		2 [ ]
	weak	Tauriton	3 [ ]
	weak to medium		4 [ ]
	medium	Twist	5 [ ]
	medium to strong		6 [ ]
	strong	Benito	7 [ ]
	strong to very strong		8 [ ]
	very strong	Castor, Italica, Ituci, Lechoso	9 [ ]
5.12 (20)	**Time of seed maturity**		
	very early	Amethyst	1 [ ]
	very early to early		2 [ ]
	early	Inmaculada, Lerma	3 [ ]
	early to medium		4 [ ]
	medium	Rondo, Tauriton	5 [ ]
	medium to late		6 [ ]
	late	Twist	7 [ ]
	late to very late		8 [ ]
	very late	Reale	9 [ ]

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6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the **similar** variety(ies)	Describe the expression of the characteristic(s) for **your** candidate variety
Example	*Plant: ramification*	*medium*	*strong*

Comments:

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

[#]7. Additional information which may help in the examination of the variety

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

Yes [ ] No [ ]

(If yes, please provide details)

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

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

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

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

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

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

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

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

Please provide details for where you have indicated “yes”.

.....

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

Applicant’s name

Signature Date

[End of document]