TG/57/7(proj.2)
ORIGINAL: English
DATE: 2008-06-09

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

FLAX, LINSEED

UPOV Code: LINUM_USI

Linum usitatissimum L.

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 Agricultural Crops
at its thirty-seventh session, to be held in Nelspruit, South Africa, from July 14 to 18, 2008

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Linum usitatissimum L.	Flax, Linseed	Lin	Lein, Flachs	Lino

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 *Linum usitatissinum* 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 seed.

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

1 kg

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

3.3.1 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.

3.3.2 The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column of the Table of Characteristics. The stages of development denoted by each number are described at the end of Chapter 8.

3.3.3 The recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 500 plants, which should be divided between two or more 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 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations on single plants should be made on 40 plants or parts taken from each of the 40 plants, divided by two or more replicates, and any other observations made on all plants in the test.

Proposal provided by CZ: To have 20 plants instead of 40

3.6 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.

4.2 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 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 500 plants, 9 off-types are allowed.

4.2.3 For characteristic “Flower: color of corolla (when fully opened)”, a population standard of 0.1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 500 plants, 2 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 tested, either by growing a further generation, or by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the previous 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) Flower: color of corolla (when fully opened) (characteristic 8)
(b) Boll: ciliation of false septa (characteristic 14)
(c) Stem: length from cotyledon scar up to first branch (characteristic 19)
(d) Seed: color (characteristic 22)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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

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.

6.3 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 3.3.3

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

(F) = Fibre type
(O) = Oil type

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

55-99 See Chapter 3.3.2 and Explanations on the Table of Characteristics in Chapter 8.3

