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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

ONION, ECHALION AND SHALLOT

UPOV Code: ALLIU_CEP_CEP, ALLIU_CEP_AGG, ALLIU_OSC

Allium cepa (Cepa Group),
Allium cepa (Aggregatum Group) and
Allium oschaninii O. Fedtsch.
and hybrids between them

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from the Netherlands and France

to be considered by the Technical Committee at its forty-fourth session, to be held in Geneva, from April 7 to 9, 2008

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Allium cepa L. var. *cepa*, *Allium cepa* (Cepa Group)	Onion, echalion, bulb onion, Spanish onion	Oignon, echalion	Zwiebel, Echalion	Cebolla
Allium cepa L. var. *aggregatum* G. Don, *Allium cepa* (Aggregatum Group)	Shallot, ever-ready onion, multiplier onion, potato onion	Échalote, oignon patate	Schalotte	Chalota, escaluña
Allium oschaninii O. Fedtsch.	Grey shallot	Échalote grise	Graue Schalotte	

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.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of: *Allium cepa* (Cepa Group), onion and echalion; *Allium cepa* (Aggregatum Group), shallot; *Allium oschaninii* O. Fedtsch, grey shallot; and hybrids between *Allium cepa* L. and *Allium oschaninii* O. Fedtsch.

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 or bulblets.

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

Seed-propagated varieties: 15,000 seeds
Vegetatively propagated varieties: 300 bulblets.

2.4 In the case of seed, the seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority.

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 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 Type of observation

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 100 plants for vegetatively propagated varieties, 200 plants for seed-propagated varieties applied for as onions, and 300 plants for seed-propagated varieties applied for as shallots, which should be divided between 2 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: in the case of seed-propagated varieties, all observations on single plants should be made on 60 plants or parts taken from each of 60 plants; and in the case of vegetatively propagated varieties, all observations on single plants should be made on 40 plants or parts taken from each of 40 plants. Any other observations should be made on all plants in the test.

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 The assessment of uniformity for seed-propagated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction. The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction.

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 40 plants, 2 off-types are allowed. In the case of a sample size of 100 plants, 3 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 or plant 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) Bulb: Tendency to split into bulblets (with dry skin around each bulblet) (characteristics 10 and 11)
(b) Bulb/Bulblet: shape (in longitudinal section) (characteristic 18)
(c) Bulb/Bulblet: base color of dry skin (characteristic 23)
(d) Bulb/Bulblet: number of growing points per kg (characteristic 27)
(e) Male sterility (characteristic 36)

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

5.5 To establish if a variety is to be considered as onion or as shallot, the explanation in Chapter 8.1 should be considered.

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 3.3.2

(1) Type of example variety – see Chapter 8.1

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

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

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
1. (*)	**VG**	**Plant: number of leaves per pseudostem**	**Plante: nombre de feuilles par fausse tige**	**Pflanze: Anzahl Blätter je Pseudostamm**	**Planta: número de hojas por pseudotallo**		
QN		few	petit	gering	bajo	SY300 (O)	3
		medium	moyen	mittel	medio	The Kelsae (O)	5
		many	grand	groß	alto	Yellow sweet spanish (O)	7
2. (*)	**VG**	**Foliage: attitude**	**Feuillage: port**	**Laub: Haltung**	**Follaje: porte**		
QN		erect	dressé	aufrecht	erecto	Pikant (S), Santé (S)	1
		erect to semi-erect	dressé à demi-dressé	aufrecht bis halbaufrecht	erecto a semierecto	Keep Well (O)	2
		semi-erect	demi-dressé	halbaufrecht	semierecto	Southport Red Globe (O), Bonilla (S), Mirage(S), Pikant (S), Prisma (S), Saffron (S)	3
		semi-erect to horizontal	demi-dressé à horizontal	halbaufrecht bis waagerecht	semierecto a horizontal	Hygro (O)	4
		horizontal	horizontal	waagerecht	horizontal		5
3. (*)	**VG**	**Foliage: waxiness**	**Feuillage: glaucescence**	**Laub: Bereifung**	**Follaje: cerosidad**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		weak	faible	gering	débil	Yellow sweet spanish (O)	3
		medium	moyenne	mittel	media	Hikeeper (O), Golden Gourmet (S)	5
		strong	forte	stark	fuerte	Calypso (O), Flevo (O), Santé (S)	7
		very strong	très forte	sehr stark	muy fuerte		9

