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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

DRAFT

ENDIVE

(Cichorium endivia L.)

(UPOV Code: **CICHO END**)

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 fifth session, to be held in Monterey, California, United States of America,
from July 25 to 29, 2011*

Alternative Names: *

| <i>Botanical name</i> | <i>English</i> | <i>French</i> | <i>German</i> | <i>Spanish</i> |
|--------------------------------|----------------|---------------|---------------|----------------|
| <i>Cichorium endivia</i> 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: type according to botanical variety (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 14);
- (e) Flower: color (characteristic 28);
- (f) Time of bolting (characteristic 30).

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 | <i>Cichorium endivia</i> var. <i>latifolia</i> | 1 |
| | cut type | frisée | krausblättrig | de hojas rizadas | <i>Cichorium endivia</i> var. <i>crispa</i> | 2 |

Char 1: Deleted intermediate type; chaged state 3 into state 2

FR: agreed (maybe in future class intermediate needed, ISF: reinstall state intermediate

| 2. VG Plain type varieties (* (+) | <u>Plant:</u> sub-type | <u>Variétés de type scarole seulement:</u> Plante: sous-type | <u>Nur ganzblättrige Sorten:</u> Pflanze: Untergruppe | <u>Sólo variedades de hojas anchas:</u> Planta: subtipo | |
|--|---|---|--|--|---|
| QL | Grosse bouclée | Grosse bouclée | Grosse bouclée | Grosse bouclée | 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 |

Char 2: Added 5th state 5; Ambio; chaged example variety for 2 from À Coeur plein into Breedblad Volhart Winter

| 3. VG Cut type varieties (* (+) | <u>Plant:</u> sub-type | <u>Variétés frisée:</u> Plante: sous-type | <u>Nur krausblättrige Sorten:</u> Pflanze: Untergruppe | <u>Excluyendo escarola de hojas rizadas:</u> Planta: subtipo | |
|--|---|--|---|---|---|
| QL | Wallonne | Wallonne | Wallonne | Wallonne | 1 |
| | 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 |

Char 3: Deleted (including intermediate types between cut and plain types) in state 4

Changed Louviers into de Louviers

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|------------------------------|-------------------------|---------------------------------|-------------------------|--|---------------|
| 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 |

Char 4: Added state 1, deleted example variety Batavia Améliorée, edited example var Superfiorentina

Char 5: Propose to delete char 5

FR: I don't exactly see the difference between heart and plant in chicory. In lettuce it's clear for head lettuce but in chicory it's more complicate. For me, two characteristics are very important: The attitude of outer leaves, (more or less actual characteristic 5) and the shape of the plant (your new characteristic 5.1). If we keep the characteristic 5.1, the example variety Cornet de la Loire must be changed.

| new VG 5.1 | Plant: shape in longitudinal section | Plante : | Pflanze: | Planta: | | |
|--------------------------|---|---|---------------------------------------|---|---|---|
| (+) | | | | | | |
| QN (a) dome | | | | | Cornet de la Loire, Gloire de l'Exposition | 1 |
| flattened | | | | | Nummer Vijf 2 | 2 |
| pyramidal | | | | | Cornet | 3 |
| 6. VG (*) (+) | Heart: shape in longitudinal section | Cœur: forme en section longitudinale | Herz: Form im Längsschnitt | Cogollo: forma en sección longitudinal | | |
| QN | elliptic | elliptique | elliptisch | elíptica | Cornet de la Loire | 1 |
| | transverse broad elliptic | elliptique large transverse | quer breit elliptisch | elíptica ancha transversal | D'été à cœur jaune | 2 |
| | transverse narrow elliptic | elliptique étroite transverse | quer schmal elliptisch | elíptica estrecha transversal | De Louviers, Golda | 3 |

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|----------|---------|---------|--|---------------|
| Char 6: Deleted example Argentée Mirabel | | | | | |
| Char 7: Propose to delete char 7 | | | | | |
| Char 8: Propose to delete char 8 | | | | | |
| FR: OK but prefer to keep the scale 3/5/7 | | | | | |

