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Technical working party for VEGETABLES

Forty-Eighth Session
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Comments concerning the draft test guidelines for Lentil (document TG/210/2(proj.2))

Document prepared by an expert from France

Disclaimer: this document does not represent UPOV policies or guidance

This document contains a working draft with comments of document TG/210/2(proj.2).

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| Geneva |
| DRAFT |

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|  | **LENTIL**UPOV Code : **LENSS\_CUL***Lens culinaris* Medik. | [[1]](#footnote-2)\* |

**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 Paestum, Italy, from June 23 to 27, 2014

Alternative Names:\*

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

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| --- |
| 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.

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# Subject of these Test Guidelines

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

# 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.

# 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

3.3.1The 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.

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.

# 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.

# 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);

Caracteristics “Dry seed : width” and “dry seed : weight” are correlated 🡺Cancellation of the characteristic “Dry seed : width”

(b) Plant: anthocyanin coloration (characteristic 3);

(c) Flower: color of standard (characteristic 11 ~~12~~);

(~~d) Dry seed : width (characteristic 21);~~

~~(e) Dry seed: number of colors (characteristic 23);~~

(d) Dry seed: main color of ~~testa~~ seed (characteristic 19 ~~24~~);

(e) Dry seed : weight (characteristic 21 ~~26~~)

(f) Time of flowering (characteristic 22 ~~27~~)

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”.

# 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.

Highlighted and underlined : additions proposed

~~Highlighted and strikethrough~~ : deletions

Highlighted in green : variety present in PLUTO

Written in red : variety present in PLUTO, with the status “EXPIRED”, “SURRENDERED”, “TERMINATED” everywhere

Written in blue : variety unknown in PLUTO (and also in CPVO variety finder)

***🡺Proposition to keep only the example varieties highlighted in green as the varieties written in red or in blue are “available to all”***

# Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

|  |  | English | français | deutsch | español | Example VarietiesExemplesBeispielssortenVariedades ejemplo | Note/Nota |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (\*) | VG | **Cotyledon: color** | **Cotyledon : couleur** | **Keimblatt: Farbe** | **Cotiledón: color** |  |  |
| **~~QL~~PQ** |  | orange  | orange | orange | naranja | Lentillon rosé d’hiver, Rozovaya , Rosana | 1 |
|  |  | greenish yellow | jaune verdâtre | grünlichgelb | amarillo verdoso | Anicia, Mariette, Petrovskaya 4/105 | 2 |
|  |  | green | vert | grün | verde | Petrovskaya zelenozjornaya  | 3 |
| (+) | VG | **Plant: habit** | **Plante : port** | **Pflanze: Wuchsform** | **Planta: porte** |  |  |
| **~~QL~~QN** |  | erect | érigé | aufrecht | erecto | Petrovskaya 4/105 | 1 |
|  |  | semi erect | demi‑érigé | halbaufrecht | semierecto | Anicia | 3 |
|  |  | horizontal | horizontal | waagerecht | horizontal | Cheephlic 7/76 | 5 |
| (\*) | 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 |
| (\*) | VG | **Plant: height (~~at flowering)~~** | **Plante : hauteur~~(à la floraison)~~** | **Pflanze: Höhe ~~(zum Zeitpunkt der Blüte)~~** | **Planta: altura~~(en floración)~~** |  |  |
| **QN** | **(a)** | 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 |
|  | 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 |
| (+) | VG | **Leaf: shape** | **Feuille : forme** | **Blatt: Form** | **Hoja: forma** |  |  |
| **PQ** |  | elliptic | elliptique | elliptisch | elíptica | Talinskaya 88 | 1 |
|  |  | ovate | ovale | oval | oval | Petrovskaya 4/105 | 2 |
|  |  | rectangular | rectangulaire | rechteckig | rectangular | Vehovskaya | 3 |
| (\*) | 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 | Vehovskaya, Santa | 3 |
|  |  | medium | moyenne | mittel | medio | Anicia | 5 |
|  |  | dark | foncée | dunkel | oscuro | Lentillon rosé d’hiver, Petrovskaya zelenozjornaya | 7 |
|  | ~~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~~ |
| 8  | 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 |
| 9  | 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 | Lentillon rosé d’hiver, Cilaos | 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 |
| 10  | 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 |
| **11 (\*)** | **VG** | **Flower: color of standard** | **Fleur : couleur de l’étendard** | **Blüte: Farbe der Fahne** | **Flor: color del estandarte** |  |  |
| **~~QL~~PQ** |  | white | blanc | weiß | blanco | PSE 2, Mariette, Naslada, Anicia | 1 |
|  |  | pink | rose | rosa | rosa |  | 2 |
|  |  | blue | bleu | blau | azul | Azer, ~~Nigricans~~ | 3 |
| **12 (\*)** | **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 |
|  | **~~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~~ |
| **13** | **VG** | **Pod color  ~~: intensity of color~~ ~~(before dry harvest maturity)~~** | **Couleur de la gousse : intensité de la couleur ~~(avant la maturité de récolte sèche)~~** |  |  |  |  |
| **QN** | **(b)** | Light green | Vert clair |  |  | Mariette | ~~3~~ 1  |
|  |  | Medium green | Vert moyen |  |  | Anicia, Lentillon rosé d’hiver | ~~5~~ 2  |
|  |  | Dark green | Vert foncé |  |  |  | ~~7~~ 3  |
| **14**  | **MG/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~~ 1 |
|  |  | ~~mainly~~ two | ~~principalemen~~t deux | ~~vorwiegend~~ zwei | ~~principalmente~~ dos | Lentillon rosé d’hiver | 3 |
|  |  | ~~two to~~ three  | ~~deux à~~ trois  | ~~zwei bis~~ drei | ~~dos a~~ tres | Anicia | 4 5 |
|  |  | ~~mainly three~~ | ~~principalement trois~~ | ~~vorwiegend drei~~ | ~~principalmente tres~~ |  | ~~5~~ |
| **~~(\*)~~** | **~~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**  |
| **15 (\*)** | **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** | **(c)** | short | courte | kurz | corta | Anicia, Lentillon rosé d’hiver | 3 |
|  |  | medium | Moyenne | mittel | media | Mariette | 5 |
|  |  | long | longue | lang | larga |  | 7 |
| **16 (+)** | **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** | **(c)** | ~~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 | Mariette, Blonette, Dora | ~~5~~ 3 |
|  |  | ~~broad~~ | ~~large~~ | ~~breit~~ | ~~ancha~~ |  | ~~7~~ |
| **~~(+)~~** | **~~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~~ |
| **17(\*)** | **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~~ |
| **18 (\*)(+)** | **VG** | **Dry seed: height ~~profile in longitudinal cross section~~**  | **Graine sèche : hauteur ~~profile en section transversale longitudinale~~**  |  |  |  |  |
| **~~QL~~QN** |  | narrow elliptic | elliptique |  |  | Petrovskaya 4/105 | 1 |
|  |  | medium elliptic | elliptique moyen |  |  |  | 2 |
|  |  | broad elliptic | elliptique large |  |  | PSE 2 | 3 |
| **~~(\*)~~** | **~~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~~ |
| **19 (\*)(+)** | **VG** | **Dry seed: main color of ~~testa~~ seed** | **Graine sèche: couleur principale ~~du tégument~~ de la semence** | **Trockenkorn: Hauptfarbe der Samenschale** | **Grano seco: color principal de la testa** |  |  |
| **PQ** |  | ~~white~~ | ~~blanc~~ | ~~weiß~~ | ~~blanco~~ | ~~PSE 2~~ | ~~1~~ |
|  |  | greenish yellow | jaune verdâtre | grünlichgelb | amarillo verdoso | Anita, Petrovskaya 4/105, Pisarevska velkoznna | ~~2~~ 1 |
|  |  | green | vert | grün | verde | Anicia, Petrovskaya zelenozjornaya, Tina | ~~3~~ 2 |
|  |  | pink | rose | rosa | rosa | Rosovaya | ~~4~~ 3 |
|  |  | ~~ochre~~ | ~~ocre~~ | ~~ockerfarben~~ | ~~ocre~~ | ~~Lentillon rosé d’hiver~~ | ~~5~~ |
|  |  | black | noir | schwarz | negro | Nigricans | ~~6~~ 4 |
| **20 (\*)(+)** | **VG** | **Varieties with more than one testa color only: Dry seed: secondary color ~~type of ornamentation~~** | **Variétés à plus d’une couleur de tégument seulement: graine sèche : couleur secondaire ~~type d’ornementation~~** |  |  |  |  |
| **~~QL~~PQ** |  | none | absente |  |  |  | 1 |
|  |  | patches | taches |  |  | Naryadnaya 3 | ~~1~~ 2 |
|  |  | spots | macules |  |  | Cilaos | ~~2~~ 3 |
|  |  | marbled | marbrée |  |  | Petrovskaya 4/105 | ~~3~~ 4 |
|  |  | complex | complexe |  |  |  | 4 5 |
| **21(\*)(+)** | **~~V~~MG** | **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 |
| **22 (\*)(+)** | **~~V~~MG** | **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 |
|  | **~~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~~ |

# Explanations on the Table of Characteristics

8.1. Explanations covering several characteristics

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

1. At flowering stage : observations at this stage should be done when at least 50% of the plants are flowering and on flowers fully developed ;
2. Before dry harvest maturity : observations at this stage should be done when the pod is not completely dry ;

(c) At dry harvest maturity (without break) : observations at tis stage should be done when the pod is completely dry but before that the pod break alone.

