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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

LENTIL

UPOV Code : LENSS_CUL

Lens culinaris Medik.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from France

to be considered by the

Technical Working Party for Vegetables
at its forty-seventh session, to be held in Nagasaki, Japan, from May 20 to 24, 2013

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Lens culinaris Medik.	Lentil	Lentille	Linse	Lenteja

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.]

TABLE OF CONTENTS PAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Lens culinaris* Medik..

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 seed.

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

500 g or at least 10 000 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

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

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~~ 150 plants.

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

3.5 Additional Tests

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts 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 second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

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

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

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

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

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

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

4.2 Uniformity

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

4.2.2 The assessment of uniformity should be according to the recommendations for cross-pollinated varieties in the General Introduction.

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) Cotyledon: color (characteristic 1)
(b) Plant: anthocyanin coloration (characteristic 3)
(c) Flower: color of standard (characteristic 12)
(d) Dry seed: number of colors (characteristic 23)
(e) Dry seed: main color of seed (characteristic 24)

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

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 States of Expression and Corresponding Notes

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

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

State	Note
small	3
medium	5
large	7

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

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

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

(+) See Explanations on the Table of Characteristics in Chapter 8.1

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)**	**VG**	**Cotyledon: color**	**Cotyledon : couleur**	**Keimblatt: Farbe**	**Cotiledón: color**		
QL		orange	orange	orange	naranja	Lentillon rosé d'hiver, Rosana, Rozovaya	1
		greenish yellow	jaune verdâtre	grünlichgelb	amarillo verdoso	Anicia, Mariette, Petrovskaya 4/105	2
		green	vert	grün	verde	Petrovskaya zelenozjornaya	3
2. **(+)**	**VG**	**Plant: habit**	**Plante : port**	**Pflanze: Wuchsform**	**Planta: porte**		
QL		erect	érigé	aufrecht	erecto	Petrovskaya 4/105	1
		semi erect	demi-érigé	halbaufrecht	semierecto	Anicia	3
		horizontal	horizontal	waagerecht	horizontal	Cheephlic 7/76	5
3. **(*)**	**VG**	**Plant: anthocyanin coloration**	**Plante : pigmentation anthocyanique**	**Pflanze: Anthocyanfärbung**	**Planta: pigmentación antociánica**		
QL		absent	absente	fehlend	ausente	PSE 2	1
		present	présente	vorhanden	presente	Anicia, Lentillon rosé d'hiver	9
4. **(*)**	**VG**	**Plant: height (at flowering)**	**Plante : hauteur (à la floraison)**	**Pflanze: Höhe (zum Zeitpunkt der Blüte)**	**Planta: altura (en floración)**		
QN		short	basse	niedrig	baja	Lentillon rosé d'hiver	3
		medium	moyenne	mittel	media	Anicia, Cheephlic 7/76	5
		tall	haute	hoch	alta	Mariette, Petrovskaya 4/105	7
		very tall	très haute	sehr hoch	muy alta	Vehovskaya	9
5.	**VG**	**Plant: intensity of ramification**	**Plante : intensité de la ramification**	**Pflanze: Stärke der Verzweigung**	**Planta: intensidad de ramificación**		
QN		weak	faible	gering	débil	Vehovskaya	3
		medium	moyenne	mittel	media	Cheephlic 7/76	5
		strong	forte	stark	fuerte	Lentillon rosé d'hiver	7
6. **(+)**	**VG**	**Leaf: shape**	**Feuille : forme**	**Blatt: Form**	**Hoja: forma**		
		elliptic	elliptique	elliptisch	elíptica	Talinskaya 88	1
		ovate	ovale	oval	oval	Petrovskaya 4/105	2
		rectangular	rectangulaire	rechteckig	rectangular	Vehovskaya	3
7.	**VG**	**Leaf: intensity of green color**	**Feuille : intensité de la couleur verte**	**Blatt: Intensität der Grünfärbung**	**Hoja: intensidad del color verde**		
QN		light	claire	hell	claro	Santa, Vehovskaya	3