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
4. (*)	**VG**	**Foliage: intensity of green color**	**Feuillage: intensité de la couleur verte**	**Laub: Intensität der Grünfärbung**	**Follaje: intensidad del color verde**		
QN		very light	très claire	sehr hell	muy claro	Bretor (S)	1
		light	claire	hell	claro	Guimar (O), Yellow sweet spanish (O), Tropix (S)	3
		medium	moyenne	mittel	medio	Caribo (O), Texas grano 502 (O), Golden Gourmet (S)	5
		dark	foncée	dunkel	oscuro	Hikeeper (O), La Reine (O), Santé (S)	7
5. (+)	**VG**	**Foliage: cranking**	**Feuillage: cassure**	**Laub: Abbiegen der Blattspitzen**	**Follaje: quebrado**		
QN		weak	faible	gering	débil	Golden Bear (O), Santé (S)	1
		intermediate	intermédiaire	mittel	intermedio	Hyduro (O)	2
		strong	forte	stark	fuerte		3
6.1	**VG/ MS**	**Onion varieties only: Leaf: length**	**Seulement variétés d'oignon: Feuille: longueur**	**Nur Zwiebelsorten: Blatt: Länge**	**Solamente variedades de cebolla: Hoja: longitud**		
QN		very short	très courte	sehr kurz	muy corta	Barletta, Pompei	1
		short	courte	kurz	corta	Nocera	3
		medium	moyenne	mittel	media	Jetset	5
		long	longue	lang	larga		7
		very long	très longue	sehr lang	muy larga	The Kelsae	9
6.2	**VG/ MS**	**Shallot varieties only: Leaf: length**	**Seulement variétés d'échalote: Feuille: longueur**	**Nur Schalottensorten: Blatt: Länge**	**Solamente variedades de chalota: Hoja: longitud**		
QN		short	courte	kurz	corta	Pikant	3
		medium	moyenne	mittel	media	Spring Field	5
		long	longue	lang	larga	Golden Gourmet, Topper	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
7.1 (*)	**VG**	**Onion varieties only: Leaf: diameter**	**Seulement variétés d'oignon: Feuille: diamètre**	**Nur Zwiebelsorten: Blatt: Durchmesser**	**Solamente variedades de cebolla: Hoja: diámetro**		
QN		small	petit	klein	pequeño	Nocera, Paris	3
		medium	moyen	mittel	medio	Hyfast	5
		large	grand	groß	grande	Dorata di Parma	7
7.2 (*)	**VG**	**Shallot varieties only: Leaf: diameter**	**Seulement variétés d'échalote: Feuille: diamètre**	**Nur Schalottensorten: Blatt: Durchmesser**	**Solamente variedades de chalota: Hoja: diámetro**		
QN		small	petit	klein	pequeño	Pikant	3
		medium	moyen	mittel	medio	Spring Field	5
		large	grand	groß	grande	Golden Gourmet, Lyska	7
8. (+)	**VG/ MS**	**Onion varieties only: Pseudostem: length (up to highest green leaf)**	**Seulement variétés d'oignon: Fausse tige: longueur (jusqu'à la feuille verte la plus haute)**	**Nur Zwiebelsorten: Pseudostamm: Länge (bis zum obersten grünen Blatt)**	**Solamente variedades de cebolla: Pseudotallo: longitud (hasta la hoja verde más alta)**		
QN		short	courte	kurz	corto	Barletta	3
		medium	moyenne	mittel	medio	Hyduro, The Kelsae	5
		long	longue	lang	largo	Goldito	7
9. (+)	**VG/ MS**	**Onion varieties only: Pseudostem: diameter (at mid-point of length)**	**Seulement variétés d'oignon: Fausse tige: diamètre (à demi-longueur)**	**Nur Zwiebelsorten: Pseudostamm: Durchmesser (auf halber Länge)**	**Solamente variedades de cebolla: Pseudotallo: diámetro (a media longitud)**		
QN		small	étroit	klein	estrecho		3
		medium	moyen	mittel	medio	Calypso, La Reine	5
		large	grand	groß	ancho	Blanca grande tardía de Lérida, The Kelsae	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
10. (*) (+)	**VG**	**Seed-propagated varieties only: Bulb: Tendency to split into bulblets (with dry skin around each bulblet)**	**Seulement variétés reproduites par voie sexuée : Bulbe : tendance à se séparer en bulbilles (avec des écailles sèches couvrant chaque bulbille)**	**Nur samenvermehrte Sorten: Zwiebel Neigung zur Aufspaltung in Bulbillen (mit trockener Schale um jede Bulbille)**	**Solamente variedades de reproducción sexuada: Bulbo: tendencia a separarse en bulbillos (con piel seca alrededor de cada bulbillo)**		
QN	**(a)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Cuisse de Poulet du Poitou (O), Lagos (O)	1
		weak	faible	gering	débil		3
		medium	moyenne	mittel	media	Mirage (S)	5
		strong	forte	stark	fuerte	Bonilla (S), Creation (S), Longor (S), Mikor (S)	7
		very strong	très forte	sehr stark	muy fuerte	Delvad (S), Rox (S), Tropix (S)	9
11. (*) (+)	**VG**	**Vegetatively propagated varieties only: Bulb: degree of splitting into bulblets (with dry skin around each bulblet)**	**Seulement variétés multipliées par voie végétative: Bulbe : degré de séparation en bulbilles (avec des écailles sèches couvrant chaque bulbille)**	**Nur vegetativ vermehrte Sorten: Zwiebel: Grad der Aufspaltung in Bulbillen (mit trockener Schale um jede Bulbille)**	**Solamente variedades de multiplicación vegetativa: Bulbo: grado de separación entre bulbillos (con piel seca alrededor de cada bulbillo)**		
QN	**(b)**	absent or very weak	absent ou très faible	fehlend oder sehr gering	ausente o muy débil	Cuisse de Poulet du Poitou (O)	1
		weak	faible	gering	débil		3
		medium	moyen	mittel	medio	Santé (S)	5
		strong	fort	stark	fuerte		7
		very strong	très fort	sehr stark	muy fuerte	Giselle (S)	9
12.1 (*)	**VG**	**Onion varieties only: Bulb: size**	**Seulement variétés d'oignon: Bulbe: taille**	**Nur Zwiebelsorten: Zwiebel: Größe**	**Solamente variedades de cebolla: Bulbo: tamaño**		
QN		small	petit	klein	pequeño		3
		medium	moyen	mittel	medio	Lagos	5
		large	grand	groß	grande	The Kelsae	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
12.2 (*)	**VG**	**Shallot varieties only: Bulblet: size**	**Seulement variétés d'échalote : Bulbille: taille**	**Nur Schalotten-sorten: Bulbille: Größe**	**Solamente varie-dades de chalota: Bulbillo: tamaño**		
QN	**(b)**	small	petit	klein	pequeño	Atlas	3
		medium	moyen	mittel	medio	Spring Field, Topper	5
		large	grand	groß	grande	Delicato, Santé	7
13.1 (*)	**VG/ MS**	**Onion varieties only: Bulb: height**	**Seulement variétés d'oignon: Bulbe: hauteur**	**Nur Zwiebelsorten: Zwiebel: Höhe**	**Solamente varie-dades de cebolla: Bulbo: altura**		
QN		very short	très bas	sehr niedrig	muy bajo	Prompto	1
		short	bas	niedrig	bajo	Nocera, Stuttgarter Riesen	3
		medium	moyen	mittel	medio	Golden Bear	5
		tall	haut	hoch	alto	Birnförmige, The Kelsae	7
		very tall	très haut	sehr hoch	muy alto	Cuisse de Poulet du Poitou	9
13.2 (*)	**VG/ MS**	**Shallot varieties only: Bulblet: height**	**Seulement variétés d'échalote issues de bulbilles: Bulbille: hauteur**	**Nur Schalotten-sorten aus Bulbillen: Bulbille: Höhe**	**Solamente varie-dades de chalota a partir de bulbillos: Bulbillo: altura**		
QN	**(b)**	very short	très basse	sehr niedrig	muy bajo		1
		short	basse	niedrig	bajo	Atlas	3
		medium	moyenne	mittel	medio	Topper	5
		tall	haute	hoch	alto	Jermor	7
		very tall	très haute	sehr hoch	muy alto	Longor, Pesandor	9
14.1 (*)	**VG/ MS**	**Onion varieties only: Bulb: diameter**	**Seulement variétés d'oignon: Bulbe: diamètre**	**Nur Zwiebelsorten: Zwiebel: Durchmesser**	**Solamente varie-dades de cebolla: Bulbo: diámetro**		
QN		small	petit	klein	pequeño	Nocera, Owa	3
		medium	moyen	mittel	medio		5
		large	grand	groß	grande	Stuttgarter Riesen	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
14.2 (*)	**VG/ MS**	**Shallot varieties only: Bulblet: diameter**	**Seulement variétés d'échalote: Bulbille: diamètre**	**Nur Schalotten-sorten: Bulbille: Durchmesser**	**Solamente varie-dades de chalota: Bulbillo: diámetro**		
QN	**(b)**	small	petit	klein	pequeño	Pikant, Primalys	3
		medium	moyen	mittel	medio	Arvro	5
		large	grand	groß	grande	Santé	7
15.1 (*)	**VG/ MS**	**Onion varieties only: Bulb: ratio height/diameter**	**Seulement variétés d'oignon: Bulbe: rapport hau-teur/diamètre**	**Nur Zwiebelsorten: Zwiebel: Verhältnis Höhe/ Durchmesser**	**Solamente varie-dades de cebolla: Bulbo: relación altura/diámetro**		
QN		very small	très petit	sehr klein	muy pequeño	Pompei	1
		small	petit	klein	pequeño	La Reine	3
		medium	moyen	mittel	medio	Valenciana Temprana	5
		large	grand	groß	grande	The Kelsae	7
		very large	très grand	sehr groß	muy grande	Owa	9
15.2 (*)	**VG/ MS**	**Shallot varieties only: Bulblet: ratio height/diameter**	**Seulement variétés d'échalote: Bulbille: rapport hauteur/diamètre**	**Nur Schalotten-sorten: Bulbille: Verhältnis Höhe/ Durchmesser**	**Solamente varie-dades de chalota: Bulbillo: relación altura/diámetro**		
QN	**(b)**	very small	très petit	sehr klein	muy pequeño	Rondeline	1
		small	petit	klein	pequeño	Topper	3
		medium	moyen	mittel	medio	Pikant	5
		large	grand	groß	grande	Longor	7
		very large	très grand	sehr groß	muy grande	Pesandor, Ploumor	9
16. (*) (+)	**VG**	**Bulb/Bulblet: position of maxi-mum diameter**	**Bulbe/Bulbille: position du diamètre maximal**	**Zwiebel/Bulbille: Position des größten Durchmessers**	**Bulbo/Bulbillo: posición del diá-metro máximo**		
QN		towards top	vers le sommet	zur Spitze hin	hacia la parte superior	Dorata di Parma (O), Texas grano 502 (O)	1
		at middle	au milieu	in der Mitte	en el punto medio	Valenciana tardía de exportación (O), Red Sun (S)	2
		towards base	vers la base	zur Basis hin	hacia la base	The Kelsae (O), Jermor (S)	3

