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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

ENDIVE

UPOV Code: CICHO END

Cichorium endivia L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from the Netherlands

to be considered by the

Technical Working Party for Vegetables at its forty-sixth session,
to be held near the City of Venlo, Netherlands, from June 11 to 15, 2012

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Cichorium endivia L.	Endive	Chicorée	Endivie	Escarola

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 *Cichorium endivia* L., *Cichorium endivia* L. subsp. *endivia*; *Cichorium endivia* var. *crispum* Lam.; *Cichorium endivia* var. *latifolium* Lam..

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:

20 g or at least 10,000 seeds.

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

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

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation 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

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.”

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

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 should be according to the recommendations for cross-pollinated varieties 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 further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial 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) Plant: botanical type (characteristic 1)
(b) Plain type varieties only: Plant: sub-type (characteristic 2)
(c) Cut type varieties only: Plant: sub-type (characteristic 3)
(d) Leaf: color (characteristic 13)
(e) Flower: color (characteristic 29)
(f) Time of bolting (characteristic 31)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

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

6.2.1 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.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

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 4.1.5

(a)-(c) See Explanations on the Table of Characteristics in 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 Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)** **(+)**	**VG**	**Plant: botanical type**	**Plante: type de variété botanique**	**Pflanze: botanischer Typ**	**Planta: tipo botánico**		
QL		plain type	scarole	ganzblättrig	de hojas anchas	*Cichorium endivia* var. *latifolia*	1
		cut type	frisée	krausblättrig	de hojas rizadas	*Cichorium endivia* var. *crispa*	2
2. **(*)** **(+)**	**VG**	**Plain type varieties only: Plant: sub-type**	**Variétés de type scarole seulement: Plante: sous-type**	**Nur ganzblättrige Sorten: Pflanze: Untergruppe**	**Sólo variedades de hojas anchas: Planta: subtipo**		
QL		Grosse bouclée 2	Grosse bouclée 2	Grosse bouclée 2	Grosse bouclée 2		1
		Breedblad Volhart Winter	Breedblad Volhart Winter	Breedblad Volhart Winter	Breedblad Volhart Winter		2
		Géante maraîchère	Géante maraîchère	Géante maraîchère	Géante maraîchère		3
		Cornet	Cornet	Cornet	Cornet		4
		Ambio	Ambio	Ambio	Ambio		5
3. **(*)** **(+)**	**VG**	**Cut type varieties only: Plant: sub-type**	**Variétés frisée: Plante: sous-type**	**Nur krausblättrige Sorten: Pflanze: Untergruppe**	**Excluyendo escarola de hojas rizadas: Planta: subtipo**		
QL		Wallonne	Wallonne	Wallonne	Wallonne		1
		De Louviers	Louviers	Louviers	De Louviers		2
		D'été à cœur jaune	D'été à cœur jaune	D'été à cœur jaune	D'été à cœur jaune		3
		Other types	Autres	Andere Typen	Otros tipos		4
4.	**VG**	**Plant: diameter**	**Plante: diamètre**	**Pflanze: Durchmesser**	**Planta: diámetro**		
QN	**(a)**	very small	très petit	sehr klein	muy pequeño	Belusa	1
		small	petit	klein	pequeño	De Louviers	3
		medium	moyen	mittel	medio	Blonde à cœur plein, D'été à cœur jaune, Golda	5
		large	grand	groß	grande	Grosse Pancalière	7
		very large	très grand	sehr groß	muy grande	Superfiorentina, Wallonne	9
5. **(+)**	**VG**	**Plant: growth habit**	**Plante : port**	**Pflanze: Wuchsform**	**Planta: porte**		
QN	**(a)**	erect	dressé	aufrecht	vertical	Gloire de l'Exposition	1
		semi-erect	demi-dressé	halbaufrecht	semivertical	Blonde à cœur plein, D'été à cœur jaune	2
		horizontal	horizontal	waagerecht	horizontal	Argentée Mirabel, De Ruffec	3