		medium	moyenne	mittel	medio	Anicia	5
		dark	foncée	dunkel	oscuro	Lentillon rosé d'hiver, Petrovskaya zelenozjornaya	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
~~**8.**~~	~~**VG**~~	~~**Leaf: number of leaflets**~~	~~**Feuille : nombre de folioles**~~	~~**Blatt: Anzahl Fiederblätter**~~	~~**Hoja: número de foliolos**~~		
~~**QN**~~		~~few~~	~~rares~~	~~gering~~	~~bajo~~		~~3~~
		~~medium~~	~~moyennes~~	~~mittel~~	~~medio~~		~~5~~
		~~many~~	~~nombreuses~~	~~groß~~	~~alto~~	~~Anicia, Lentillon rosé d'hiver~~	~~7~~
9.	**VG**	**Leaflet: size**	**Foliole : taille**	**Fiederblatt: Größe**	**Foliolo: tamaño**		
QN		small	petite	klein	pequeño	Santa	3
		medium	moyenne	mittel	medio	Anicia	5
		large	grande	groß	grande	Lentillon rosé d'hiver	7
10.	**VG**	**Raceme: number of flowers per node**	**Grappe : nombre de fleurs par noeud**	**Blütenstand: Anzahl Blüten je Knoten**	**Racimo: número de flores por nudo**		
QN		one	une	eine	uno		1
		one to two	une à deux	eine bis zwei	uno a dos		2
		two	deux	zwei	dos	Cilaos, Lentillon rosé d'hiver	3
		two to three	deux à trois	zwei bis drei	dos a tres	Anicia, Petrovskaya 4/105	4
		three	trois	drei	tres	Dora, Flora	5
		more than three	plus de trois	mehr als drei	más de tres	PSE 2, Trebiso	6
11.	**VG**	**Flower: size**	**Fleur : taille**	**Blüte: Größe**	**Flor: tamaño**		
QN		small	petite	klein	pequeño	Cilaos	3
		medium	moyenne	mittel	medio	Gilda	5
		large	grande	groß	grande	Claudette, Dora, Petrovskaya 4/105	7
12. (*)	**VG**	**Flower: color of standard**	**Fleur : couleur de l'étendard**	**Blüte: Farbe der Fahne**	**Flor: color del estandarte**		
QL		white	blanc	weiß	blanco	Mariette, Naslada, PSE 2	1
		pink	rose	rosa	rosa		2
		blue	bleu	blau	azul	Azer, Nigricans	3
13.	**VG**	**Flower: violet stripes of standard**	**Fleur : stries violettes de l'étendard**	**Blüte: violette Streifen der Fahne**	**Flor: estrías violetas del estandarte**		
QL		absent	absentes	fehlend	ausentes	Mariette, Okula	1
		present	présentes	vorhanden	presentes	Anicia, Lentillon rosé d'hiver	9
14.	**VG**	**Flower: violet stripes of wings**	**Fleur : stries violettes des ailes**	**Blüte: violette Streifen der Flügel**	**Flor: estrías violetas de las alas**		
QL		absent	absentes	fehlend	ausentes	Anicia, Lentillon rosé d'hiver	1
		present	présentes	vorhanden	presentes	*Lens culinaris ssp. macrosperma*	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15.	**VG**	**Pod: intensity of color (before dry harvest maturity)**	**Gousse : intensité de la couleur (avant la maturité de récolte sèche)**	**Hülse: Intensität der Farbe (vor der Trockenreife)**	**Vaina: intensidad del color (antes de la madurez para la cosecha de la vaina seca)**		
QN		light	claire	hell	clara	Mariette	3
		medium	moyenne	mittel	media	Anicia, Lentillon rosé d'hiver	5
		dark	foncée	dunkel	oscura		7
16.	**VG**	**Pod: number of ovules**	**Gousse : nombre d'ovules**	**Hülse: Anzahl Samenanlagen**	**Vaina: número de óvulos**		
QN		~~mainly one~~	~~principalement un~~	~~vorwiegend eine~~	~~principalmente uno~~		~~1~~
		one to two	un à deux	eine bis zwei	uno a dos	Anita, Tina	2
		mainly two	principalement deux	vorwiegend zwei	principalmente dos	Lentillon rosé d'hiver	3
		two to three	deux à trois	zwei bis drei	dos a tres	Anicia	4
		~~mainly three~~	~~principalement trois~~	~~vorwiegend drei~~	~~principalmente tres~~		~~5~~
17. (*)	**VG**	**Pod: color at dry harvest maturity**	**Gousse : couleur à maturité de récolte sèche**	**Hülse: Farbe zum Zeitpunkt der Trockenreife**	**Vaina: color en el momento de la madurez para la cosecha de la vaina seca**		
QL		yellow	jaune	gelb	amarillo	Anicia, Lentillon rosé d'hiver	1
		green	verte	grün	verde		2
		2 options to discuss about charac. 17: either delete the * or delete this whole characteristic					
18. (*)	**VG**	**Pod: length at dry harvest maturity (without beak)**	**Gousse : longueur à maturité de récolte sèche (sans le bec)**	**Hülse: Länge zum Zeitpunkt der Trockenreife (ohne Zahn)**	**Vaina: longitud en el momento de la madurez para la cosecha de la vaina seca (sin pico)**		
QN		short	courte	kurz	corta	Anicia, Lentillon rosé d'hiver	3
		medium	Moyenne	mittel	media	Mariette	5
		long	longue	lang	larga		7
19.	**VG**	**Pod: width (at dry harvest maturity)**	**Gousse : largeur à maturité de récolte sèche**	**Hülse: Breite zum Zeitpunkt der Trockenreife**	**Vaina: anchura en el momento de la madurez para la cosecha de la vaina seca**		
QN		~~very~~ narrow	très étroite	sehr schmal	muy estrecha	Lentillon rosé d'hiver	1
		~~narrow~~ medium	étroite	schmal	estrecha	Anicia	~~3~~ 2
		~~medium~~ broad	moyenne	mittel	media	Blonette, Dora, Mariette	~~5~~ 3
		~~broad~~	~~large~~	~~breit~~	~~ancha~~		~~7~~