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
17. (+)	**VG**	**Bulb/Bulblet: width of neck**	**Bulbe/Bulbille: épaisseur du collet**	**Zwiebel/Bulbille: Breite des Halses**	**Bulbo/Bulbillo: anchura del cuello**		
QN		very narrow	très étroit	sehr schmal	muy estrecho	Pikant (S)	1
		narrow	étroit	schmal	estrecho	La Reine (O), Topper (S)	3
		medium	moyen	mittel	medio	Hyduro (O), Santé (S)	5
		broad	large	breit	ancho	Blanca grande tardía de Lérida (O)	7
		very broad	très large	sehr breit	muy ancho		9
18. (*) (+)	**VG**	**Bulb/Bulblet: shape (in longitudinal section)**	**Bulbe/Bulbille: forme (en section longitudinale)**	**Zwiebel/Bulbille: Form (im Längsschnitt)**	**Bulbo/Bulbillo: forma (en sección longitudinal)**		
PQ		elliptic	elliptique	elliptisch	elíptica	Owa (O), Longor (S)	1
		ovate	ovoïde	eiförmig	oval	Birnenförmige (O), Rossa lunga di Firenze (O), Breton (S)	2
		broad elliptic	arrondi(e) allongé(e)	breitelliptisch	elíptica ancha	Ailsa Craig (O), Beacon (O), Hiball (O), Vigarmor (S)	3
		circular	arrondi(e)	rund	circular	Lagos (O), Pikant (S)	4
		broad ovate	ovoïde large	breit eiförmig	ovalada ancha	Hysam (O), Arvro (S)	5
		broad obovate	obovoïde large	breit verkehrt eiförmig	obovada ancha	Lilia (O), Texas grano 502 (O)	6
		rhombic	losangique	rhombisch	rómbica	Zittauer gelbe (O)	7
		transverse medium elliptic	elliptique aplati(e) moyen(ne)	mittel querelliptisch	elíptica transversal media	Sturka (O), Stuttgarter Riesen (O), Atlantic (S), Golden Gourmet (S)	8
		transverse narrow elliptic	elliptique très aplati(e)	schmal querelliptisch	elíptica transversal estrecha	Brunswijker (O), De Moissac (O), Paille des vertus (O), Pompei (O)	9

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
19. (*) (+)	**VG**	**<u>Onion varieties only:</u> Bulb: shape of top (as for 18)**	**<u>Seulement variétés d'oignon:</u> Bulbe: forme du sommet (comme pour 18)**	**<u>Nur Zwiebelsorten:</u> Zwiebel: Form der Spitze (wie unter 18)**	**<u>Solamente variedades de cebolla:</u> Bulbo: forma del ápice (como en 18)**		
QN		depressed	déprimé	eingesunken	deprimido	Dorata di Parma	1
		flat	aplati	flach	plano	La Reine	2
		slightly raised	légèrement proéminent	leicht vorgewölbt	ligeramente prominente	Valenciana Temprana	3
		rounded	arrondi	abgerundet	redondeado	Valenciana tardía de exportación	4
		slightly sloping	légèrement pointu	leicht abfallend	ligeramente puntiagudo	Ailsa Craig, Rouge pale de Niort	5
		strongly sloping	fortement pointu	stark abfallend	fuertemente puntiagudo	Owa	6
20. (*) (+)	**VG**	**Bulb/Bulblet: shape of base (as for 18)**	**Bulbe/Bulbille: forme de la base (comme pour 18)**	**Zwiebel/Bulbille: Form der Basis (wie unter 18)**	**Bulbo/Bulbillo: forma de la base (como en 18)**		
QN		depressed	déprimé(e)	eingesunken	deprimida	Paille des vertus (O)	1
		flat	aplati(e)	flach	plana	Nocera (O), Valenciana Temprana (O)	2
		round	arrondi(e)	abgerundet	redonda	Valenciana tardía de expórtacion (O), Atlas (S), Delicato (S)	3
		weakly tapered	légèrement conique	leicht konisch	ligeramente cónica	Pompei (O), The Kelsae (O), Bonilla (S), Santé (S)	4
		strongly tapered	fortement conique	stark konisch	fuertemente cónica	Owa (O), Bretor (S)	5

