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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

CHIVES

(*Allium schoenoprasum* L.)*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

Latin	*English*	*French*	*German*	*Spanish*
Allium schoenoprasum L.	Chives, Asatsuki	Ciboulette, Civette	Schnittlauch	Cebollino

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as 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.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Allium schoenoprasum* 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:

6 g or at least 5,000 seeds.

2.4 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

2.5 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.6 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 Duration of Tests

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

3.2 Testing Place

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

3.3 Conditions for Conducting the Examination

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.4 Test Design

3.4.1 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.

3.4.2 Each test should be designed to result in a total of at least 60 plants, which should be divided between two or more replicates.

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations determined by measuring or counting should be made on 60 plants or parts taken from each of 60 plants.

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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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

4.2.3 The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations 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 tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

4.3.3 The stability of a hybrid variety may, in addition to an examination of the hybrid variety itself, also be assessed by examination of the uniformity and stability of its parent lines.

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 is 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) Time of bud formation (characteristic 18);

(b) Male sterility (characteristic 21).

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 Section 6.1.2

(a) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 8.2

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	**(a)**	**Plant: height**	**Plante: hauteur**	**Pflanze: Höhe**	**Planta: altura**		
		short	basse	niedrig	baja	Fitlau	3
		medium	moyenne	mittel	media	Polyvert, Wilau	5
		tall	haute	hoch	alta	Wulkan	7
2.	**(a)**	**Plant: number of leaves**	**Plante: nombre de feuilles**	**Pflanze: Anzahl Blätter**	**Planta: número de hojas**		
		few	faible	gering	bajo	Polyvert	3
		medium	moyen	mittel	medio	Fitlau,Wilau	5
		many	élevé	groß	alto		7
3. (*)	**(a)**	**Leaf: attitude**	**Feuille: port**	**Blatt: Haltung**	**Hoja: porte**		
		erect	dressé	aufrecht	erecto	Fitlau, Polyvert	1
		semi-erect	demi- dressé	halbaufrecht	semierecto	Wilau, Wulkan	3
		horizontal	horizontal	waagerecht	horizontal	Jemná	5
4.	**(a)**	**Leaf: curvature**	**Feuille: courbure**	**Blatt: Biegung**	**Hoja: curvatura**		
		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Bohemia, Polyvert	1
		weak	faible	gering	débil	Wilau	3
		medium	moyenne	mittel	media	Pražská	5
		strong	forte	stark	fuerte	Kirdo	7
		very strong	très forte	sehr stark	muy fuerte		9
5.	**(a)**	**Leaf: waxiness**	**Feuille: pruine**	**Blatt: Wachsschicht**	**Hoja: cerosidad**		
		weak	faible	gering	débil		3
		medium	moyenne	mittel	media	Bohemia	5
		strong	forte	stark	fuerte	Fitlau	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (*)	**(a)**	**Leaf: color**	**Feuille: couleur**	**Blatt: Farbe**	**Hoja: color**		
		yellow green	vert jaune	gelbgrün	verde amarillento		1
		green	vert	grün	verde	Bohemia, Kirdo	2
		blue green	vert bleu	blaugrün	verde azulado	Moravia, Polyvert	3
7.	**(a)**	**Leaf: intensity of color**	**Feuille: intensité de la couleur**	**Blatt: Intensität der Farbe**	**Hoja: intensidad del color**		
		light	claire	hell	claro	Kirdo	3
		medium	moyenne	mittel	medio	Bohemia	5
		dark	foncée	dunkel	oscuro		7
8.	**(a)**	**Leaf: anthocyanin coloration at the base**	**Feuille: pigmentation anthocyanique à la base**	**Blatt: Anthocyanfärbung der Basis**	**Hoja: pigmentación antociánica en la base**		
		absent	absente	fehlend	ausente		1
		present	présente	vorhanden	presente	Kirdo, Polyvert	9
9.	**(a)**	**Leaf: length**	**Feuille: longueur**	**Blatt: Länge**	**Hoja: longitud**		
		short	petite	kurz	corta	Fitlau	3
		medium	moyenne	mittel	media	Moravia	5
		long	grande	lang	larga	Wulkan	7
10. (*)	**(a)**	**Leaf: diameter**	**Feuille: diamètre**	**Blatt: Durchmesser**	**Hoja: diámetro**		
		small	petit	klein	pequeño	Wilau	3
		medium	moyen	mittel	medio	Bohemia	5
		large	grand	groß	grande	Polyvert	7
11.	**(a)**	**Leaf: shape in cross section**	**Feuille: forme de la section transversale**	**Blatt: Form im Querschnitt**	**Hoja: forma en sección transversal**		
		circular	circulaire	kreisförmig	circular	Bohemia, Kirdo	1
		semi-circular	demi- circulaire	halbkreisförmig	semicircular	Jemná, Polyvert	2