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (old 5.1) (*) (+)	**VG**	**Plant: shape in longitudinal section**	**Plante :**	**Pflanze:**	**Planta:**		
QN	(a)	dome				Aery, Gloire de l'Exposition	1
		flattened				Ameris, Dafne, Grosse Bouclée 2	2
		pyramidal				Cornet	3
		conical					4
7. (old 7.1) (+)	**VG**	**Heart: tendency to bleach on the surface**					
QN		absent or very weak				Géante maraîchère	1
		moderate				Amos, D'été à cœur jaune	2
		strong				Starly	3
8. (old 9) (+)	**VG**	**Leaf: attitude of upper part**	**Feuille: port**	**Blatt: Haltung**	**Hoja: porte**		
QN	**(b)**	erect	dressé	aufrecht	erecta	Cornet de la Loire	1
		semi-erect	demi dressé	halbaufrecht	semierecta		3
		horizontal	horizontal	waagerecht	horizontal	D'hiver de Provence	5
9. (old 11)	**VG**	**Leaf: length**	**Feuille: longueur**	**Blatt: Länge**	**Hoja: longitud**		
QN	**(b)**	very short	très courte	sehr kurz	muy corta	Nairobi	1
		short	courte	kurz	corta	Gloire de l'Exposition	3
		medium	moyenne	mittel	media	D'hiver de Provence, Grosse Bouclée 2	5
		long	longue	lang	larga	D'été à cœur jaune, Tebas	7
		very long	trés longue	sehr lang	muy larga	Atleta	9
10. (old 12.1) (+)	**VG**	**<u>Plain type varieties only</u>: Leaf: maximum width**	**Feuille: largeur maximale**	**Blatt: maximale Breite**	**Hoja: anchura máxima**		
QN	**(b)**	narrow	étroite	schmal	delgada	Pacos	3
		medium	moyenne	mittel	media	Grosse Bouclée 2	5
		broad	large	breit	ancha	Géante maraîchère	7

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. (old 12.2) (+)	**VG**	**<u>Cut type varieties only</u>: Leaf: maximum width**	**Feuille: largeur maximale**	**Blatt: maximale Breite**	**Hoja: anchura máxima**		
QN	**(b)**	narrow	étroite	schmal	delgada		3
		medium	moyenne	mittel	media		5
		broad	large	breit	ancha		7
12. (old 13) (+)	**VG**	**Plain type varieties only: Leaf: shape**	**Variétés de type scarole seulement: Feuille: forme**	**Nur ganzblättrige Sorten: Blatt: Form**	**Sólo variedades de hojas anchas: Hoja: forma**		
QN	**(b)**	narrow obovate	obovale étroite	schmal verkehrt eiförmig	oboval estrecha	Escariol grüner, Pacos	1
		obovate	obovale	verkehrt eiförmig	oboval	Andes	3
		broad obovate	obovale large	breit verkehrt eiförmig	oboval ancha	Diva, Géante maraîchère, Kalinka	5
13. (old 14) (*)	**VG**	**Leaf: color**	**Feuille: couleur**	**Blatt: Farbe**	**Hoja: color**		
PQ	**(b)**	yellowish green	vert jaunâtre	gelblichgrün	verde amarillento	Belusa, Blonde à cœur plein	1
		green	vert	grün	verde	Grosse Bouclée 2, Novema	2
		greyish green	vert gris	gräulichgrün	verde grisáceo	De Louviers, Nairobi	3
14. (old 15)	**VG**	**Leaf: intensity of color**	**Feuille: intensité de la couleur**	**Blatt: Intensität der Färbung**	**Hoja: intensidad del color**		
QN	**(b)**	light	claire	hell	claro		3
		medium	moyenne	mittel	medio		5
		dark	foncée	dunkel	oscuro		7
15. (old 16.1) (+)	**VG**	**<u>Plain type varieties only</u>: Leaf: depth of lobing**					
QN	**(b)**	absent or very shallow				Géante Mâraichère	1
		shallow				Blonde à Coeur plein, Grosse Bouclée 2	3
		medium				Maruschka	5
		deep				Ambio	7
		very deep				Friscaro	9

