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WORKING PAPER ON TEST GUIDELINES FOR LENTIL

*Document prepared by experts from France*

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I. Subject of these Guidelines

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

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As minimum, for each year of test the following quantity of seed is recommended:

seed: 500 g (*France or Russia*)

The quality of seed to be delivered should not be below the standards of seeds for marketing standard seed in the country concerned, especially with regard to germination capacity and moisture content.

2. The seed must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

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

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

3. The tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should be conducted in the open and include a total of 100 plants divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions. For purposes of examining distinctness, varieties produced by tissue culture should, in addition, be compared to plant material of varieties produced by the same method.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise indicated, all observations determined by measurement, weighing or counting should be made on 20 plants or parts taken from each of 20 plants.

2. For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 100 plants, the maximum number of off-types allowed would be 3.

## V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
  - (a) Cotyledon: color (characteristic 1)
  - (b) Seedlings: anthocyanin coloration (before the first leaf unfolded) (characteristic 2)
  - (c) Stem: number of nodes (up to and including first fertile node) (characteristic 7) *new proposal (France)*
  - (d) Flower: color of standard (characteristic 14)
  - (e) Flower: violet stripes of standard (characteristic 15) *France proposes to delete*
  - (f) Flower: violet stripes of wings (characteristic 16) *France proposes to delete*
  - (g) Pod: color (before dry harvest maturity) (characteristic 20) *France proposes to delete*
  - (h) Dry seed: profile (ventral view) (characteristic 29)
  - (i) Dry seed: main color of testa (characteristic 31)
  - (j) Dry seed: picture (characteristic 33)

## VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of the different characteristics.
3. Legend:
  - (\*) Characteristics that should be used on all varieties in every growing cycle over which the examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
  - (+) See Explanations on the Table of Characteristics in Chapter VIII.

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

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>1. Cotyledon: color</b>					
(*)					
orange				Lentillon rosé de Champagne, Rozovaya	1
greenish yellow				Anicia, Mariette, Petrovskaya 4/105	2
green				Petrovskaya zelenozjornaya	3
<b>2. Seedlings:</b>					
(*)					
<b>anthocyanin coloration</b>					
<b>(before the first leaf unfolded)</b>					
<i>Identical with 4: choice to be done</i>					
absent				PSE 2	1
present				Petrovskaya 4/105	9
<b>3. Plant: habit</b>					
(+)					
erect				Petrovskaya 4/105	1
semi erect					3
prostrate				Cheephlic 7/76	5
<b>4. Plant:</b>					
(*)					
<b>anthocyanin coloration</b>					
<i>Identical with 2?</i>					
absent					1
present				Anicia, Lentillon rosé de Champagne	9

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>5. Plant: height (* (at flowering))</b>					
very short					1
short				Lentillon rosé de Champagne	3
medium				Anicia, Cheephlic 7/76	5
tall				Mariette, Petrovskaya 4/105	7
very tall				Vehovskaya	9
<b>6. Plant: intensity of ramification</b>					
weak				Vehovskaya	3
medium				Cheephlic 7/76	5
strong					7
<b>7. Stem: number of nodes (up to and including 1<sup>st</sup> fertile node)</b>					
few					3
medium					5
many					7
<b>8. Leaf: shape</b>					
ovate				Talinskaya 88	1
ovate-oblong				Petrovskaya 4/105	2
linear				Vehovskaya	3

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>9. Leaf blade: intensity of green color</b>					
weak (light)				Vehovskaya	3
medium				Anicia	5
strong (dark)				Lentillon rosé de Champagne, Petrovskaya zelenozornaya	7
<b>10. Leaf: number of leaflets</b>					
very few				(< 8)	1
few				(8 to 10)	3
medium				(10 to 12)	5
large (many)				12 to 14) Anicia, Lentillon rosé de Champagne	7
very large (very many)				(> 14)	9
<b>11. Leaf: leaflets size</b>					
small				Santa	3
medium				Anicia	5
large				Lentillon rose d'hiver	7

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>12. Raceme: number of flowers by node</b>					
Poland remark to be studied: levels (generaly 3), (3-4) Russia: (3 and more than 3)					
generally 1					1
1 to 2					2
generally 2				Lentillon rosé de Champagne	3
2 to 3				Anicia, Petrovskaya 4/105	4
generally 4				PSE 2	5
<b>13. Flower: size</b>					
small				To be proposed by Russia	3
medium				To be proposed by Russia	5
large				Petrovskaya 4/105	7
<b>14. Flower: color of (*) standard</b>					
white				PSE 2	1
pink					2
blue				Azer	3
<b>15. Flower: violet stripes of standard</b>					
absent					1
present				Anicia, Lentillon rosé de Champagne	9