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**	**Petal : color of crown at bud stage**	**Pétale : couleur de la corolle au stade bouton**	**Blütenblatt: Farbe der Krone im Knospenstadium**			
PQ	**55**	white	*Proposal provided by France :* Observation stage 55-61			Belinka (F), Laser (O)	1
		pink				Hella (O)	2
		blue-violet				Ariane (F), Bilstar (O)	3
		violet				Lorea (F), Early Bird (O)	4
		other colors	*- To describe others colors* *- To include examples varieties*				5
2. **(*)**	**VG**	**Time of beginning of flowering (first flower open on 10% of plants)**	**Époque de début de floraison (première fleur épanouie sur 10% des plantes)**	**Zeitpunkt des Blühbeginns (erste Blüte geöffnet an 10% der Pflanzen)**	*Proposal provided by Germany:*Text in brackets to be deleted		
QN	**61**	very early				Mikael (O)	1
		early	précoce	früh		Barbara (O)	3
		medium	moyenne	mittel		Alaska (O), Viking (F)	5
		late	tardive	spät		Argos (F), Lola (O)	7
		very late				Drakkar (F), Polar (O)	9
3. **(+)**	**MG**	**Plant: height including branches**	**Plante: hauteur naturelle, ramifications comprises**	**Pflanze: Höhe**	**Planta: altura**		
QN	**61-65**	very short	très basse	sehr niedrig	muy corta	Oural (O)	1
		short	basse	niedrig	corta	Barbara (O)	3
		medium	moyenne	mittel	media	Hella (O)	5
		tall	haute	hoch	larga	Viking (F)	7
		very tall	très haute	sehr hoch	muy larga	Alizee (F)	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
4.	**MS/ VG 61-65**	**Flower: size of corolla**	**Fleur : taille de la corolle**	**Blüte: Größe der Krone**			
QN	**(a)**	small	petite	klein	pequeño	Laser (O), Viking (F)	3
		medium	moyenne	mittel	medio	Ingot (O)	5
		large	grande	groß	grande	Juliet (O)	7
5.	**MS 61-65**	**Petal: length**	*Proposal provided by EU :* Char. 5,6,7,16, 17,18: to use this char. only for flax varieties and to add a prefix to explain that				
QN	**(a)**	very short					1
		short				Diane (F)	3
		medium				Escalina (F)	5
		long				Mikael (F)	7
		very long					9
6.	**MS 61-65**	**Petal: width**					
QN	**(a)**	very narrow					1
		narrow				Diane (F)	3
		medium				Hella (O)	5
		broad				Evelin (F), Mikeal (O)	7
		very broad					9
7.	**MS 61-65**	**Petal: ratio length/width**					
QN		very small					1
		small				Mikael (O)	3
		medium				Alizee (F)	5
		large				Electra (F)	7
		very large					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
8. (*)	**VG 65**	**Flower: color of corolla (when fully opened)**	**Pétale: couleur de la corolle (à complet développement)**	**Blütenblatt : Farbe der Krone (vollent-wickelt)**			
PQ	**(a)**	white				Belinka (F), Laser (O)	1
		pink					2
		red-violet				Adelie (F), Olinette (O)	3
		violet				Hungarian Gold (O), Viola (F)	4
		blue-violet				Hermes (F), Niagara (O)	5
		medium blue				Barbara (O), Escalina (F),	6
		pale blue				Biltstar (O), Melina (F)	7
9. (+)	**VG 65**	**Only varieties with colored corolla: Flower: corolla's heart**	*Proposal provided by France :* -to delete Only varieties with colored corolla.				
QL	**(a)**	absent				Laser (O)	1
		present				Ecole (O); Hermes (F)	9
10. (+)	**VG 65**	**Only varieties with colored corolla: Flower : shape of the corolla's heart**					
QN	**(a)**	round	*Proposal provided by France :* PQ			Barbara (O)	1
		round to pentagonal				Ecole (O)	2
		pentagonal				Baikal (O), Hermes (F)	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
11.	**VG 61-65**	**Stamen: color of distal part of filament**	**Étamine : couleur de la partie distale du filet**	**Staubblatt: Farbe des distalen Teils des Staubfadens**	To check wording and states	*Proposal from CZ , CA and EU:* "Stamen: color of filament"	
PQ	**(a)**	white	blanche	weiß		Belinka (F), Laser (O)	1
		blue	bleue	blau		Bilton (O)	2
		distal part blue				Escalina (F), Gemini (O)	3
		~~only~~ violet					4
		distal part violet					5
12. (*)	**VG 61-65**	**Anther: color**	**Anthère : couleur**	**Staubbeutel: Farbe**		*-To add example varieties*	
PQ		yellowish	jaunâtre	gelblich		Laser (O)	1
		salmon pink "*pinkish" suitable wording ?*	saumonée	lachsfarben			2
		greyish	grisâtre	zartgrau		Opaline (F)	3
		bluish	bleuâtre	bläulich		Bilton (O), Escalina (F)	4
13. (*)	**VG 61-65**	**Style: color**	**Style : couleur**	**Griffel: Farbe**			
PQ		white	blanche	weiß		Abacus (O), Belinka (F)	1
		yellow point at base					2
		yellow	jaune	gelb			3
		blue point at base					4
		blue	bleue	blau			5