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
21.	**VG**	**Bulb/Bulblet: adherence of dry skin after harvest**	**Bulbe/Bulbille: adhérence des écailles après la récolte**	**Zwiebel/Bulbille: Anhaften der Schale nach der Ernte**	**Bulbo/Bulbillo: adherencia de la piel seca tras la cosecha**		
QN		weak	faible	gering	débil	Ailsa Craig (O), Tropix (S)	3
		medium	moyenne	mittel	media	Rjinsburger 7 (O), Golden Gourmet (S)	5
		strong	forte	stark	fuerte	Stuttgarter Riesen (O), Bonilla (S), Santé (S)	7
22.	**VG**	**Bulb/Bulblet: thickness of dry skin**	**Bulbe/Bulbille: épaisseur des écailles sèches**	**Zwiebel/Bulbille: Dicke der Schale**	**Bulbo/Bulbillo: espesor de la piel seca**		
QN		thin	minces	dünn	delgado	La Reine (O), Pikant (S)	3
		medium	moyennes	mittel	medio	Sturon (O), Santé (S)	5
		thick	épaisses	dick	grueso	Birnförmige (O), Espagnol (O)	7
23. (*)	**VG**	**Bulb/Bulblet: base color of dry skin**	**Bulbe/Bulbille: couleur de fond des écailles sèches**	**Zwiebel/Bulbille: Grundfarbe der Schale**	**Bulbo/Bulbillo: color de fondo de la piel seca**		
PQ		white	blanches	weiß	blanca	La Reine (O), Pompei (O)	1
		grey	grises	grau	gris	Griselle (S)	2
		green	vertes	grün	verde		3
		yellow	jaunes	gelb	amarilla	Zittauer gelbe (O), Creation (S), Golden Gourmet (S), Topper (S)	4
		brown	brunes	braun	marrón	Valenciana Temprana (O), Delicato(S), Mirage(S), Mikor (S), Pikant (S)	5
		pink	roses	rosa	rosa	Colorada de Figueras (O), Rox (S), Santé (S)	6
		red	rouges	rot	roja	Brunswijker (O), Red Baron (O)	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
24. (*)	**VG**	**Excluding varieties with white dry skin: Bulb/Bulblet: intensity of base color of dry skin**	**À l'exclusion des variétés à écailles sèches blanches : Bulbe/bulbille : intensité de la couleur de fond des écailles sèches**	**Ohne Sorten mit weißer Schale: Zwiebel/Bulbillen: Intensität der Grundfarbe der Schale**	**Excluidas las variedades con piel seca blanca: Bulbo/Bulbillo: intensidad del color de fondo de la piel seca**		
QN		light	claire	hell	claro		3
		medium	moyenne	mittel	medio		5
		dark	foncée	dunkel	oscuro		7
25. (*)	**VG**	**Bulb/Bulblet: hue of color of dry skin (in addition to base color)**	**Bulbe/Bulbille: teinte de la couleur des écailles sèches (en plus de la couleur de fond)**	**Zwiebel/Bulbille: Farbton der Schale (zusätzlich zu der Grundfarbe)**	**Bulbo/Bulbillo: matiz del color de la piel seca (además del color de fondo)**		
PQ		absent	absente	fehlend	ausente	Pompei (O)	1
		greyish	grisâtre	gräulich	grisáceo		2
		greenish	verdâtre	grünlich	verdusco		3
		yellowish	jaunâtre	gelblich	amarillento	Topper (S)	4
		brownish	brunâtre	bräunlich	amarronado	Santé (S)	5
		pinkish	rosâtre	rosa	rosáceo	Delicato (S)	6
		reddish	rougeâtre	rötlich	rojizo	Mikor (S), Mirage (S), Pikant (S)	7
		purplish	pourpre	purpurn	purpúreo		8
26. (*)	**VG**	**Bulb/Bulblet: coloration of epidermis of fleshy scales**	**Bulbe/Bulbille: couleur de l'épiderme des écailles**	**Zwiebel/Bulbille: Farbe der Außenhaut der Schuppenblätter**	**Bulbo/Bulbillo: color de la epidermis de las escamas interiores**		
PQ		absent	absente	fehlend	ausente		1
		greenish	verdâtre	grünlich	verdusco	Sturon (O), Golden Gourmet (S)	2
		reddish	rougeâtre	rötlich	rojizo	Brunswijker (O), Pikant (S), Santé (S)	3

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
27. (*) (+)	**MS**	**Bulb/Bulblet: number of growing points per kg**	**Bulbe/bulbille : nombre de points végétatifs par kg**	**Zwiebel/Bulbille: Anzahl Vegetations-kegel je kg**	**Bulbo/Bulbillo: número de puntos vegetativos por kg**		
QN	**(b)**	very low	très petit	sehr gering	muy pequeño	Barletta (O), Pompei (O)	1
		low	petit	gering	pequeño	Cuisse de Poulet du Poitou (O), Figaro (O), Owa (O)	3
		medium	moyen	mittel	medio	Longor (S), Mirage (S), Prisma (S)	5
		high	grand	groß	alto	Bonilla (S), Creation (S), Mikor (S)	7
		very high	très grand	sehr groß	muy alto	Griselle (S), Rox (S), Tropix (S)	9
28. (*) (+)	**MG**	**Bulb/Bulblet: dry matter content**	**Bulbe/Bulbille: teneur en matière sèche**	**Zwiebel/Bulbille: Trockensub-stanzgehalt**	**Bulbo/Bulbillo: contenido de materia seca**		
QN		very low	très faible	sehr niedrig	muy bajo	Exhibition (O)	1
		low	faible	niedrig	bajo	Golden Bear (O), The Kelsae (O)	3
		medium	moyenne	mittel	medio	Golden Gourmet (S), Topper (S)	5
		high	élevée	hoch	alto	Birnförmige (O), Zittauer gelbe (O), Creation (S), Longor (S)	7
		very high	très élevée	sehr hoch	muy alto	Griselle (S)	9