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	**Bud: shape**	**Bourgeon: forme**	**Knospe: Form**	**Yema: forma**		
	elliptic	elliptique	elliptisch	elíptica	Fitlau, Wilau	1
	round	arrondi	rund	redondeada	Jemná	2
	broad ovate	ovale large	breit eiförmig	oval ancha	Bohemia, Kirdo	3
13.	**Bud: size**	**Bourgeon: taille**	**Knospe: Größe**	**Yema: tamaño**		
	small	petit	klein	pequeña	Fitlau, Kirdo	3
	medium	moyen	mittel	media	Polyvert	5
	large	grand	groß	grande	Pražská	7
14.	**Bud: anthocyanin coloration**	**Bourgeon: pigmentation anthocyanique**	**Knospe: Anthocyan-färbung**	**Yema: pigmentación antociánica**		
	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente	Polyvert, Wilau	9
15.	**Inflorescence: diameter (at flowering stage)**	**Inflorescence: diamètre (à la floraison)**	**Blütenstand: Durchmesser (im Blühstadium)**	**Inflorescencia: diámetro (en floración)**		
	small	petit	klein	pequeño	Fitlau, Wilau	3
	medium	moyen	mittel	medio	Polyvert	5
	large	grand	groß	grande	Bohemia	7
16.	**Plant: height (at flowering stage)**	**Plante: hauteur (à la floraison)**	**Pflanze: Höhe (im Blühstadium)**	**Planta: altura (en floración)**		
	short	basse	niedrig	baja	Bohemia, Wilau	3
	medium	moyenne	mittel	media	Pražská, Wulkan	5
	tall	haute	hoch	alta	Polyvert	7
17. **(+)**	**Time of sprouting (10% of the plants show sprouts)**	**Époque de démarrage (10% des plantes présentent des germes)**	**Zeitpunkt des Austriebs (10% der Pflanzen zeigen Triebe)**	**Época de brotación (el 10% de las plantas con brotes)**		
	early	précoce	früh	temprana	Bohemia, Kirdo	3
	medium	moyenne	mittel	media	Polyvert	5
	late	tardive	spät	tardía	Fitlau, Wilau	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18. (*)	**Time of bud formation (10% of the plants show a bud)**	**Époque de formation des bourgeons (10% des plantes présentent un bourgeon)**	**Zeitpunkt der Knospenbildung (10% der Pflanzen zeigen eine Knospe)**	**Época de formación de las yemas (el 10% de las plantas tienen una yema)**		
	early	précoce	früh	temprana	Bohemia	3
	medium	moyenne	mittel	media	Wulkan	5
	late	tardive	spät	tardía	Polyvert	7
19.	**Time of beginning of flowering (10% of the plants show flowers)**	**Époque de début de floraison (10% des plantes présentent des fleurs)**	**Zeitpunkt des Blühbeginns (10% der Pflanzen zeigen Blüten)**	**Época del comienzo de la floración (el 10% de las plantas tienen flores)**		
	early	précoce	früh	temprana	Bohemia	3
	medium	moyenne	mittel	media	Wulkan	5
	late	tardive	spät	tardía	Kirdo, Polyvert	7
20. (+)	**Time of drying out of leaves (10% of the plants show dried-out leaves)**	**Époque de dessiccation des feuilles (10% des plantes présentent des feuilles desséchées)**	**Zeitpunkt des Absterbens der Blätter (10% der Pflanzen zeigen abgestorbende Blätter)**	**Época en que se secan las hojas (el 10% de las plantas tienen hojas secas)**		
	early	précoce	früh	temprana		3
	medium	moyenne	mittel	media		5
	late	tardive	spät	tardía		7
21. (*) (+)	**Male sterility**	**Stérilité mâle**	**Männliche Sterilität**	**Androesterilidad**		
	absent	absente	fehlend	ausente	Hylau Cut	1
	50% present	présente à 50%	50% vorhanden	presente al 50%	Toplau	2