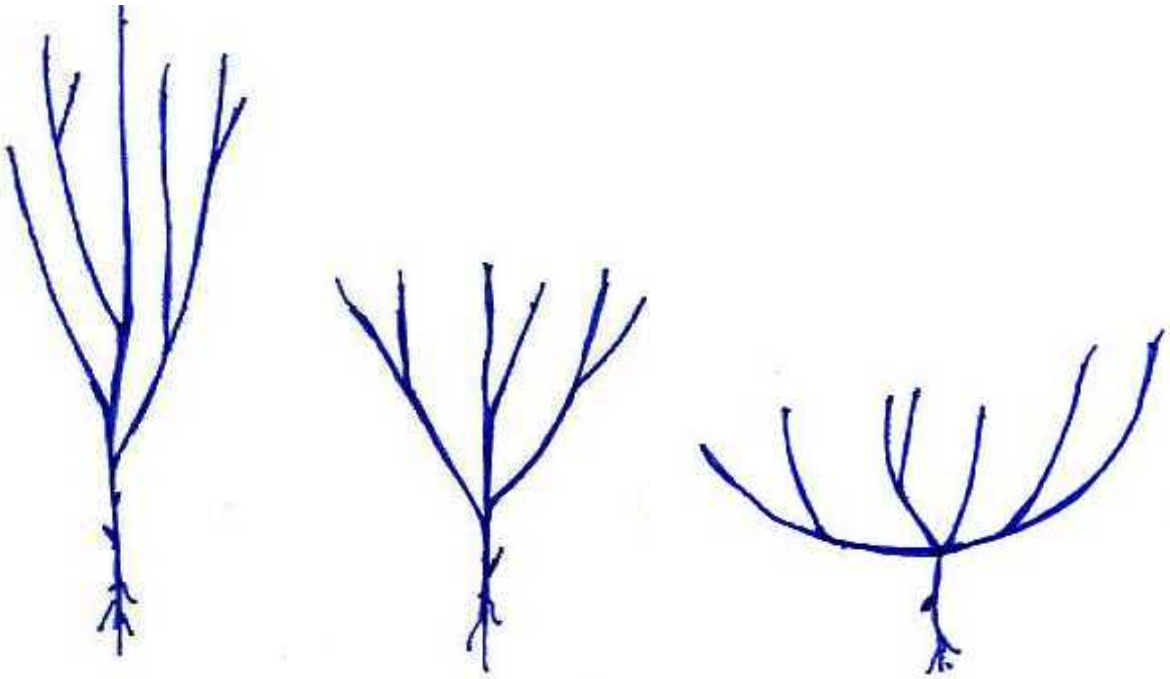
		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
~~**20.**~~ ~~**(+)**~~	~~**VG**~~	~~**Pod: shape of apex (at dry harvest maturity)**~~	~~**Gousse : forme du sommet (à maturité de récolte sèche)**~~	~~**Hülse: Form der Spitze (zum Zeitpunkt der Trockenreife)**~~	~~**Vaina: forma del ápice (en el momento de la madurez para la cosecha de la vaina seca)**~~		
~~**QL**~~		~~truncate~~	~~tronquée~~	~~abgeflacht~~	~~truncada~~	~~Anicia, Lentillon rosé d'hiver~~	~~1~~
		~~truncate to pointed~~	~~tronquée à pointue~~	~~abgeflacht bis zugespitzt~~	~~entre truncada y puntiaguda~~		~~2~~
		~~pointed~~	~~pointue~~	~~zugespitzt~~	~~puntiaguda~~		~~3~~
21. **(*)**	**VG**	**Dry seed: width**	**Graine sèche : largeur**	**Trockenkorn: Breite**	**Grano seco: anchura**		
QN		very narrow	très étroite	sehr schmal	muy estrecha	Nigricans	1
		narrow	étroite	schmal	estrecha	Lentillon rosé d'hiver	3
		medium	moyenne	mittel	media	Anicia	5
		broad	large	breit	ancha	Mariette	7
		very broad	très large	sehr breit	muy ancha		9
22. **(*)**	**VG**	**Dry seed: profile in longitudinal cross section**	**Graine sèche : profile en section transversale longitudinale**	**Trockenkorn: Profil im Längsschnitt**	**Grano seco: perfil en sección transversal longitudinal**		
QL		elliptic	elliptique	elliptisch	elíptico	Petrovskaya 4/105	1
		broad elliptic	elliptique large	breit elliptisch	elíptico ancho	PSE 2	2
23. **(*)**	**VG**	**Dry seed: number of colors**	**Graine sèche : nombre de couleurs**	**Trockenkorn: Anzahl Farben**	**Grano seco: número de colores**		
QL		one	une	eine	uno	Grisette, Lentillon rosé d'hiver	1
		two	deux	zwei	dos	Anicia	2
		more than two	plus de deux	mehr als zwei	más de dos		3
24. **(*)**	**VG**	**Dry seed: main color of ~~testa~~ seed**	**Graine sèche: couleur principale ~~du tégument~~ de la semence**				
PQ		~~white~~	~~blanc~~	~~weiß~~	~~blanco~~	~~PSE 2~~	~~1~~
		greenish yellow	jaune verdâtre	grünlichgelb	amarillo verdoso	Anita, Petrovskaya 4/105, Pisarevska velkoznna	1