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
29.	**VG**	**Onion varieties only: Tendency to bolting in spring sown trials**	**Seulement variétés d'oignon: Tendance à la montaison dans les essais semés au printemps**	**Nur Zwiebelsorten: Neigung zum Schossen bei Frühjahrsaussaat**	**Solamente variedades de cebolla: Tendencia a la floración en los ensayos de campo sembrados en primavera**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Desihidrobat	1
		weak	faible	gering	débil	Stuttgarter Riesen, Zittauer gelbe	3
		medium	moyenne	mittel	media	Legio	5
		strong	forte	stark	fuerte		7
		very strong	très forte	sehr stark	muy fuerte	Bronzé d'Amposta	9
30.	**MS**	**Onion varieties only: Time of beginning of bolting in spring sown trials**	**Seulement variétés d'oignon: Époque du début de la montaison dans les essais semés au printemps**	**Nur Zwiebelsorten: Zeitpunkt des Schossbeginns bei Frühjahrsaussaat**	**Solamente variedades de cebolla: Época de comienzo de floración de los ensayos de campo sembrados en primavera**		
QN		early	précoce	früh	temprana	Bronzé d'Amposta	3
		medium	moyenne	mittel	media	Legio	5
		late	tardive	spät	tardía		7
31.	**VG**	**Onion varieties only: Tendency to bolting in autumn sown trials**	**Seulement variétés d'oignon: Tendance à la montaison dans les essais semés en automne**	**Nur Zwiebelsorten: Neigung zum Schossen bei Herbstaussaat**	**Solamente variedades de cebolla: Tendencia a la floración en los ensayos de campo sembrados en otoño**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		weak	faible	gering	débil	Valenciana Temprana	3
		medium	moyenne	mittel	media		5
		strong	forte	stark	fuerte	Guimar	7
		very strong	très forte	sehr stark	muy fuerte	Valenciana tardía de exportación	9

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
32.	**MS**	**Onion varieties only: Time of beginning of bolting in autumn sown trials**	**Seulement variétés d'oignon: Époque du début de la montaison dans les essais semés en automne**	**Nur Zwiebelsorten: Zeitpunkt des Schossbeginns bei Herbstaussaat**	**Solamente variedades de cebolla: Época de comienzo de floración de los ensayos de campo sembrados en otoño**		
QN		early	précoce	früh	temprana		3
		medium	moyenne	mittel	media		5
		late	tardive	spät	tardía		7
33. (*)	**MS**	**Onion varieties only: Time of harvest maturity for autumn sown trials (foliage fall-over in 80% of plants)**	**Seulement variétés d'oignon: Époque de maturité dans les essais semés en automne (chute du feuillage sur 80% des plantes)**	**Nur Zwiebelsorten: Zeitpunkt der Erntereife bei Herbstaussaat (Umfallen des Laubes bei 80 % der Pflanzen)**	**Solamente variedades de cebolla: Época de madurez de cosecha de los ensayos de campo sembrados en otoño (caída de hojas en el 80% de las plantas)**		
QN		very early	très précoce	sehr früh	muy temprana		1
		early	précoce	früh	temprana	La Reine, Sonic	3
		medium	moyenne	mittel	media	Buffalo, Imai Early Yellow, Valenciana Temprana	5
		late	tardive	spät	tardía	Guimar, Senshyu Semi Globe Yellow, Shakespeare	7
		very late	très tardive	sehr spät	muy tardía	Valencia tardía	9
34.1 (*)	**MS**	**Onion varieties only: Time of harvest maturity for spring sown trials (as for 33)**	**Seulement variétés d'oignon: Époque de maturité dans les essais semés au printemps (comme pour 33)**	**Nur Zwiebelsorten: Zeitpunkt der Erntereife bei Frühjahrsaussaat (wie unter 33)**	**Solamente variedades de cebolla: Época de madurez de cosecha de los ensayos de campo sembrados en primavera (como en 33)**		
QN		early	précoce	früh	temprana	Buffalo, Golden Bear	3
		medium	moyenne	mittel	media	Piroska	5
		late	tardive	spät	tardía	Beacon	7

		English	français	Deutsch	español	Example Varieties[(1)] Exemples[(1)] Beispielssorten[(1)] Variedades ejemplo[(1)]	Note/ Nota
34.2 (*)	**MS**	**<u>Shallot varieties only:</u> Time of harvest maturity (as for 33)**	**<u>Seulement variétés d'échalote:</u> Époque de maturité (comme pour 33)**	**<u>Nur Schalotten-sorten:</u> Zeitpunkt der Erntereife (wie unter 33)**	**<u>Solamente varie-dades de chalota:</u> Época de madurez de cosecha (como en 33)**		
QN		early	précoce	früh	temprana	Ploumor, Rox	3
		medium	moyenne	mittel	media	Creation, Pikant	5
		late	tardive	spät	tardía	Golden Gourmet, Santé	7
35. (+)	**MS**	**Time of sprouting during storage**	**Époque de germi-nation pendant le stockage**	**Zeitpunkt des Austriebs während der Lagerung**	**Época de brotación durante el almacenamiento**		
QN		early	précoce	früh	temprana	Golden Bear (O), The Kelsae (O)	3
		medium	moyenne	mittel	media	Hygro (O), Hyper (O)	5
		late	tardive	spät	tardía	Marion (O)	7
36. (*) (+)	**VG**	**Male sterility**	**Stérilité mâle**	**Männliche Sterilität**	**Esterilidad masculina**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Rijnsburger 5 (O)	1
		weak	faible	gering	débil	Hyduro (O), Creation (S)	2
		strong	forte	stark	fuerte	Atlas (S)	3

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) to be judged on material directly grown from seed
(b) to be judged on material grown from bulbs including re-planted bulbs harvested from seed-propagated varieties

Type of example variety: O = onion/echalion
S = shallot/grey shallot

Grouping for onion and shallot:

Grouping for onion and shallot is based on characteristics 10 and/or 11, in conjunction with characteristic 27.

Characteristic 10

Seed-propagated varieties applied for as onion/echalion with notes 1 to 3 for characteristic 10 are grouped as onion/echalion and varieties with notes 7 to 9 are grouped as shallot. Varieties with notes 4, 5 or 6 need to be considered according to characteristic 11, after replanting in a second growing cycle.