**new VG Heart: tendency to
 7.1 bleach on the
 surface**

(+)

| | | | | | |
|-----------|---------------------|--|--|-------------------|---|
| QN | absent or very weak | | | Géante maraîchère | 1 |
| | moderate | | | Amos | 2 |
| | strong | | | To be provided | 3 |

| 9. VG Leaf: attitude | 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 |

**10. VG Leaf: incurving of
 distal part**

(+)

| 10. VG Leaf: incurving of distal part | Feuille: courbure de l'extrémité | Blatt: Krümmung der Spitze | Hoja: curvatura de la parte distal | | |
|---|--|--|--|---|---|
| QN (b) weak | faible | gering | débil | Blonde à cœur plein, D'hiver de Provence | 1 |
| medium | moyenne | mittel | media | Grosse Pancalière | 2 |
| strong | forte | stark | fuerte | Géante maraîchère | 3 |

Char 10: Deleted example in state 7/3; changed states from 3-5-7 into 1-2-3

FR prefers scale 3/5/7

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|----------------------------|--------------------------|---------------------|-----------------------|--|---------------|
| 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, Nummer Vijf 2 | 5 |
| long | longue | lang | larga | D'été à cœur jaune, Tebas | 7 |
| very long | très longue | sehr lang | muy larga | Atleta | 9 |

Char 11: Added states 1 and 9, modified example varieties

| | | | | | |
|---|-------------------------|------------------------|----------------------|--|---|
| 12. VG <u>Plain type varieties</u> | Feuille: largeur | Blatt: maximale | Hoja: anchura | | |
| (+) <u>only: Leaf:</u> | maximale | Breite | máxima | | |
| maximum width | | | | | |
| QN (b) narrow | étroite | schmal | delgada | Pacos | 3 |
| medium | moyenne | mittel | media | Nummer Vijf 2 | 5 |
| broad | large | breit | ancha | D'été à cœur jaune, Géante maraîchère | 7 |

Char 12: Added +, Plain types only and modified example varieties

FR: We think that this characteristic is also useful for cut type, D'été à Coeur jaune is a cut type.

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|---|--|---|--|---------------|
| 13. VG <u>Plain type varieties only: Leaf: shape</u> (+) | <u>Variétés de type scarole seulement: Feuille: forme</u> | <u>Nur ganzblättrige Sorten: Blatt: Form</u> | <u>Sólo variedades de hojas anchas: Hoja: forma</u> | | |
| QN (b) narrow obovate | obovale étroite | schmal verkehrt eiförmig | oboval estrecha | Escariol grüner, Pacos | 1 |
| obovate | obovale | verkehrt eiförmig | oboval | Andes | 2 |
| broad obovate | obovale large | breit verkehrt eiförmig | oboval ancha | Divia, Géante maraîchère, Kalinka | 3 |

Char 13: Added +, changed 3,5,7 into 1,2,3, modified example varieties

FR prefers scale 3/5/7

| 14. VG <u>Leaf: color</u> (*) | <u>Feuille: couleur</u> | <u>Blatt: Farbe</u> | <u>Hoja: color</u> | | |
|---|-------------------------|---------------------|--------------------|--------------------------------|---|
| PQ (b) yellowish green | vert jaunâtre | gelblichgrün | verde amarillento | Belusa, Blonde à cœur plein | 1 |
| green | vert | grün | verde | Novema , Nummer Vijf 2 | 2 |
| greyish green | vert gris | gräulichgrün | verde grisáceo | De Louviers, Nairobi | 3 |

Char 14: Modified example varieties

| 15. VG <u>Leaf: intensity of color</u> | <u>Feuille: intensité de la couleur</u> | <u>Blatt: Intensität der Färbung</u> | <u>Hoja: intensidad del color</u> | | |
|---|---|--------------------------------------|-----------------------------------|--|---|
| QN (b) light | claire | hell | claro | | 3 |
| medium | moyenne | mittel | medio | | 5 |
| dark | foncée | dunkel | oscuro | | 7 |

Char 15: Deleted green in color

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---------|----------|---------|---------|--|---------------|
|---------|----------|---------|---------|--|---------------|

Char 16: Propose to delete Char 16

FR: All your 16.n characteristics seem very interesting but very difficult and very expensive to observe. Perhaps a more global approach must be search. To be discussed during the TWV.