		green	vert	grün	verde	Anicia, Petrovskaya zelenozjornaya, Tina	2
		pink	rose	rosa	rosa	Rosovaya	3
		ochre	ocre	ockerfarben	ocre	Lentillon rosé d'hiver	4
		black	noir	schwarz	negro	Nigricans	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25. **(+)**	**VG**	**Varieties with more than one testa color only: Dry seed: type of ornamentation**	**Variétés à plus d'une couleur de tégument seulement: graine sèche : type d'ornementation**	**Nur Sorten mit mehr als einer Samenschalenfarbe: Trockenkorn: Typ der Ornamentierung**	**Sólo variedades con más de un color en la testa: Grano seco: tipo de ornamentación**		
QL		patches	taches	gefleckt	manchas	Naryadnaya 3	1
		spots	macules	gepunktet	lunares	Cilaos	2
		marbled	marbrée	marmoriert	marmórea	Petrovskaya 4/105	3
		complex	complexe	komplex	compleja		4
26. **(*)**	**VG**	**Dry seed: weight**	**Graine sèche : poids**	**Trockenkorn: Gewicht**	**Grano seco: peso**		
QN		very low	très faible	sehr niedrig	muy bajo	Lentillon rosé d'hiver	1
		low	faible	niedrig	bajo	Anicia, Azer	3
		medium	moyen	mittel	medio	Anita, Petrovskaya 4/105	5
		high	élevé	hoch	alto	Mariette, Petrovskaya 6, Tina	7
		very high	très élevé	sehr hoch	muy alto	Vehovskaya	9
27. **(*)**	**VG**	**Time of flowering**	**Époque de floraison**	**Zeitpunkt der Blüte**	**Época de floración**		
QN		very early	très précoce	sehr früh	muy temprana	Naslada	1
		early	précoce	früh	temprana	Anicia, Anita, Tina	3
		medium	moyenne	mittel	media	Mariette, Petrovskaya 4/105	5
		late	tardive	spät	tardía	Nigricans	7
		very late	très tardive	sehr spät	muy tardía	Lentillon rosé d'hiver	9
~~**28.**~~	~~**VG**~~	~~**Time of maturity**~~	~~**Époque de maturité**~~	~~**Zeitpunkt der Reife**~~	~~**Época de madurez**~~		
~~**QN**~~		~~early~~	~~précoce~~	~~früh~~	~~temprana~~	~~Cheephlic 7/76~~	~~3~~
		~~medium~~	~~moyenne~~	~~mittel~~	~~media~~	~~Petrovskaya 4/105~~	~~5~~
		~~late~~	~~tardive~~	~~spät~~	~~tardía~~		~~7~~
		~~very late~~	~~très tardive~~	~~sehr spät~~	~~muy tardía~~	~~Lentillon rosé d'hiver~~	~~9~~