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. **(old 16.2)** **(+)**	**VG**	**<u>Cut type varieties only</u>: Leaf: venation**					
QN	**(b)**	not flabellate				Wallonne	1
		semi flabellate				D'été à coeur jaune	2
		flabellate				De Louviers, Gloire de l'exposition	3
17. **(old 16.4)** **(+)**	**VG**	**<u>Cut type varieties only</u>: Leaf: length of lobes**					
QN	**(b)**	short				Wallonne	3
		medium				D'été à Coeur jaune	5
		long				Trés fine Mâraichére	7
		very long					9
18. **(old 16.6)** **(+)**	**VG**	**<u>Plain type varieties only:</u> Leaf: dentation of margin**					
QN	**(b)**	absent or weak				Grosse Bouclée 2	1
		medium				Géante Mâraichère	2
		strong				Cornet	3
19. **(old 16.7)** **(+)**	**VG**	**<u>Cut type varieties only:</u> Leaf: length of dentation of margin**					
QN	**(b)**	short				Atleta	3
		medium				Trés fine Mâraichére	5
		long				Ruffec	7
20. **(old 18)**	**VG**	**<u>Plain type varieties only:</u> Leaf: undulation of margin**	**Feuille: ondulation du bord**	**Blatt: Randwellung**	**Hoja: ondulación del borde**		
QN	**(b)**	weak	faible	gering	débil		3
		medium	moyenne	mittel	media		5
		strong	forte	stark	fuerte		7

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21. (old 19)	**VG**	**<u>Plain type varieties only:</u> Leaf: creasing**	**Feuille: crispation**	**Blatt: Faltung**	**Hoja: crenado**		
QN	**(b)**	weak	faible	gering	débil	Géante Mâraichère	3
		medium	moyenne	mittel	medio	Grosse Bouclée 2	5
		strong	forte	stark	fuerte	Blonde à cœur plein	7
22. (old 21) (*) (+)	**VG**	**<u>Cut type varieties only</u>: Leaf: ratio length of midrib without lamina/total length of leaf**	**<u>Variétés de type frisée seulement</u>: Feuille: rapport longueur de la nervure médiane sans limbe/longueur totale de la feuille**	**<u>Nur krausblättrige Sorten</u>: Blatt: Verhältnis Länge der Mittelrippe ohne Blattspreite/Gesamtlänge des Blattes**	**<u>Sólo variedades que no son de hojas anchas</u>: Hoja: proporción entre la longitud del nervio central sin lámina y la longitud total de la hoja**		
QN	**(b)**	very small	très petit	sehr klein	muy pequeña	D'Olivet	1
		small	petit	klein	pequeña	De Louviers	3
		medium	moyen	mittel	media	Wallonne	5
		large	grand	groß	grande		7
		very large	très grand	sehr groß	muy grande	Toujours Blanche	9
23. (old 22) (*) (+)	**VG**	**Leaf: width of midrib at base**	**Feuille: largeur de la nervure médiane à la base**	**Blatt: Breite der Mittelrippe an der Basis**	**Hoja: anchura del nervio central en la base**		
QN	**(b)**	very narrow	très étroite	sehr schmal	muy estrecho	Fresseta	1
		narrow	étroite	schmal	estrecho	Mercedes	3
		medium	moyenne	mittel	medio	D'été à cœur jaune, Grosse Bouclée 2	5
		broad	large	breit	ancho	Blonde à cœur plein, Wallonne	7
24. (old 23) (*)	**(b)**	**<u>Cut type varieties only</u>: Leaf: color of midrib at base**	**<u>Variétés de type non scarole seulement</u>: Feuille: couleur de la nervure médiane à la base**	**<u>Nur krausblättrige Sorten und Zwischentypen</u>: Blatt: Farbe der Mittelrippe an der Basis**	**<u>Sólo variedades que no son de hojas anchas</u>: Hoja: color del nervio central en la base**		
		white				D'été à cœur jaune	1
		pink				De Meaux	2
25. (old 24)	**VG**	**Stem: height**	**Tige: hauteur**	**Stengel: Höhe**	**Tallo: altura**		
QN	**(c)**	short	courte	niedrig	bajo	De Louviers	3
		medium	moyenne	mittel	medio	D'été à cœur jaune	5
		tall	haute	hoch	alto	Cornet de la Loire, D'Hiver de Provence	7