14. (*) (+)	**VG 89-99**	**Boll: ciliation of false septa**	**Capsule : ciliation des fausses cloisons**	**Kapsel: Bewimperung der Kapselscheide**			
QL		absent	absente	fehlend		Escalina (F), Laser (O)	1
		present	présente	vorhanden		Baikal (O), Mikael (F)	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
15. (*)	**VG 89-99**	**Boll: size**	**Capsule : taille**	**Kapsel: Größe**			
QN		very small				Mac Gregor (O)	1
		small	petite	klein		Gold Merchant (O), Loreal (F)	3
		medium	moyenne	mittel		Jupiter (O)	5
		large	grande	groß		Baskerville (O)	7
		very large				Agristar (O)	9
16.	**VG/MS 89**	**Boll: length (at longest part)**	*Proposal from CA:* *Char. 16 and char.17: Insert a sectional drawing*				
QN		very short					1
		short				Hermes (F)	3
		medium				Escalina (F)	5
		long				Viking (F)	7
		very long					9
17.	**VG/MS 89**	**Boll: width (at widest part)**					
QN		very narrow					1
		narrow				Electra (F)	3
		medium				Hermes (F)	5
		broad				Viking (F)	7
		very broad					9
18.	**VG/MS 89**	**Boll: ratio length/width**					
QN		very small					1
		small				Diane (F)	3
		medium				Viking (F)	5
		large				Melina (F)	7
		very large					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
19. **(*)** **(+)**	**VG/MS 89-99**	**Stem: length from cotyledon scar up to first branch**				*To add example varieties*	
QN		very short	très courte	sehr niedrig	muy corta		1
		short	courte	niedrig	corta		3
		medium	moyenne	mittel	media		5
		tall	longue	hoch	larga		7
		very tall	très longue	sehr hoch	muy larga		9
20. **(+)**	**MS 89-99**	**Stem: length from cotyledon scar up to the top boll**					
QN		very short	très courte	sehr niedrig	muy corta		1
		short	courte	niedrig	corta	Barbara (O)	3
		medium	moyenne	mittel	media	Hella (O)	5
		long	longue	hoch	larga	Viking (F)	7
		very long	très longue	sehr hoch	muy larga	Alizee (F)	9
21.	**MG 99**	**Seed: weight per 1000 seeds**	**Graine : poids de 1000 grains**	**Korn: 1000-Korngewicht**			
QN		very low	très petit	sehr gering		Ingot (O), Marylin (F)	1
		low	petit	gering		Oliver (O)	3
		medium	moyen	mittel		Talon (O)	5
		high	grand	hoch		Juliet (O)	7
		very high	très grand	sehr hoch		Master (O)	9
22. **(*)**	**VG 99**	**Seed: color**	**Graine : couleur**	**Korn: Farbe**		*To check example varieties*	
PQ		green	verte	grün			1
		yellow	jaune	gelb		Windermere (O)	2
		brown	brun	braun		Escalina (F), Oliver (O)	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
		Characteristics *23 to 31 provided by ESA* *23 to 27 in use by some Authorities* *28 till 31 are new characteristics (●)*					
23.	**VG 65**	**Flower: shape of the corolla**	*Proposal provided by Germany* : To check if 5 states is appropriate *Proposal from CA :* To insert pictures or drawings				
QN		circle					1
		circle to star shaped					2
		star shaped					3
24.	**MS 86**	**Seed: length (at longest range)**	*Comment provided by Germany, France and Belgium* : *Reluctant to include char. on seed size*				
QN		very short					1
		short					3
		medium					5
		long					7
		very long					9
25.	**MS 86**	**Seed : width (at widest range)**					
QN		very narrow					1
		narrow					3
		medium					5
		broad					7
		very broad					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
26.	**MS 86**	**Seed: Ratio length/width**					
QN		very small					1
		small					3
		medium					5
		large					7
		very large					9
27.	**VS 55-65**	**Sepal: dotting**	*Proposal from France, Germany and Belgium :* To delete this characteristic If included, not more than 3 notes *Proposal from CZ:* To keep this char.				
QN		absent or very weak					1
		weak					2
		medium					5
		strong					7
		very strong					9
28.	**MS 61-65**	**Leaf: Length of the first leaf below the branches (●)**	*Comment provided by Germany and France*: Reluctant to include char. on leaf size				
QN		very short					1
		short					3
		medium					5
		long					7
		very long					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note / Nota
29.	**MS 61-65**	**Leaf: width of the first leaf below the branches (●)**					
QN		very narrow					1
		narrow					3
		medium					5
		broad					7
		very broad					9
30.	**MS 61-65**	**Leaf: Ratio length/width (●)**					
QN		very small					1
		small					3
		medium					5
		large					7
		very large					9
31.	**VG 85**	**Boll: anthocyanin coloration (●)**	*Proposal form* *Belgium :* To delete this char.				
QN		absent to weak					1
		medium					2
		strong					3