Varieties applied for as seed shallots with notes 1 to 6 for characteristic 10, need to be considered according to characteristic 11, after replanting in a second growing cycle. Varieties with notes 7 to 9 are grouped as shallot.

Characteristic 11

Varieties with notes 1 to 3 for characteristic 11 are grouped as onion/echalion and varieties with notes 7 to 9 are grouped as shallots. Varieties with notes 4, 5 or 6 for characteristic 11 need to be considered according to characteristic 27 (number of growing points) after vegetative multiplication (in the second growing cycle).

Characteristic 27

Varieties with notes 1 to 3 for characteristic 27 are grouped as onion/echalion and varieties with notes 5 to 9 are grouped as shallot.

Varieties with state 4 for characteristic 27 should be compared with varieties in both the onion and shallot group. [To determine the group, the variety needs to be observed in at least two further independent growing cycles to determine if the description is nearer to 3 or 5.] This is illustrated as follows:

Characteristic 10: Seed-propagated varieties only:
Bulb**:** Tendency to split into bulblets (with dry skin around each bulblet)

varieties applied for: shallot			varieties applied for: onion/echalion
	1	absent or very weak	1
	2		2
	3	weak	3
	4		4
	5	medium	5
	6		6
	7	strong	7
shallot	8		8
	9	very strong	9

Characteristic 11: Vegetatively propagated varieties only (including the replanted bulbs harvested from seed-propagated varieties):
Bulb: degree of splitting into bulblets (with dry skin around each bulblet)

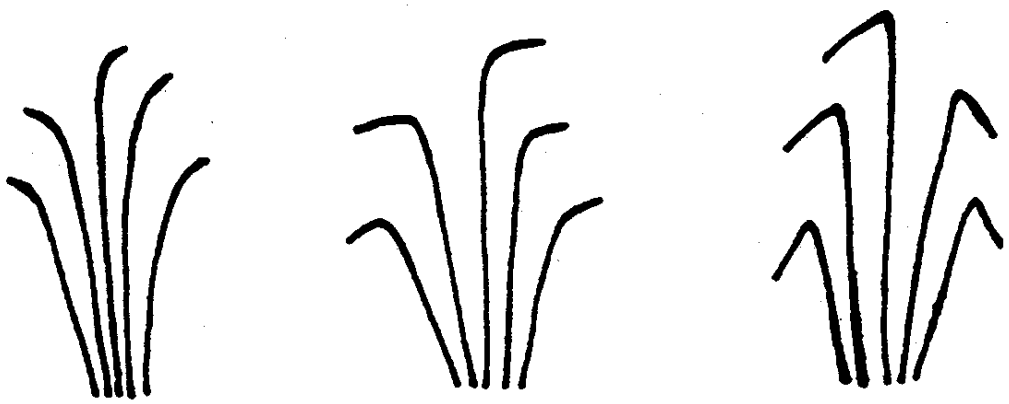
	absent or very weak	1	
		2	**onion/echalion**
	weak	3	
		4	
	medium	5	
		6	
	strong	7	
		8	**shallot**
	very strong	9	

Characteristic 27: Bulb/Bulblet: number of growing points per kg

	very low	1	
		2	**onion/echalion**
	low	3	
		4	**varieties with state 4 should be compared with varieties in both the onion and shallot groups**
	medium	5	
		6	
	high	7	**shallot**
		8	
	very high	9	

8.2 Explanations for individual characteristics

Ad. 5: Foliage: cranking

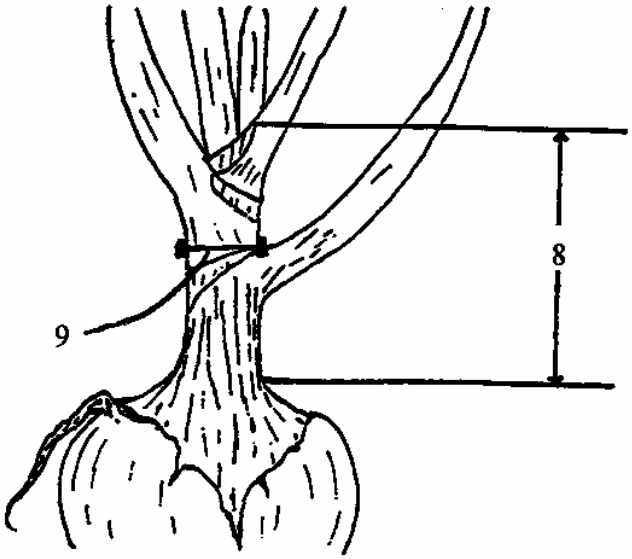


1	2	3
weak	intermediate	strong

Ad. 8: Onion varieties only: Pseudostem: length (up to highest green leaf)
Ad. 9: Onion varieties only: Pseudostem: diameter (at midpoint of length)

Ad. 8: The length of the pseudo stem should be assessed from the top of the bulb (defined by the point of inflection to the neck) to the point where the highest green leaf emerges from the pseudo stem.

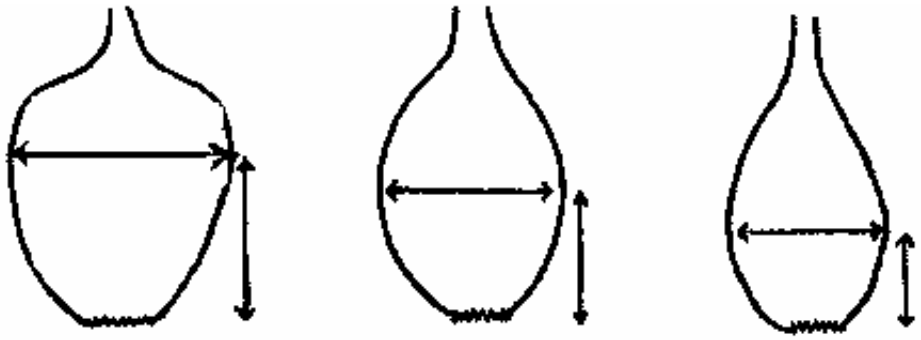
Ad. 9: The diameter of the pseudo stem should be assessed in the middle of the pseudo stem.



