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INTERNATIONAL UNION  
FOR THE PROTECTION  
OF NEW VARIETIES OF  
PLANTS

UNION INTERNATIONALE  
POUR LA PROTECTION  
DES OBTENTIONS  
VÉGÉTALES

INTERNATIONALER  
VERBAND ZUM SCHUTZ  
VON PFLANZEN-  
ZÜCHTUNGEN

UNIÓN INTERNACIONAL  
PARA LA PROTECCIÓN  
DE LAS OBTENCIONES  
VEGETALES

**DRAFT**

**GUIDELINES**  
**FOR THE CONDUCT OF TESTS**  
**FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

**BIRD'S FOOT TREFOIL**  
*(Lotus corniculatus L.)*

**LOTUS PEDUNCULATUS**  
*(Lotus pedunculatus Cav.)*

**LOTUS TENUIS**  
*(Lotus tenuis Waldst et Kit.  
ex Willd)*

**LOTUS SUBBIFLORUS**  
*(Lotus subbiflorus spp.  
subbiflorus)*

These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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## I. Subject of these Guidelines

These Test Guidelines apply to *Lotus corniculatus* L., *Lotus pedunculatus* Cav., *Lotus tenuis* Waldst et Kit. ex Willd, & *Lotus subbiflorus* spp. subbiflorus. A single combined Table of Characteristics has been drawn up for the four species.

## II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material 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. The minimum quantity of seed to be supplied by the applicant in one or several samples should be:

0,5 Kg

The minimum requirements for germination capacity, moisture content and purity should not be less than the marketing standard for certified seed in the country in which the application is made. Especially for storage, which requires a higher standard, the applicant should state the actual germination capacity which should be as high as possible.

2. The plant material 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 test should 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 field 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 measuring and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include a total of 60 spaced plants and may include row plots. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Plots with spaced plants (A): Each test should consist of 60 single spaced plants per variety arranged in 3 to 4 replicates, i.e. plots of 20 and 15 plants. Characteristics should be measured on each plant in the trial so that a mean value per plot can be obtained; from these data a standard deviation per variety can be derived and the data submitted to a "two-way" analysis of variance. The significance of measured differences should be taken into account for assessing distinctness and the preparation of descriptions.

5. Row plots (B): Each test should consist of at least 10 meters of row arranged in 2 to 5 replicates. The density of the seed should be such that about 150 plants per meter can be expected.
6. Additional tests for special purposes may be established.

#### IV. Methods and Observations

1. On plots with single spaced plants, all observations determined by measurement or counting should be made on 60 plants or parts of 60 plants. The variability within the variety should not exceed the variability of comparable varieties already known.
2. The variability within the variety should not exceed the variability of comparable varieties already known.
3. In cases in which more than one seed submission is made, a comparison should be made between the initial seed sample and any further seed submission.

#### V. Grouping of Varieties

1. The collection 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 and which in their various states are fairly evenly distributed within the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties.
  - a) Ploidy (characteristic 1)
  - b) Plant: time of inflorescence emergence (characteristic 12)
  - c) Leaf: length of central leaflet (characteristic 13)
  - d) Leaf: width of central leaflet (characteristic 14)

#### VI. Characteristics and Symbols

1. To assess distinctness, homogeneity and stability, the characteristics and their states as given in the four UPOV working languages in the Table of Characteristics should be used. For each characteristic it is indicated whether "spaced plants" (A) or "row plots" (B) or "special test" (C) should be used. The name of each example variety is following by an abbreviation of its species (Lc = *Lotus corniculatus* L., Lp = *Lotus pedunculatus* Cav., Lt = *Lotus tenuis* Waldst et Kit. ex Willd and Ls = *Lotus subbiflorus* spp. *subbiflorus*)
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 every growing period for the examination of all varieties and should always be included in the description of the variety, 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.

(1) To be observed on:       A = spaced plants  
                                      B = row plots  
                                      C = special tests

(2) Explanation of the assessment of characteristics:

M = actual measurement

MS = measurements 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 observations of a number of individual plants or parts of plants

(3) Species of example varieties:

Lc = *Lotus corniculatus* L.

Lp = *Lotus pedunculatus* Cav.