8. Explanations on the Table of Characteristics

8.1 Explanation covering several characteristics

(a) To be observed on fresh open flowers

Explanations for grouping characteristics

Proposal provided by Germany :
Delete this paragraph

Grouping characteristic 19 : Stem: length from cotyledon scar up to first branch.
In order to separate varieties for grouping purposes from each other, they need to differ by the same difference as required for distinctness. Given that this characteristic is a quantitative characteristic, the differences required are two notes. This leads to three groups, two distinct groups at the extremes of the scale and an intermediate group:
a.) Note 1 – 3 = short type varieties
b.) Note 7 – 9 = long type varieties
c.) Note 4 – 6 = medium type varieties
Candidate varieties being described as under a.) would not need to be grown in group b.)
Candidate varieties being described as under b.) would not need to be grown in group a.)
Candidate varieties being described as under c.) would need to be grown
in group a.) if their note of expression is 4 or 5
in group b.) if their note of expression is 5 or 6

	short types			medium types			long types		
Notes	1	2	3	4	5	6	7	8	9

8.2 Explanations for individual characteristics

Ad. 1 : Petal: color of crown at bud stage

TO BE PROVIDED

Ad. 3: Plant: height including branches

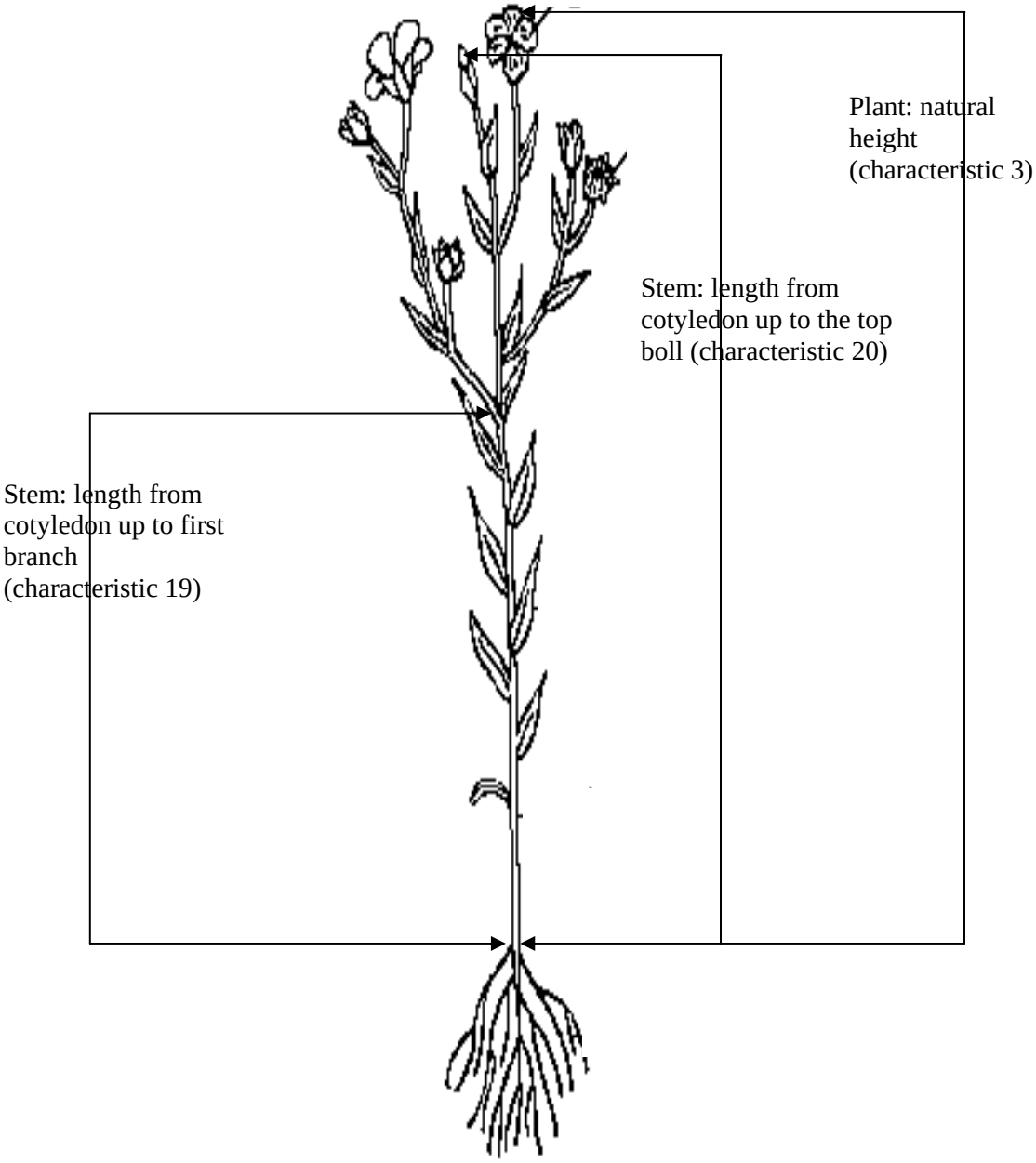
Should be measured on the plot including lateral branches (at time of flowering).

Ad. 19: Stem: length from cotyledon scar up to first branch

Should be measured on the main stem from cotyledon scar up to first branch when fully developed on harvested plants.

Ad. 20: Stem: length from cotyledon scar up to the top boll

Should be measured on the main stem from cotyledon scar up to the top boll when fully developed on harvested plants.



Ad. 9: Only varieties with colored corolla: Flower: corolla's heart
Ad 10: Only varieties with colored corolla : Flower: shape of corolla's heart