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26. (old 25)	**VG**	**Stem: fasciation**	**Tige: fasciation**	**Stengel: Verbänderung**	**Tallo: fasciación**		
QL	**(c)**	absent	absente	fehlend	ausente	Cornet d'Anjou, D'Hiver de Provence, De Ruffec	1
		present	présente	vorhanden	presente	Golda, Grosse Bouclée 2	9
27. (old 26)	**VG**	**Stem: attitude of branches**	**Tige: port des ramifications**	**Stengel: Stellung der Seitentriebe**	**Tallo: porte de las ramificaciones**		
QN	**(c)**	erect	dressé	aufrecht	erecto	Grosse Bouclée 2	1
		semi-erect	demi dressé	halbaufrecht	semierecto		3
		horizontal	horizontal	waagerecht	horizontal	Ariga	5
28. (old 27)	**VG**	**Plain type varieties only: Stem: shape of stipules**	**Variétés de type scarole seulement: Tige: forme des stipules**	**Nur ganzblättrige Sorten: Stengel: Form der Nebenblätter**	**Sólo variedades de hojas anchas: Tallo: forma de las estípulas**		
QN	**(c)**	elliptic	elliptiques	elliptisch	elíptica		1
		broad elliptic	elliptiques larges	breit elliptisch	elíptica ancha	Blonde à cœur plein	2
		circular	arrondis	rund	circular	Solera	3
29. (old 28) (*) (+)	**VG**	**Flower: color**	**Fleur: couleur**	**Blüte: Farbe**	**Flor: color**		
PQ		white	blanche	weiß	blanco	De Louviers, Grosse pommant seule	1
		light pink	rose	rosa	rosa	Lisuna	2
		dark pink				Ascari	3
		blue	bleue	blau	azul	Grosse Bouclée 2	4
		violet blue	bleu violacé	violettblau	azul violeta	Alaska, Ariga, Sally, Wallonne	5
30. (old 29)	**MS**	**Time of harvest maturity**	**Époque de maturité de récolte**	**Zeitpunkt der Erntereife**	**Época de madurez para cosecha**		
QN		early	précoce	früh	temprana	Sally	3
		medium	moyenne	mittel	media		5
		late	tardive	spät	tardía	Wallonne	7
		very late	très tardive	sehr spät	muy tardía	Cornet d'Anjou	9

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31. (old 30) (*)	**MS**	**Time of bolting**	**Époque de montaison**	**Zeitpunkt des Schossens**	**Época de subida a flor**		
QN		very early	très précoce	sehr früh	muy temprana	Noveli	1
		early	précoce	früh	temprana	De Meaux, Grosse pommant seule	3
		medium	moyenne	mittel	media	Sally	5
		late	tardive	spät	tardía	Blonde à cœur plein	7
		very late	très tardive	sehr spät	muy tardía	Excel	9

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

Characteristics should be observed under natural conditions without forcing measures.

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

(a) Plant: All observations on the plant should be made just before harvest maturity.

(b) Leaf: All observations on the leaf should be made just before harvest maturity on leaves excluding the outer and center leaves.

(c) Stem: All observations on the stem should be made on a flowering stem.

(d) Flower: The color should be observed on just opened flowers, because the color of the flowers changes with ageing.

8.2 Explanations for individual characteristics

Ads. 1, 2, 3: Plant: botanical type and sub-types

Endive varieties can be divided into “Plain Type” and “Cut Type”:

(A) Plain type (*C. endivia* var. *latifolia*): Endives of the plain type are characterized by their full foliage with serrated margins. They differ from those of the cut type in that their leaves are broader, undulating or curled-up with marginal dentation and incurved towards the heart of the plant.

Plain type includes the following sub-types :

(1) Grosse bouclée 2 (Nummer Vijf 2): Short, broad foliage; large, full heart, with white, tightly-curled heart leaves. The leaves are slightly lobed.

(2) Breedblad Volhart Winter (A cœur plein): Somewhat flattened shape because the partly incurved inner leaves tend to cover the heart, thus forming quite a noticeable ball low down; the ball is broad, with crinkly leaves. The leaves are slightly lobed.

(3) Géante maraichère: Very voluminous variety of erect growth habit, abundant blond-green foliage and a tightly-closed heart. The leaves are not lobed.

(4) Cornet: Compared with the other plain-type endives this one has fewer but much more ample leaves, almost as broad as they are long, the margins broken up into numerous elongated serrations. The leaf, initially folded in the centre of the plant, spreads outwards as it grows, like the bell of a trumpet, often forming a sort of cap that continues for some time to envelop the younger, inner leaves, so forming a true heart.

(5) Ambio: The plant has the appearance of a plain type endive, the leaves have the structure of a plain type endive, however the leaves are deeply lobed to parted.

(B) Cut type (*C. endivia* var.*crispa*): Endives of the cut type are characterized by their numerous leaves disposed in a rosette shape, deeply indented and creased, smooth and more or less serrated.