Ad. 10: Seed-propagated varieties only: Bulb: Tendency to split into bulblets (with dry skin around each bulblet)
Ad. 11: Vegetatively propagated varieties only: Bulb: degree of splitting into bulblets (with dry skin around each bulblet)

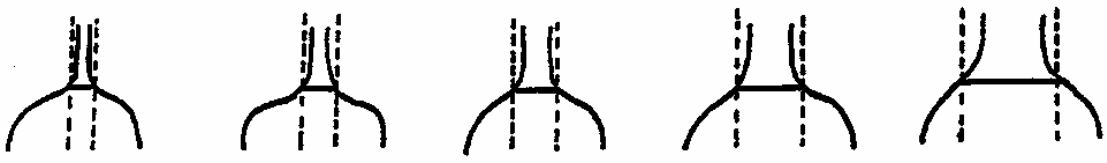
1	5	9
absent or very weak	medium	very strong

Ad. 16: Bulb/Bulblet: position of maximum diameter



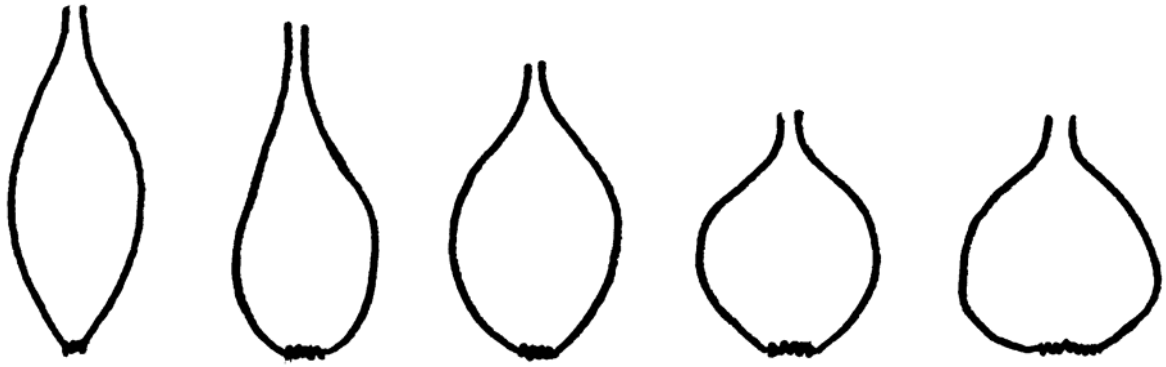
1	2	3
towards top	at middle	towards base

Ad. 17: Bulb/Bulblet: width of neck



1	3	5	7	9
very narrow	narrow	medium	broad	very broad

Ad. 18: Bulb/Bulblet: shape (in longitudinal section)



1 elliptic | 2 ovate | 3 broad elliptic | 4 circular | 5 broad ovate

6 broad obovate | 7 rhombic | 8 transverse medium elliptic | 9 transverse narrow elliptic

Ad. 19: Onion varieties only: Bulb: shape of top (as for 18)

1 depressed | 2 flat | 3 slightly raised | 4 rounded | 5 slightly sloping | 6 strongly sloping

Ad. 20: Bulb/Bulblet: shape of base (as for 18)

1 depressed | 2 flat | 3 round | 4 weakly tapered | 5 strongly tapered

Ad. 27: Bulb/Bulblet: number of growing points per kg

The number of growing points (axes) should be assessed when the bulb/bulblet has completely dried back at the end of storage, just before sprouting commences. Taking median sized bulbs, the bulb or bulblet should be cut in transverse section at ⅓ of the length from the base. Each axis appears as a point, often greenish in color surrounded by tissue rings.

For a given variety, the number of growing points per bulb will vary according to the size of the bulb, and the size of the bulb will be influenced by the size of the bulb from which it originated. However, the weight of bulb per growing point is consistent for a given variety, irrespective of the size of the bulb. Thus, the characteristic observes the number of growing points per kg (i.e. the inverse of the weight of bulb per growing point).

Ad. 28: Bulb/Bulblet: dry matter content

Dry matter content should be determined according to Chapter 3.5 (e.g. one sample of 20 bulbs from each plot). From these bulbs the dry skin should be removed as well as the protruding part of the root disk. From these 20 bulbs a bulk sample should be prepared by cutting the bulbs into small pieces of 1-5 mm size. A representative sample should be weighed directly after cutting (the biodegradation of sugars and carbohydrates starts as soon as cells are damaged). The samples should be dried for 2 hours at 105°C and then the temperature should be lowered to 65°C during 22 hours. Lowering of temperature is necessary to avoid caramelisation. The remaining weight should be assessed after 24 hours. From these figures the dry matter content may be calculated.

The dry matter content could also be assessed by refractometer.

Ad. 35: Time of sprouting during storage

Care should be taken to exclude damaged bulbs. Storage temperature should be maintained between 2°C and 5°C with good ventilation which can be achieved by storing in stacking, slotted trays.

In climates which have cooler summer temperature, it is advisable to ‘cure’ bulbs for 2 weeks at a temperature of 30-35°C. Temperatures above 40°C should be avoided to prevent growth of *Aspergillus niger*.

A minimum of 50 bulbs are required to assess sprouting. Assessment should be carried out every 2 to 4 weeks.

Ad. 36: Male sterility

After re-planting of harvested bulbs in the second year, flowers will emerge. In dry weather, when flowers are completely open, male sterility should be assessed by checking if pollen is released from the anthers. This characteristic has to be observed plant by plant; the expression represents the percentage of male sterile plants.

9. Literature

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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

1.1.1	Botanical name	*Allium cepa* (Cepa Group)	
1.1.2	Common name	Onion, Echalion	[ ]
1.2.1	Botanical name	*Allium cepa* (Aggregatum Group)	
1.2.2	Common name	Shallot	[ ]
1.3.1	Botanical name	*Allium oschaninii* O. Fedtsch	
1.3.2	Common name	Grey Shallot	[ ]
1.4.1	Botanical name	Other [please specify]	
1.4.2	Common name	Other [please specify]	[ ]

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	

Breeder (if different from applicant)

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

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 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) open-pollinated [ ]

(b) single hybrid [ ]

(c) three-way hybrid [ ]

(d) other (please provide details) [ ]

.....