16.1 VG Plain type varieties

new only: Leaf: depth of lobing

(+)

| | | |
|--------------------------------------|--|---|
| QN (b) absent or very shallow | Géante Mâraichère | 1 |
| shallow | Blonde à Coeur plein, Nummer Vijf 2 | 3 |
| medium | Maruschka | 5 |
| deep | Ambio | 7 |
| very deep | Friscaro | 9 |

16.2 VG Cut type varieties

new only: Leaf: venation

(+)

| | | |
|------------------------------|--|---|
| QN (b) not flabellate | Wallonne | 1 |
| semi flabellate | D'été à coeur jaune | 2 |
| flabellate | De Louviers, Gloire de l'exposition | 3 |

16.3 VG Cut type varieties

new only: Leaf: number of lobes

(+)

| | | |
|-------------------|-----------------------------------|---|
| QN (b) few | | 3 |
| medium | D'été à Coeur jaune, Wallonne | 5 |
| many | Kentucky, Trés fine Mâraichère | 7 |
| very many | Zidane | 9 |

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|---|---------|---------|--|---------------|
| 16.4 VG <u>Cut type varieties</u> | | | | | |
| new | <u>only:</u> Leaf: length of lobes | | | | |
| (+) | | | | | |
| QN (b) | short | | | Wallonne | 3 |
| | medium | | | D'été à Coeur jaune | 5 |
| | long | | | Trés fine Mâraichère | 7 |
| | very long | | | | 9 |
| 16.5 VG <u>Cut type varieties</u> | | | | | |
| new | <u>only:</u> Leaf: width of lobes | | | | |
| (+) | | | | | |
| QN (b) | very narrow | | | Fresseta, Naomi | 1 |
| | narrow | | | Kentucky | 3 |
| | medium | | | Mercedes | 5 |
| | broad | | | D'été à Coeur jaune | 7 |
| | very broad | | | Wallonne | 9 |
| 16.6 VG <u>Plain type varieties</u> | | | | | |
| new | <u>only:</u> Leaf: dentation of margin | | | | |
| (+) | | | | | |
| QN (b) | absent or weak | | | Nummer Vijf 2 | 1 |
| | medium | | | Géante Mâraichère | 2 |
| | strong | | | Cornet | 3 |
| 16.7 VG <u>Cut type varieties</u> | | | | | |
| new | <u>only:</u> Leaf: length of dentation of margin | | | | |
| (+) | | | | | |
| QN (b) | short | | | Atleta | 3 |
| | medium | | | Trés fine Mâraichère | 5 |
| | long | | | Ruffec | 7 |

FR: On the photos, it's not easy to see exactly what differences

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|----------|---------|---------|--|---------------|
| 17. VG <u>Cut type varieties</u> | | | | | |
| (+) <u>only: Leaf: density of dentation of margin</u> | | | | | |
| QN (b) sparse | | | | Trés fine Mâraichère | 1 |
| medium | | | | Wallonne | 2 |
| dense | | | | De Ruffec, Fijne Krul Groen | 3 |

Char 17: scale and example varieties amended

FR: we prefer scale 3/5/7

| | | | | | |
|--|------------------------------------|---------------------------|-----------------------------------|----------------------|---|
| 18. VG <u>Cut type varieties</u> | Feuille: ondulation du bord | Blatt: Randwellung | Hoja: ondulación del borde | | |
| <u>only: Leaf: undulation of margin</u> | | | | | |
| QN (b) weak | faible | gering | débil | Trés fine Mâraichère | 3 |
| medium | moyenne | mittel | media | Atleta | 5 |
| strong | forte | stark | fuerte | Fijne Krul groen | 7 |