## 8.2 Explanations for individual characteristics

Add. 2 : Plant : habit

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2-1 |  | 2-3 |
|  | 1 | 3 | 5horizontal |
|  | erect | semi-erect |  |

Add. 6 : Leaf : shape

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 6-1 | 6-2 | 6-3 |  |
|  | 1 | 2 | 3 |  |
|  | elliptic | ovate | rectangular |  |

Add. ~~19~~ 16: Pod : width

Add. ~~22~~  18: Dry seed: height

Add. ~~24~~ 19: Dry seed : main color of seed

Definition of main color (cf. TGP/14) :

Illustrations to be provided

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

~~~~

|  |  |  |
| --- | --- | --- |
| ~~1~~ | ~~2~~ | ~~3~~ |
| ~~truncate~~ | ~~Truncate to pointed~~ | ~~pointed~~ |

Add. ~~25~~ 20 : Varieties with more than one testa color only: Dry seed: ~~type of ornamentation~~ secondary color

|  |  |
| --- | --- |
| ~~25-1~~ | ~~25-2~~ |
| 1 | 2 |
| patches | spots |

**Illustration to review**

|  |  |
| --- | --- |
| ~~25-3~~ | ~~25-4~~ |
| 3 | 4 |
| marbled | complex |

Add. ~~26~~ 21: Dry seed: weight

**Explanation of the method**

~~Add. 27 22: Time of flowering~~

**Explanation of the method of observation of this characteristic**

# 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

**Autre reference scientifique à ajouter ?**

# Technical Questionnaire

| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
| --- | --- | --- |
|  |  |  |
|  |  | Application date: |
|  |  | (not to be filled in by the applicant) |
| TECHNICAL QUESTIONNAIREto 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 |  |  |
|  |  |  |
| 4. Information on the breeding scheme and propagation of the variety  4.1. Breeding schemeVariety resulting from:4.1.1 Crossing(a) controlled cross [ ](b) partially known cross [ ](c) unknown cross [ ] 4.2 Method of propagating the variety4.2.1 Seed-propagated varieties(a) Self-pollination [ ](b) Cross-pollination (i) population [ ] (ii) synthetic variety [ ](c) Hybrid [ ] (d) Other [ ](please provide details)”

|  |
| --- |
|  |

 |
| 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, Rozovaya  | 1[ ] |
|  | greenish yellow | Anicia, Mariette, Petrovskaya 4/105 | 2[ ] |
|  | green | Petrovskaya zelenozjornaya |  |
| 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 | PSE 2 | 1[ ] |
|  | pink |  | 2[ ] |
|  | blue | Azer | 3[ ] |
| 5.4(21) | Dry seed: width |  |  |
|  | very narrow |  | 1[ ] |
|  | narrow | Lentillon rosé d’hiver | 3[ ] |
|  | medium | Anicia | 5[ ] |
|  | broad | Mariette | 7[ ] |
|  | very broad |  | 9[ ] |
| 5.5(22) | Dry seed: profile in longitudinal cross section |  |  |
|  | elliptique | Petrovskaya 4/105 | 1[ ] |
|  | elliptique large | PSE 2 | 2[ ] |
| 5.6(24) | Graine sèche : couleur principale du tégument |  |  |
|  | white | PSE 2 | 1[ ] |
|  | Greenish yellow | Anita, Petrovskaya 4/105, Pisarevska velkoznna | 2[ ] |
|  | green | Anicia, Petrovskaya zelenozjornaya, Tina | 3[ ] |
|  | pink | Rosovaya | 4[ ] |
|  | ochre | Lentillon rosé d’hiver | 5[ ] |
|  | black | Nigricans | 6[ ] |
| 5.7(26) | Dry seed: weight |  |  |
|  | Very low | Lentillon rosé d’hiver | 1[ ] |
|  | low | Anicia, Azer | 3[ ] |
|  | medium | Anita, Petrovskaya 4/105 | 5[ ] |
|  | high | Mariette, Petrovskaya 6, Tina | 7[ ] |
|  | Very high | Vehovskaya | 9[ ] |
| 5.8(27) | Time of flowering |  |  |
|  | very early |  | 1[ ] |
|  | early | Anicia, Anita, Tina | 3[ ] |
|  | medium | Mariette, Petrovskaya 4/105  | 5[ ] |
|  | late |  | 7[ ] |
|  | very late | Lentillon rosé d’hiver | 9[ ] |
| 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* |  |  |  |
| *Rosana* | *Cotyledon : color* | *orange* | *green* |
|  |  |  |  |
|  |  |  |  |
| Comments:  |
| [[2]](#footnote-3)#7. Additional information which may help in the examination of the variety7.1 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. |
| 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 nameSignature Date |

[End of the document]

1. \* 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.] [↑](#footnote-ref-2)
2. # Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire. [↑](#footnote-ref-3)