8. 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:

(a) Plant and leaf: Observations on the plant and leaf which should be made on fully developed plants at harvest maturity.

8.2 Explanations for individual characteristics

Ad. 17: Time of sprouting

The time of sprouting is when 10% of one-year-old plants show new sprouts at the beginning of the next year after sowing.

Ad. 20: Time of drying out of leaves

The time of drying out is when 10% of one-year-old plants show dry leaves in the end of vegetation of the next year after sowing.

Ad. 21: Male sterility

Absent: none or a very low number of the plants tested show male sterility.

50% present: 50% of the plants tested show male sterility.

9. Literature

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Brewster, J. L., 1994: "Crop Production Science in Horticulture 3: Onions and other vegetable *Alliums"*, CAB International.

Brewster, J. L. and Rabibowitch, H. D., 1990: "Onions and Allied Crops: Volume III, Biochemistry, Food Science and Minor Crops", CRC Press, Inc. Boca Raton, Florida.

Kallos, G. and Bergh, B.O., 1993: "Genetic Improvement of Vegetable Crops."

Konvička, O., 1998: "Česnek, Základy biologie a pěstování, obsahové látky a léčivé účinky", Těšínská tiskárna a.s. Český Těšín.

Vogel, G., 1996: "Handbuch des Speziellen Gemüsebaues", Ulmer Verlag Stuttgart.

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 Latin Name	*Allium schoenoprasum* L.
1.2 Common Name	Chives

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 unknown cross [ ]
(please state known parent variety(ies))
(c) totally unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery [ ]
(please state where, when and how developed)

4.1.4 Other [ ]
(please provide details)

4.2 Method of Propagating the Variety

(a) Cross-pollination
(i) population [ ]
(ii) synthetic variety [ ]
(b) Hybrid [ ]
(see below)
(c) Other [ ]
(please provide details)

In the case of hybrid varieties the production scheme for the hybrid should be provided on a separate sheet. This should provide details of all the lines required for propagating the hybrid, e.g.

Single Hybrid (SH)

(…female parent…) x (…male parent…)

Three-Way Hybrid (3WH)

(…female line…) x (…male line…)

=> single hybrid used as female parent x (…male parent…)

and should identify in particular:

(a) any male sterile lines
(b) maintenance system of male sterile lines.

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

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

	Characteristics	Example Varieties	Note
5.1 (1)	**Plant: height**		
	short	Fitlau	3[ ]
	medium	Polyvert, Wilau	5[ ]
	tall	Wulkan	7[ ]
5.2 (3)	**Leaf: attitude**		
	erect	Fitlau, Polyvert	1[ ]
	semi-erect	Wilau, Wulkan	3[ ]
	horizontal	Jemná	5[ ]
5.3 (6)	**Leaf: color**		
	yellow green		1[ ]
	green	Bohemia, Kirdo	2[ ]
	blue green	Moravia, Polyvert	3[ ]
5.4 (10)	**Leaf: diameter**		
	small	Wilau	3[ ]
	medium	Bohemia	5[ ]
	large	Polyvert	7[ ]
5.5 (21)	**Male sterility**		
	absent	Hylau Cut	1[ ]
	50% present	Toplau	2[ ]

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

6. Similar varieties and differences from these varieties

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)	*Leaf: color*	*blue green*	*yellow green*

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 Special conditions for the examination of the variety

7.2.1 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

7.2.2 If yes, please give 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. 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]