English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>16. Flower: violet stripes of wings</b>					
absent				Anicia, Lentillon rosé de Champagne	1
present				<i>Culinaris ssp. macrosperma</i>	9
<b>17. Flower: width of sepals</b>					
narrow				Anicia, Lentillon rosé de Champagne	3
medium				Mariette	5
broad					7
<b>18. Flower: tip of sepal</b> Or rounded pointed, to be precised by France and Russia					
obtuse					1
pointed or acute?				Anicia, Lentillon rosé de Champagne	2
<b>19. Pod: profile (ventral view)</b> (+) Drawing by France or Russia					
flat				Petrovskaya 4/105	1
convex					2

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>20. Pod: color (* (before dry harvest maturity?))</b>					
white				PSE 2	1
other levels to be precised					2
<b>21. Pod : intensity of color except white pod varieties (before dry harvest maturity)</b>					
weak (light)				Mariette	3
medium				Anicia, Lentillon rosé de Champagne	5
strong (dark)					7
<b>22. Pod : number of ovules</b>					
generally 1					1
1 to 2					2
generally 2				Lentillon rosé de Champagne	3
2 to 3				Anicia	4
generally 3					5
<b>23. Pod: color at (* dry harvest maturity)</b>					
yellow				Anicia, Lentillon rosé de Champagne	1
green					2

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>24. Pod: length at dry harvest maturity</b> (*) With beak (Russia) or without beak?					
very short					1
short				Anicia, Lentillon rosé de champagne	3
medium				Mariette	5
long					7
very long					9
<b>25. Pod: width at harvest maturity</b>					
very narrow				Lentillon rosé de champagne	1
narrow				Anicia	3
medium					5
large					7
very large					9
<b>26. Pod: shape of apex (at harvest maturity)</b> (+) At green maturity or dry (Russia)?					
truncate (acuminate?)				Anicia, Lentillon rosé de champagne	1
intermediate					2
pointed (oblique?)					3

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>27. Seed: size</b> <b>(*) (diameter or weight)</b> Identical with 27? choose the factor: size, diameter, weight or width (Russia) ?					
small					3
medium				PSE 2	5
large				Vehovskaya	7
<b>28. Dry seed: width</b> Identical with 26?					
very thin					1
thin				Lentillon rosé de Champagne	3
medium				Anicia	5
large				Mariette	7
very large					9
<b>29. Dry seed: profile</b> <b>(*) (ventral view)</b> Or elliptic broad elliptic (France)					
flat				Petrovskaya 4/105	1
convex ?				PSE 2	2
<b>30. Dry seed: number of colors</b>					
uni-color				Grisette, Lentillon rosé de Champagne	1
bi-color				Anicia	2
multi-color					3

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>31. Dry seed: main color of testa</b> (* )					
white				PSE 2	1
pink					2
dark pink				Rosovaya	3
greenish yellow				Petrovskaya 4/105, Pisarevska Velkozna	4
green				Anicia, Petrovskaya zelenozjornaya	5
ochre				Lentillon rosé de Champagne	6
brown ochre				<i>Culinaris ssp.</i> <i>macrosperma</i>	7
violet					8
black				Nigricans	9
<b>32. Dry seed: secondary color</b>					
violet				Anicia	1
black					2
<b>33. Dry seed: picture</b> (* ) Drawing and to be grouped with number of colors?					
absent				PSE 2	1
present				Petrovskaya 4/105	9

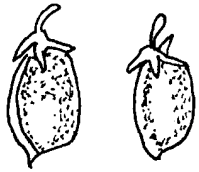
English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>34. Dry seed: type of picture or (+)? (ornamentation ?)</b> Pol.					
patch				Naryadnaya 3	1
point					2
marbleness				Petrovskaya 4/105	3
complex					4
<b>35. Dry seed: weight (*) of 1000 seeds</b>					
very low				Lentillon rosé de Champagne	1
low				Anicia, Azer	3
medium				Petrovskaya 4/105	5
high				Mariette, Petrovskaya 6	7
very high				Vehovskaya	9
<b>36. Time of (*) flowering</b>					
very early					1
early				Anicia	3
medium				Mariette, Petrovskaya 4/105	5
late					7
very late				Lentillon rosé de Champagne	9

English	français	deutsch	español	Example varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>37.</b>	<b>Time of</b>				
<b>(*)</b>	<b>maturity</b>				
	Delete the * ? (France)				
	early			Cheephlic 7/76	3
	early to medium			Vehovskaya	4
	medium			Petrovskaya 4/105	5
	medium to late			Petrovskaya zelenozjornaya	6
	late				7