Char 18: limited to non plain type only, amended example varieties

| | | | | | |
|---|----------------------------|-----------------------|----------------------|---------------------|---|
| 19. VG <u>Plain type varieties</u> | Feuille: crispation | Blatt: Faltung | Hoja: crenado | | |
| <u>only: Leaf: creasing</u> | | | | | |
| QN (b) weak | faible | gering | débil | Géante Mâraichère | 3 |
| medium | moyenne | mittel | medio | Nummer Vijf 2 | 5 |
| strong | forte | stark | fuerte | Blonde à cœur plein | 7 |

Char 19: limited to plain types, amended example varieties

FR: I don't agree with your proposition and for us this is an important characteristic for plain endives.

Char 20; proposed to delete char 20

| English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---|---|---|---|--|---------------|
| 21. VG <u>Cut type varieties</u> (* (+)) only: 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: Blatt:</u> Verhältnis Länge der Mittelrippe ohne Blattspreite/Gesamt- länge des Blattes | <u>Sólo variedades que no son de hojas</u> <u>anchas: Hoja:</u> 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 |
| Char 21: amended example varieties | | | | | |
| FR: we prefer scale 3/5/7 | | | | | |
| 22. VG <u>Cut type varieties</u> (* (+)) only: Leaf: width of midrib at base | <u>Variétés de type frisée seulement:</u> Feuille: largeur de la nervure médiane à la base | <u>Nur krausblättrige Sorten:Blatt: Breite</u> der Mittelrippe an der Basis | <u>Sólo variedades que no son de hojas</u> <u>anchas Hoja:</u> 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 | 5 |
| broad | large | breit | ancho | Wallonne | 7 |
| Char 22: limited to non plain types; amended example varieties | | | | | |
| FR: I am not sure that this characteristic is only for cut types. | | | | | |
| Char 23: proposed to delete char 23 | | | | | |
| ISF Propose to keep Leaf: color of midrib at base | | | | | |
| 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 |
|---|---|---|---|--|---------------|
| 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, Nummer Vijf 2 | 9 |
| 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 | Nummer Vijf 2 | 1 |
| semi-erect | demi dressé | halbaufrecht | semierecto | | 3 |
| horizontal | horizontal | waagerecht | horizontal | Ariga | 5 |
| 27. VG Plain type varieties (*) | 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 |
| 28. VG Flower: color (*) | Fleur: couleur | Blüte: Farbe | Flor: color | | |
| PQ | blanche | weiß | blanco | De Louviers, Grosse pommant seule | 1 |
| light pink | rose | rosa | rosa | Lisuna | 2 |
| dark pink | | | | Ascari | 3 |
| blue | bleue | blau | azul | Nummer Vijf 2 | 4 |
| violet blue | bleu violacé | violettblau | azul violeta | Alaska, Ariga, Sally, Wallonne | 5 |

Char 28: modified state 3 pink into light pink and dark pink, modified example varieties

FR: We can agree with this proposition but this observation must be made on just open flowers because the colour of flowers change with the age of flower.

| | English | français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-------------------|---------------------------------|--------------------------------------|---------------------------------|--------------------------------------|--|---------------|
| 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 | Wallone | 7 |
| | very late | très tardive | sehr spät | muy tardía | Cornet d'Anjou | 9 |
| 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 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.

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



- (2) A cœur plein (Breedblad Volhart Winter): 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.

Photograph to be provided

- (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.