absent

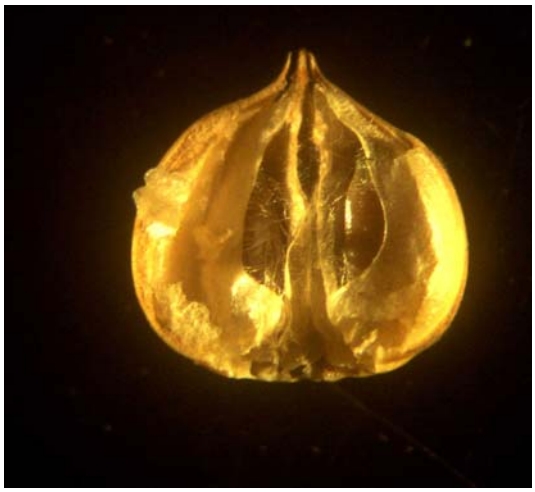
1
round

2
round to pentagonal

3
pentagonal

Ad 14 : Boll: ciliation of false septa

1
absent



9
present

8.3 Growth stages of Linum usitatissimum *L. adapted to the BBCH scale*

Stage 0		Germination
	00	Dry seed
	01	Beginning of seed imbibition
	05	Radicle (root) emerged from seed
	09	Emergence, Coleoptiles breaks through soil surface
Stage 1		Leaf development (main shoot)
	11	First true leaf unfolded
	12	Two true leaves unfolded
	15	Five true leaves unfolded
	..	Stages continuous till stage 19
Stage 3		Stem elongation, shoot development (main shoot)
	31	Stem 10% of final length (diameter)
	32	Stem 20% of final length (diameter)
	..	Stages continuous till maximum stem length at stage 39
Stage 5		Inflorescence emergence (main shoot)/heading
	51	Flower buds visible
	55	First individual flowers visible (still closed)
	59	First flower petals visible
Stage 6		Flowering (main shoot)
	60	First flowers open (sporadically)
	61	Beginning of flowering: 10% of flowers open
	65	Full flowering: 50% of flowers open
	69	End of flowering: fruit set visible
Stage 7		Development of bolls
	71	10% of bolls have reached final size
	75	50% of bolls have reached final size
	79	Nearly all bolls have reached final size
Stage 8		Ripening or maturity of fruit and seed
	81	Beginning of ripening or boll colouration
	85	Sepals and bolls yellow coloured
	89	Fully ripe, boll and seed show fully ripe colour
Stage 9		Senescence
	99	Harvested plants and/or seeds

9. Literature

Anonyme, 1969: Le lin au service des hommes, sa vie, ses techniques, son histoire. Editions J-B Baillière et Fils. Paris, FR

Anselme, CI, 1956: Les variétés de lin, leurs principales maladies cryptogamiques. INRA, (Institut National de la Recherche Agronomique). Paris, FR

Marshall, G., Editor, 1988: « Flax: Breeding and utilisation » Proceedings of the EEC Flax Workshop held in Brussels, Belgium, May 4-5 1998, sponsored by the Commission of the European Communities, Directorate-General for agriculture, Kluwer Academic Publishers, BE

Meier U., 1997: Growth stages of mono- and dicotyledonous plants: BBCH-Monograph. Wien Federal Biological Research Center for Agriculture and Forestry, Blackwell Wissenschafts-Verlag, Berlin, DE

Plonka, F., 1956: Les variétés de lin. INRA (Institut National de la Recherche Agronomique). Paris, FR

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	*Linum usitatissinum* L.
1.2 Common name	Flax, Linseed

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 [ ]
(please state parent varieties)

(b) partially known cross [ ]
(please state known parent variety(ies))

(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) Cross-pollination
(i) population [ ]
(ii) synthetic variety [ ]

(c) Hybrid [ ]

(d) Other [ ]
(please provide details)

4.2.2 Vegetatively propagated varieties

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]
[... ... ...]

4.2.3 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 (8)	**Flower : color of the corolla (when fully opened)**		
	white	Belinka (F), Laser (O)	1[…]
	pink		2[…]
	red-violet	Adelie (F), Olinette (O)	3[…]
	violet	Hungarian Gold (O), Viola (F)	4[…]
	blue-violet	Hermes (F), Niagara (O)	5[…]
	medium blue	Barbara (O), Escalina (F)	6[…]
	pale blue	Biltstar (O), Melina (F)	7[…]
5.2 (14)	**Boll: ciliation of false septa**		
	absent	Escalina (F), Laser (O)	1[…]
	present	Baikal (O), Mikael (F)	9[…]
5.4 (19)	**Stem: length from cotyledon scar up to first branch**		
	very short		1[…]
	short		3[…]
	medium		5[…]
	tall		7[…]
	very tall		9[…]
5.3 (22)	**Seed: color**		
	green		1[…]
	yellow	Windermere (O)	2[…]
	brown	Escalina (F), Oliver (O)	3[…]

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	Denomination(s) of variety(ies) similar to your candidate variety	Denomination(s) of variety(ies) similar to your candidate variety	Denomination(s) of variety(ies) similar to your candidate variety
Example	[to be provided]		

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

7.3.1 Main use

(a) Fibre [ ]
(b) Oil [ ]
(c) Fibre and Oil [ ]
(please provide details)

7.3.2 Time of sowing

(a) winter [ ]
(b) spring [ ]

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]