Lt = *Lotus tenuis* Waldst et Kit. ex Willd

Ls = *Lotus subbiflorus* spp. subbiflorus

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

	Plot <sup>1)</sup> Parcelle <sup>1)</sup> Parzelle <sup>1)</sup> Parcela <sup>1)</sup>	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>1.</b>	<b>C</b>	<b>Ploidy</b>	<b>Ploïdie</b>	<b>Ploidie</b>	<b>Ploidía</b>		
(*)		diploid	diploïde	diploid	diploide		2
		tetraploid	tétraploïde	tetraploid	tetraploide		4
<b>2.</b>	<b>C</b> <b>MS</b>	<b>Cotyledon: width (when fully expanded)</b>	<b>Cotylédon: largeur:</b>	<b>Keimblatt:Breite (wenn vollständig entwickelt)</b>	<b>Cotiledón: anchura</b>		
		narrow	étroit	schmal	estrecho		3
		medium	moyen	mittel	medio		5
		broad	large	breit	ancho		7
<b>3.</b>	<b>A</b> <b>VS</b>	<b>Leaf: density of hairs (at vegetative stage)</b>	<b>Feuille: densité de la pilosité (au stade végétatif)</b>	<b>Blatt: Dichte der Behaarung (im vegetativen Stadium)</b>	<b>Hoja: densidad de la vellosidad (en estado vegetativo)</b>		
		absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy laxa		1
		sparse	faible	locker	laxa		3
		medium	moyenne	mittel	media		5
		dense	dense	dicht	densa		7
		very dense	très dense	sehr dicht	muy densa		9
<b>4.</b>	<b>A</b> <b>B</b> <b>VG</b>	<b>Leaf: intensity of green color (as for 3)</b>	<b>Feuille: intensité de la couleur verte (comme pour 3)</b>	<b>Blatt: Intensität der Grünfärbung (wie unter 3)</b>	<b>Hoja: intensidad del color verde (como para 3)</b>		
		light	claire	hell	claro		3
		medium	moyenne	mittel	medio		5
		dark	foncée	dunkel	oscuro		7

	Plot <sup>1)</sup> Parcelle <sup>1)</sup> Parzelle <sup>1)</sup> Parcela <sup>1)</sup>	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	<b>A VS</b>	<b>Stem: density of hairs (as for 3)</b>	<b>Tige: densité de la pilosité (comme pour 3)</b>	<b>Stengel: Dichte der Behaarung (wie unter 3)</b>	<b>Tallo: densidad de la velloidad (como para 3)</b>		
		absent or very sparse	nulle ou très lâche	fehlend oder sehr locker	ausente o muy laxa		1
		sparse	lâche	locker	laxa		3
		medium	moyenne	mittel	media		5
		dense	dense	dicht	densa		7
		very dense	très dense	sehr dicht	muy densa		9
6. (*)	<b>A VG</b>	<b>Plant: growth habit (as for 3)</b>	<b>Plante: port (comme pour 3)</b>	<b>Pflanze: Wuchsform (wie unter 3)</b>	<b>Planta: porte (como para 3)</b>		
		erect	dressé	aufrecht	erecto		1
		semi-erect	demi dressé	halbaufrecht	semi-erecto		3
		medium	moyen	mittel	medio		5
		semi-postrate	semi-rampant	halbliiegend	semipostrado		7
		postrate	rampant	liegend	postrado		9
7. (*)	<b>A MS</b>	<b>Plant: width (as for 3)</b>	<b>Plante: largeur (comme pour 3)</b>	<b>Pflanze: Breite (wie unter 3)</b>	<b>Planta: anchura (como para 3)</b>		
		narrow	petite	schmal	estrecha		3
		medium	moyenne	mittel	media		5
		broad	grande	breit	ancha		7
8.	<b>A MS</b>	<b>Plant: natural height at <u>inflorescence</u> <u>emergence</u></b>	<b>Plante : hauteur naturelle à <u>l'épiaison</u></b>	<b>Pflanze: natürliche Höhe bei <u>Erscheinen der Blütenstände</u></b>	<b>Planta: altura natural a la <u>emergencia de inflorescencia</u></b>		
		very short	très basse	sehr niedrig	muy baja		1
		short	basse	niedrig	baja		3
		medium	moyenne	mittel	media		5
		tall	haute	hoch	alta		7
		very tall	très haut	sehr hoch	muy alta		9

	Plot <sup>1)</sup> Parcelle <sup>1)</sup> Parzelle <sup>1)</sup> Parcela <sup>1)</sup>	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9.	<b>A B VG</b>	<b>Plant: vigor of winter growth</b>	<b>Plante: vigueur de la croissance en hiver</b>	<b>Pflanze: Wuchsstärke im Winter</b>	<b>Planta: vigor del crecimiento invernal</b>		
		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		weak	faible	gering	débil		3
		medium	moyenne	mittel	media		5
		strong	forte	stark	fuerte		7
10.	<b>AS VS</b>	<b>Flower: bud color</b>	<b>Bourgeon floral: couleur</b>	<b>Blütenknospe: Farbe</b>	<b>Capullo floral: color</b>		
		yellow	jaune	gelb	amarillo		1
		orange	orange	orange	anaranjado		2
		red	rouge	rot	rojo		3
11.	<b>A VS</b>	<b>Flower corolla: color</b>	<b>Fleur: couleur de la corolle</b>	<b>Blüte: Farbe der Blütenkrone</b>	<b>Flor: color de la corola</b>		
		yellow	jaune	gelb	amarillo		1
		orange	orange	orange	anaranjado		2
12. (* )	<b>A MS</b>	<b>Plant: time of inflorescence emergence (when 3 inflorescences show color in the floret)</b>	<b>Plante: époque d'épiaison (quand 3 inflorescences présentent une couleur dans le fleuron)</b>	<b>Pflanze: Zeitpunkt des Erscheinens der Blütenstände (wenn 3 Blütenstände die Blütenfarbe anzeigen)</b>	<b>Planta: época de emergencia de las inflorescencias (cuando 3 inflorescencias presentan color en la flor)</b>		
		very early	très précoce	sehr früh	muy temprano		1
		early	précoce	früh	temprano		3
		medium	moyenne	mittel	medio		5
		late	tardive	spät	tarde		7
		very late	très tardive	sehr spät	muy tarde		9