To be added: Explanation concerning observation and measurement of characters  
key for growth stage

VIII. Explanations on the Table of Characteristics

Add. 25a: Pod: shape of beak (at dry maturity)

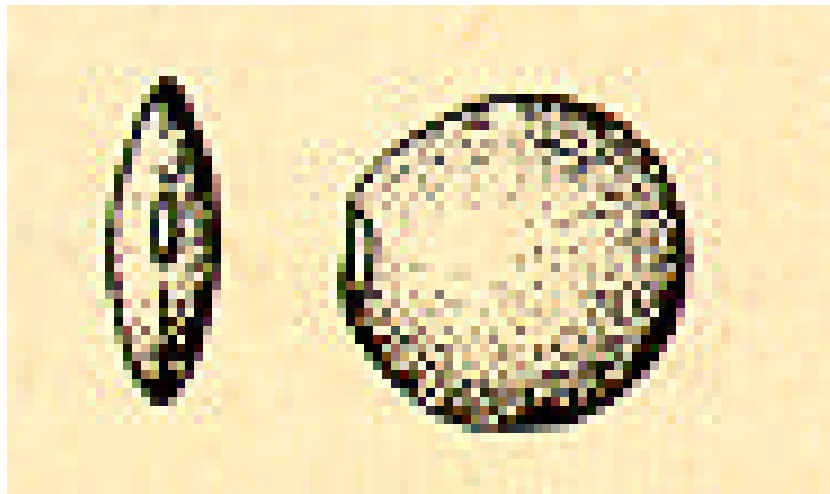


truncate



pointed

Add. 26: Seed: size (diameter)





IX. Literature

To be added

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p><b>TECHNICAL QUESTIONNAIRE</b> to be completed in connection with an application for plant breeders' rights</p>	
1. Species	<p><i>Lens culinaris</i> Medik  LENTILLE / LENTIL</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	
4. Information on origin, maintenance and reproduction of the variety	<p>4.1 method of maintenance and reproduction</p> <p>4.2 Other information</p>

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

Characteristics	Example Varieties	Note
<b>5.1 Cotyledon: color</b> (1)		
orange	Lentillon rosé de Champagne, Rozovaya	1
greenish yellow	Anicia, Mariette, Petrovskaya 4/105	2
orange	Petrovskaya zelenozjornaya	3
<b>5.2 Seedlings: anthocyanin coloration (before the 1<sup>st</sup> leaf unfolded)</b> (2)		
absent	PSE 2	1
present	Petrovskaya 4/105	9
<b>5.3 Flower: color of standard</b> (14)		
white	PSE 2	1
pink		2
blue	Azer	3
<b>5.4 Seed: size (diameter or weight)</b> (27)		
small		3
medium	PSE 2	5
large	Vehovskaya	7
<b>5.5 Dry seed: profile (ventral view)</b> (29)		
flat	Petrovskaya 4/105	1
convex	PSE 2	2

Characteristics	Example Varieties	Note
<b>5.6 Dry seed: main color of testa (31)</b>		
white	PSE 2	1
pink		2
dark pink	Rosovaya	3
greenish yellow	Petrovskaya 4/105, Pisarevska, Velkozna,	4
green	Anicia, Petrovskaya zelenozjornaya	5
ochre	Lentillon rosé de Champagne	6
brown ochre	<i>Culinaris ssp. macrosperma</i>	7
violet		8
black	Nigricans	9
<b>5.7 Dry seed: picture (33)</b>		
absent	PSE 2	1
present	Petrovskaya 4/105	9
<b>5.8 Dry Seed: weight of 1000 seeds (35)</b>		
very low	Lentillon rosé de Champagne	1
low	Anicia, Azer	3
medium	Petrovskaya 4/105	5
high	Mariette, Petrovskaya 6	7
very high	Vehovskaya	9

Characteristics	Example Varieties	Note
<b>5.9 Time of flowering</b> <b>(36)</b>		
very early		1
early	Anicia	3
medium	Mariette, Petrovskaya 4/105	5
late		7
very late	Lentillon rosé de Champagne	9
<b>5.10 Time of maturity</b> <b>(37)</b>		
early	Cheephlic 7/76	3
early to medium	Vehovskaya	4
medium	Petrovskaya 4/105	5
medium to late	Petrovskaya zelenozjornaya	6
late		7

## 6. Similar varieties and differences between these varieties

Denomination of similar variety	Characteristic in which the similar variety is different <sup>o)</sup>	State of expression of similar variety	State of expression of candidate variety
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<sup>o)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.2 Special conditions for the examination of the variety

(a) Type of culture:

– winter sowing

[ ]

– spring sowing

[ ]

(b) Other conditions

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

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