8. Explanations on the Table of Characteristics

8.1 Explanations for individual characteristics

Ad. 2: Plant: habit

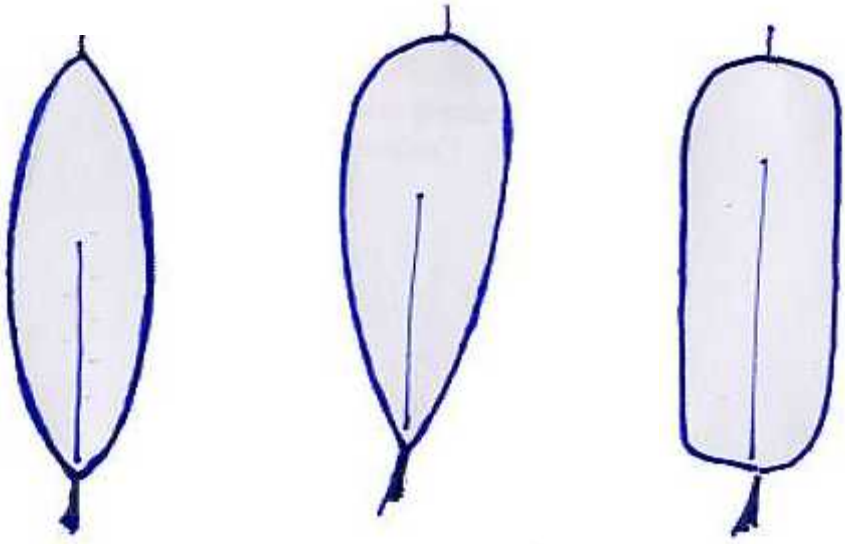


1
erect

3
semi erect

5
horizontal

Ad. 6: Leaf: shape

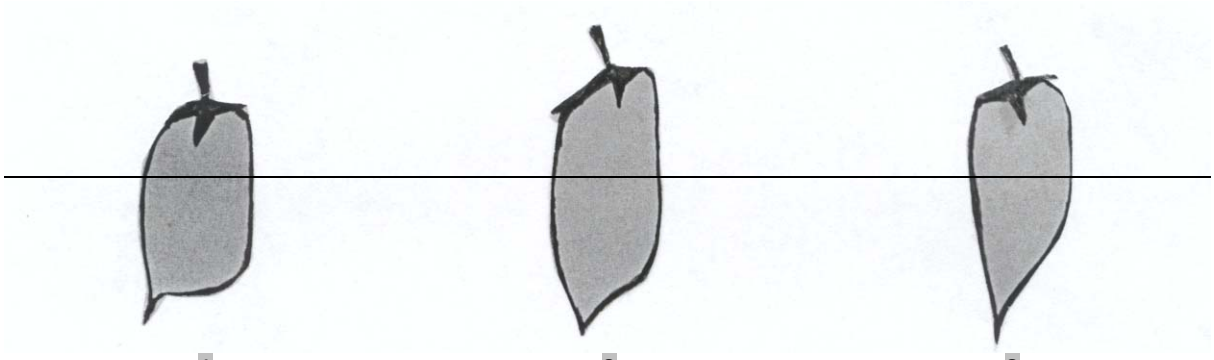


1
elliptic

2
ovate

3
rectangular

~~Add. 20 : Pod: shape of apex (at dry harvest maturity)~~



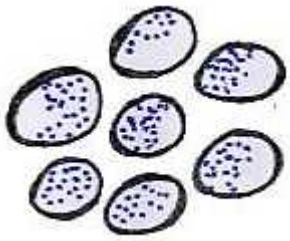
~~1~~
~~truncate~~

~~2~~
~~Truncate to pointed~~

~~3~~
~~pointed~~

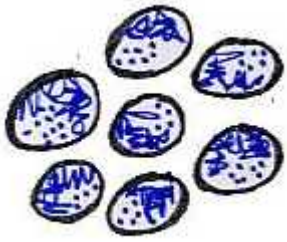
Ad. 25: Varieties with more than one testa color only: Dry seed: type of ornamentation

1
patches



2
spots

3
marbled



4
complex

9. Literature

Webb, C., and Hawtin, G. (Editors), 1981: Lentils, Commonwealth Agricultural Bureaux, Farnham Royal, Slough SL 2 3BN, United Kingdom, ISBN 0 85198 475 4

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	*Lens culinaris* Medik.
1.2 Common name	Lentil

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

4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

(a)	Self-pollination	[ ]
(b)	Cross-pollination	
	(i) population	[ ]
	(ii) synthetic variety	[ ]
(c)	Hybrid	[ ]
(d)	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)	**Cotyledon: color**		
	orange	Lentillon rosé d'hiver Rosana, Rozovaya	1[ ]
	greenish yellow	Anicia, Mariette, Petrovskaya 4/105	2[ ]
	green	Petrovskaya zelenozjornaya	3[ ]
5.2 (3)	**Plant: anthocyanin coloration**		
	absent	PSE 2	1[ ]
	present	Anicia, Lentillon rosé d'hiver	9[ ]
5.3 (12)	**Flower: color of standard**		
	white	Mariette, Naslada, PSE 2	1[ ]
	pink		2[ ]
	blue	Azer, Nigricans	3[ ]
5.4 (21)	**Dry seed: width**		
	very narrow	Nigricans	1[ ]
	very narrow to narrow		2[ ]
	narrow	Lentillon rosé d'hiver	3[ ]
	narrow to medium		4[ ]
	medium	Anicia	5[ ]
	medium to broad		6[ ]