	Plot <sup>1)</sup> Parcelle <sup>1)</sup> Parzelle <sup>1)</sup> Parcela <sup>1)</sup>	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>13.</b> (*)	<b>A</b> <b>MS</b>	<b>Leaf: length of central leaflet (3<sup>rd</sup> to 4<sup>th</sup> leaf from end tip of longest stem)</b>	<b>Feuille: longueur de la foliole médiane (3<sup>ème</sup> et 4<sup>ème</sup> feuilles à partir du sommet de la plus longue tige)</b>	<b>Blatt: Länge des mittleren Fiederblatts (3. bis 4. Blatt von der Spitze des längsten Stengels)</b>	<b>Hoja: longitud del folíolo central (3<sup>er</sup> y 4<sup>o</sup> hoja a partir del ápice del tallo más largo)</b>		
		short	courte	kurz	corta		3
		medium	moyenne	mittel	media		5
		long	longue	lang	larga		7
<b>14.</b> (*)	<b>A</b> <b>MS</b>	<b>Leaf: width of central leaflet (as for 13)</b>	<b>Feuille: largeur de la foliole médiane (comme pour 13)</b>	<b>Blatt: Breite des mittleren Fiederblatts (wie unter 13)</b>	<b>Hoja: anchura del folíolo central (como para 13)</b>		
		narrow	petite	schmal	estrecha		3
		medium	moyenne	mittel	media		5
		broad	grande	breit	ancha		7
<b>15.</b>	<b>A</b> <b>MS</b>	<b>Stem: length of longest stem (when fully expanded)</b>	<b>Tige: longueur de la tige la plus longue (à la fin de l'élongation)</b>	<b>Halm: Länge des längstens Halms (wenn voll ausgebildet)</b>	<b>Tallo: longitud del tallo lo más largo (cuando está completamente expandido)</b>		
		very short	très courte	sehr kurz	muy corta		1
		short	courte	kurz	corta		3
		medium	moyenne	mittel	media		5
		long	longue	lang	larga		7
		very long	très longue	sehr lang	muy larga		9
<b>16.</b>	<b>A</b> <b>B</b> <b>VS</b>	<b>Rhizomes</b>	<b>Rhizomes</b>	<b>Rhizome</b>	<b>Rizomas</b>		
		absent	absents	fehlend	ausentes		1
		present	présents	vorhanden	presentes		9

	Plot <sup>1)</sup> Parcelle <sup>1)</sup> Parzelle <sup>1)</sup> Parcela <sup>1)</sup>	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>17.</b>	<b>C M</b>	<b>Seed: weight of 1000 seeds</b>	<b>Semence: poids de 1000 grains</b>	<b>Samen: Tausend- korngewicht</b>	<b>Semilla: peso de 1000 semillas</b>		
		low	faible	niedrig	bajo		3
		medium	moyen	mittel	medio		5
		high	élevé	hoch	alto		7

VIII. Explanations of the Table of Characteristics

IX. Literature

X. Technical Questionnaire

	<p>Reference Number (not to be filled in by the applicant)</p>
<p style="text-align: center;"><b>TECHNICAL QUESTIONNAIRE</b> to be completed in connection with an application for plant breeders' rights</p>	
<p>1. Species</p>	<p><i>Lotus corniculatus</i> L. [ ] <i>Lotus pedunculatus</i> Cav. [ ] <i>Lotus tenuis</i> Waldst et Kit. ex Willd [ ] <i>Lotus subbiflorus</i> spp. subbiflorus [ ]</p>
<p>2. Applicant (Name and address)</p>	
<p>3. Proposed denomination or breeder's reference</p>	

4. Information on origin, maintenance and reproduction of the variety

4.1 Variety type

Open pollinated variety [ ]

Other type ..... [ ]  
(to be indicated)

4.2 Genetic origin and breeding method

4.3 Maintenance

4.4 Other information

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 Ploidy (1)</b>		
diploid		2[ ]
tetraploid		4[ ]
<b>5.2 Plant: time of inflorescence emergence (when 3 inflorescences show color in the floret) (12)</b>		
very early		1[ ]
early		3[ ]
medium		5[ ]
late		7[ ]
very late		9[ ]
<b>5.3 Leaf: length of central leaflet (3<sup>rd</sup> to 4<sup>th</sup> leaf from end tip of longest stem) (13)</b>		
short		3[ ]
medium		5[ ]
long		7[ ]
<b>5.4 Leaf: width of central leaflet (3<sup>rd</sup> to 4<sup>th</sup> leaf from end tip of longest stem) (14)</b>		
narrow		3[ ]
medium		5[ ]
broad		7[ ]

6. Similar varieties and differences from 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

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

Duration: annual [ ]  
perennial [ ]

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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