Cut type includes the following sub-types:

(1) Wallonne: This type is characterized by its long, broad leaves cut into symmetrical lobes, with finely indented, curly margins and relatively narrow ribs.

(2) De Louviers: This type is characterized by very fine ribs, very finely and deeply indented, not very curly foliage and a tight heart.

(3) D'été à cœur jaune: This type is characterized by its broad white and fleshy ribs and semi-fine, spreading cut foliage, medium-indented, and quite a tight yellow heart.

Ad. 6: Plant: shape in longitudinal section

1
dome

2
flattened

3
pyramidal

4
conical

Ad. 7: Heart: tendency to bleach on the surface

1
absent or very weak

2
moderate

3
strong

Ad. 10: Plain type varieties only: Leaf: maximum width

3
narrow

5
medium

7
broad

Ad. 11: Cut type varieties only: Leaf: maximum width

3
narrow

5
medium

7
broad

Ad. 12: Plain type varieties only: Leaf: shape

1
narrow obovate

3
obovate

5
broad obovate

Ad. 15: Plain type varieties only: Leaf: depth of lobing

1
absent or very shallow

3
shallow

5
medium

7
deep

Ad. 16: Cut type varieties only: Leaf: venation

1
not flabellate

2
semi flabellate

3
flabellate

Ad. 17: Cut type varieties only: Leaf: length of lobes

3
short

5
medium

7
long

7
broad

9
very broad

Ad. 18: Plain type varieties only: Leaf: dentation of margin

1
absent or weak

2
medium

3
strong

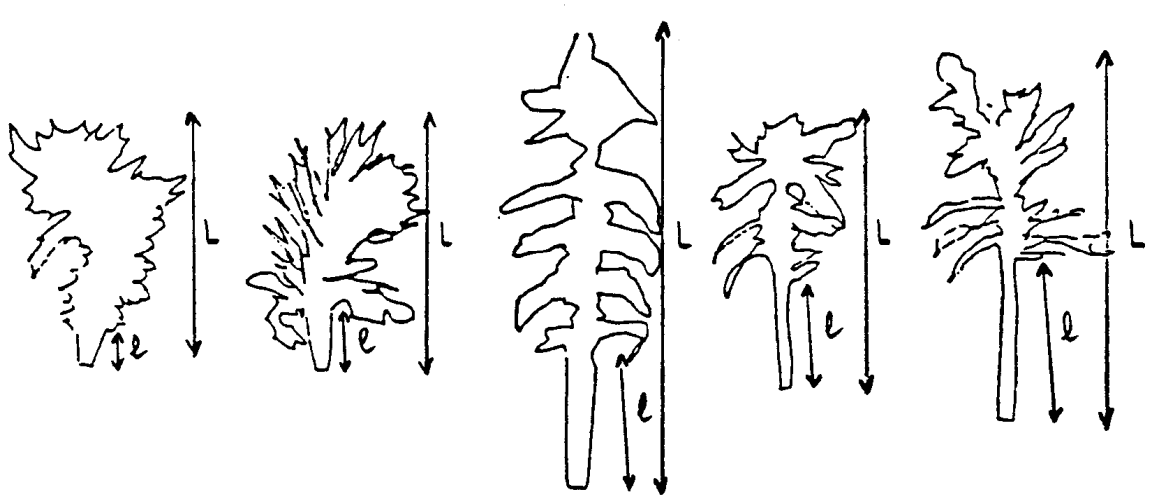
Ad. 19: Cut type varieties only: Leaf: length of dentation of margin

3
short

5
medium

7
long

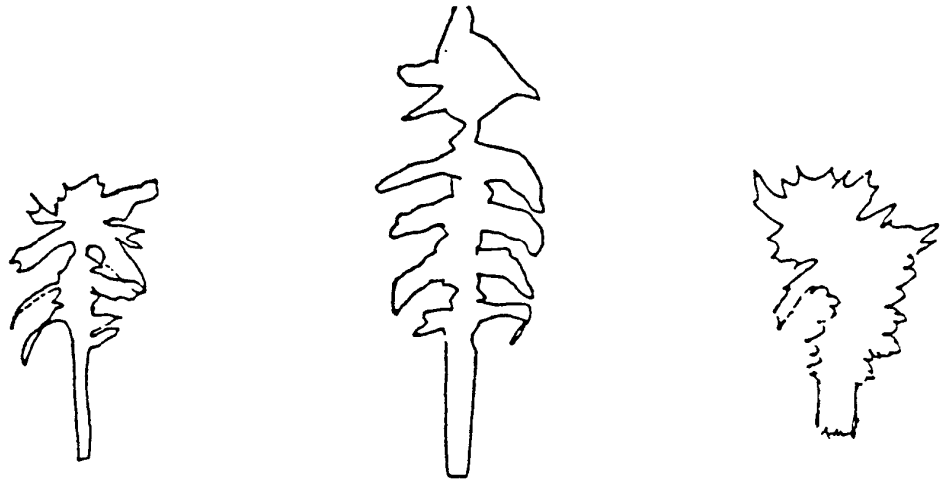
Ad. 22: Cut type varieties only: Leaf: ratio length of midrib without lamina/total length of leaf