	broad	Mariette	7[ ]
	broad to very broad		8[ ]
	very broad		9[ ]
5.5 (22)	**Dry seed: profile in longitudinal cross section**		
	elliptic	Petrovskaya 4/105	1[ ]
	broad elliptic	PSE 2	2[ ]

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

	Characteristics	Example Varieties	Note
5.6 (24)	**Dry seed: main color of seed**		
	greenish yellow	Anita, Petrovskaya 4/105, Pisarevska velkoznna	1[ ]
	green	Anicia, Petrovskaya zelenozjornaya, Tina	2[ ]
	pink	Rosovaya	3[ ]
	ochre	Lentillon rosé d'hiver	4[ ]
	black	Nigricans	5[ ]
5.7 (26)	**Dry seed: weight**		
	very low	Lentillon rosé d'hiver	1[ ]
	very low to low		2[ ]
	low	Anicia, Azer	3[ ]
	low to medium		4[ ]
	medium	Anita, Petrovskaya 4/105	5[ ]
	medium to high		6[ ]
	high	Mariette, Petrovskaya 6, Tina	7[ ]
	high to very high		8[ ]
	very high	Vehovskaya	9[ ]
5.8 (27)	**Time of flowering**		
	very early	Naslada	1[ ]
	very early to early		2[ ]
	early	Anicia, Anita, Tina	3[ ]
	early to medium		4[ ]
	medium	Mariette, Petrovskaya 4/105	5[ ]
	medium to late		6[ ]
	late	Nigricans	7[ ]
	late to very late		8[ ]
	very late	Lentillon rosé d'hiver	9[ ]

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

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			

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

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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

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

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

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

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

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

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

……

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]