4.2.2 Vegetatively propagated varieties

(a) clone [ ]

(b) 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 (1)	**Plant: number of leaves per pseudostem**		
	few	SY300 (O)	3[ ]
	medium	The Kelsae (O)	5[ ]
	many	Yellow sweet spanish (O)	7[ ]
5.2 (4)	**Foliage: intensity of green color**		
	very light	Bretor (S)	1[ ]
	light	Guimar (O), Yellow sweet spanish (O), Tropix (S)	3[ ]
	medium	Caribo (O), Texas grano 502 (O), Golden Gourmet (S)	5[ ]
	dark	Hikeeper (O), La Reine (O), Santé (S)	7[ ]
5.3.1 (10)	**<u>Seed-propagated varieties only:</u> Bulb: Tendency to split into bulblets (with dry skin around each bulblet)**		
	absent or very weak	Cuisse de Poulet du Poitou (O), Lagos (O)	1[ ]
	weak		3[ ]
	medium	Mirage (S)	5[ ]
	strong	Bonilla (S), Creation (S), Longor (S), Mikor (S)	7[ ]
	very strong	Delvad (S), Rox (S), Tropix (S)	9[ ]

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

	Characteristics	Example Varieties	Note
5.3.2 (11)	**<u>Vegetatively propagated varieties only</u>: Bulb: degree of splitting into bulblets (with dry skin around each bulblet)**		
	absent or very weak	Cuisse de Poulet du Poitou (O)	1[ ]
	weak		3[ ]
	medium	Santé (S)	5[ ]
	strong		7[ ]
	very strong	Giselle (S)	9[ ]
5.4.1 (12.1)	**<u>Onion varieties only</u>: Bulb: size**		
	small		3[ ]
	medium	Lagos	5[ ]
	large	The Kelsae	7[ ]
5.4.2 (12.2)	**<u>Shallot varieties only</u>: Bulblet: size**		
	small	Atlas	3[ ]
	medium	Spring Field, Topper	5[ ]
	large	Delicato, Santé	7[ ]

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

	Characteristics	Example Varieties	Note
5.5 (18)	**Bulb/Bulblet: shape (in longitudinal section)**		
	elliptic	Owa (O), Longor (S)	1[ ]
	ovate	Birnenförmige (O), Rossa lunga di Firenze (O), Breton (S)	2[ ]
	broad elliptic	Ailsa Craig (O), Beacon (O), Hiball (O), Vigarmor (S)	3[ ]
	circular	Lagos (O), Pikant (S)	4[ ]
	broad ovate	Hysam (O), Arvro (S)	5[ ]
	broad obovate	Lilia (O), Texas grano 502 (O)	6[ ]
	rhombic	Zittauer gelbe (O)	7[ ]
	transverse medium elliptic	Sturka (O), Stuttgarter Riesen (O), Atlantic (S), Golden Gourmet (S)	8[ ]
	transverse narrow elliptic	Brunswijker (O), De Moissac (O), Paille des vertus (O), Pompei (O)	9[ ]
5.6 (23)	**Bulb/Bulblet: base color of dry skin**		
	white	La Reine (O), Pompei (O)	1[ ]
	grey	Griselle (S)	2[ ]
	green		3[ ]
	yellow	Zittauer gelbe (O), Creation (S), Golden Gourmet (S), Topper (S)	4[ ]
	brown	Valenciana Temprana (O), Delicato(S), Mirage(S), Mikor (S), Pikant (S)	5[ ]
	pink	Colorada de Figueras (O), Rox (S), Santé (S)	6[ ]
	red	Brunswijker (O), Red Baron (O)	7[ ]

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

	Characteristics	Example Varieties	Note
5.7 (25)	**Bulb/Bulblet: hue of color of dry skin (in addition to base color)**		
	absent	Pompei (O)	1[ ]
	greyish		2[ ]
	greenish		3[ ]
	yellowish	Topper (S)	4[ ]
	brownish	Santé (S)	5[ ]
	pinkish	Delicato (S)	6[ ]
	reddish	Mikor (S), Mirage (S), Pikant (S)	7[ ]
	purplish		8[ ]
5.8 (27)	**Bulb/Bulblet: number of growing points per kg**		
	very low	Barletta (O), Pompei (O)	1[ ]
	low	Cuisse de Poulet du Poitou (O), Figaro (O), Owa (O)	3[ ]
	medium	Longor (S), Mirage (S), Prisma (S)	5[ ]
	high	Bonilla (S), Creation (S), Mikor (S)	7[ ]
	very high	Griselle (S), Rox (S), Tropix (S)	9[ ]
5.9 (28)	**Bulb/Bulblet: dry matter content**		
	very low	Exhibition (O)	1[ ]
	low	Golden Bear (O), The Kelsae (O)	3[ ]
	medium	Golden Gourmet (S), Topper (S)	5[ ]
	high	Birnförmige (O), Zittauer gelbe (O), Creation (S), Longor (S)	7[ ]
	very high	Griselle (S)	9[ ]

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

	Characteristics	Example Varieties	Note
5.10 (33)	**<u>Onion varieties only:</u> Time of harvest maturity for <u>autumn</u> sown trials (foliage fall-over in 80% of plants)**		
	very early		1[ ]
	early	La Reine, Sonic	3[ ]
	medium	Buffalo, Imai Early Yellow, Valenciana Temprana	5[ ]
	late	Guimar, Senshyu Semi Globe Yellow, Shakespeare	7[ ]
	very late	Valencia tardía	9[ ]
5.10.1 (34.1)	**<u>Onion varieties only</u>: Time of harvest maturity for <u>spring</u> sown trials (foliage fall-over in 80% of plants)**		
	early	Buffalo, Golden Bear	3[ ]
	medium	Piroska	5[ ]
	late	Beacon	7[ ]
5.10.2 (34.2)	**<u>Shallot varieties only</u>: Time of harvest maturity (foliage fall-over in 80% of plants)**		
	early	Ploumor, Rox	3[ ]
	medium	Creation, Pikant	5[ ]
	late	Golden Gourmet, Santé	7[ ]
5.11 (36)	**Male sterility**		
	absent or very weak	Rijnsburger 5 (O)	1[ ]
	weak	Hyduro (O), Creation (S)	2[ ]
	strong	Atlas (S)	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	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	*Bulb/Bulblet: shape (in longitudinal section)*	*circular*	*broad ovate*

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 Resistance to pests and diseases

7.4 Special conditions for testing the variety

7.4.1 Day length conditions which favor full bulb development

(a) short day [ ]

(b) long day [ ]

7.4.2 Suitability for storage

(a) none [ ]

(b) short term [ ]

(c) long term [ ]

7.5 Other information

[#] 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:

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 name

Signature Date

[End of document]