L = total length of leaf
l = length of midrib without lamina

1	3	5	7	9
very small	small	medium	large	very large

Ad. 23: Leaf: width of midrib at base



3	5	7
narrow	medium	broad

Ad. 29: Flower: color

1	2	3	4	5
white	light pink RHS 75D	dark pink RHS 70D	blue RHS 97A	violet blue RHS 92B

9. Literature

No specific literature.

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	*Cichorium endivia L.*
1.2 Common name	Endive

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 Method of propagating the variety

(a) Cross-pollination

(b) 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:

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: botanical type**		
	plain type	*Cichorium endivia* var. *latifolia*	1[ ]
	cut type	*Cichorium endivia* var. *crispa*	2[ ]
5.2 (2)	**Plain type varieties only: Plant: sub-type**		
	Grosse bouclée		1[ ]
	Breedblad Volhart Winter		2[ ]
	Géante maraîchère		3[ ]
	Cornet		4[ ]
	Ambio		5[ ]
5.3 (3)	**Cut type varieties only: Plant: sub-type**		
	Wallonne		1[ ]
	Louviers		2[ ]
	D'été à cœur jaune		3[ ]
	Other types		4[ ]
5.4 (4)	**Plant: diameter**		
	very small	Belusa	1[ ]
	very small to small		2[ ]
	small	De Louviers	3[ ]
	small to medium		4[ ]
	medium	Blonde à cœur plein, D'été à cœur jaune, Golda	5[ ]
	medium to large		6[ ]
	large	Grosse Pancalière	7[ ]
	large to very large		8[ ]
	very large	Superfiorentina, Wallonne	9[ ]

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

	Characteristics	Example Varieties	Note
5.5 (13)	**Leaf: color**		
	yellowish green	Belusa, Blonde à cœur plein	1[ ]
	green	Grosse Bouclée 2, Novema	2[ ]
	greyish green	De Louviers, Nairobi	3[ ]
5.6 (14)	**Leaf: intensity of color**		
	very light		1[ ]
	very light to light		2[ ]
	light		3[ ]
	light to medium		4[ ]
	medium		5[ ]
	medium to dark		6[ ]
	dark		7[ ]
	dark to very dark		8[ ]
	very dark		9[ ]
5.7 (29)	**Flower: color**		
	white	De Louviers, Grosse pommant seule	1[ ]
	light pink	Lisuna	2[ ]
	dark pink	Ascari	3[ ]
	blue	Grosse Bouclée 2	4[ ]
	violet blue	Alaska, Ariga, Sally, Wallonne	5[ ]

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

	Characteristics	Example Varieties	Note
5.8 (31)	**Time of bolting**		
	very early	Noveli	1[ ]
	very early to early		2[ ]
	early	De Meaux, Grosse pommant seule	3[ ]
	early to medium		4[ ]
	medium	Sally	5[ ]
	medium to late		6[ ]
	late	Blonde à cœur plein	7[ ]
	late to very late		8[ ]
	very late	Excel	9[ ]

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	*Leaf: color*	*yellowish green*	*green*

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

A representative color image of the variety should accompany the Technical Questionnaire.

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

[Annex follows]

Comments by the Subgroup

Char 5: FR to provide illustrations
Char 6: FR to provide illustrations for state 3 and 4 and an example variety for state 4
Char 8: Fr to provide an explanation and to check whether example varieties of deleted 10 can be used for 9
Char 11: Fr to provide example varieties and an explanation
Char 20: Fr to provide example varieties and illustrations
Char 31.: Fr to provide new example varieties

[End of Annex and of document]