Photograph to be provided

Ad. 5.1: Plant: shape in longitudinal section

Illustrations to be provided

1
dome

2
flattened

3
pyramidal

Ad. 6: Heart: shape in longitudinal section



1
elliptic



2
transverse broad elliptic



3
transverse narrow elliptic

Ad. 7.1: Heart: tendency to bleach on the surface

To be provided

1
absent to very weak

2
moderate

3
strong

Ad. 10: Leaf: incurving of distal part



1
weak



2
medium



3
strong

Ad. 12: Plain type varieties only: Leaf: maximum width



3
narrow



5
medium



7
broad

Ad. 13: Plain type varieties only: Leaf: shape



1
narrow obovate



2
obovate



3
broad obovate

Ad. 16.1: Plain type varieties only: Leaf: depth of lobing



1
absent or very
shallow



3
shallow



5
medium



7
deep

Ad. 16.2: Cut type varieties only: Leaf: venation



1
not flabellate



2
semi flabellate



3
flabellate

Ad. 16.3: Cut type varieties only: Leaf: number of lobes



Ad. 16.4: Cut type varieties only: Leaf: length of lobes



Ad. 16.5: Cut type varieties only: Leaf: width of lobes



Ad. 16.6: Plain type varieties only: Leaf: dentation of margin



1
absent or weak
Nummer Vijf 2

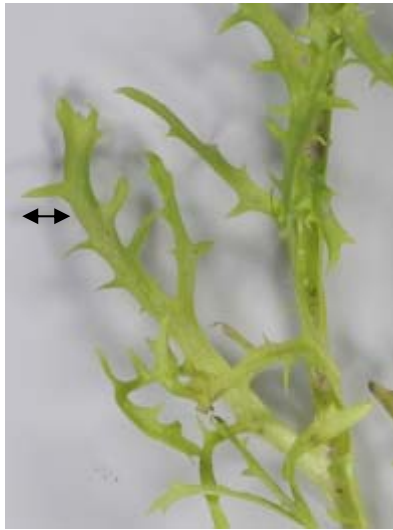
2
medium
Géante maraîchère

3
strong
Cornet

Ad. 16.7: Cut type varieties only: Leaf: length of dentation of margin



3
short
Atleta



5
medium
Trés fine maraîchère



7
long
De Ruffec

Ad. 17: Cut type varieties only: Leaf: density of dentation of margin



1
sparse
Trés fine maraîchère

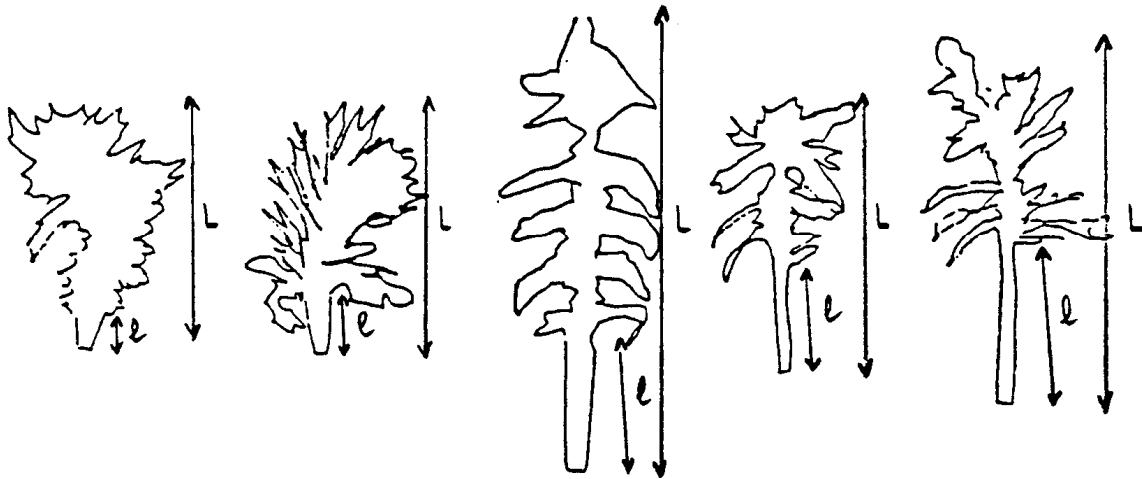


2
medium
Wallonne



3
dense
De Ruffec

Ad. 21: 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
very small

3
small

5
medium

7
large

9
very large

Ad. 22: Cut type varieties only: Leaf: width of midrib at base



3
narrow



5
medium



7
broad

Ad. 28: Flower: color



1
white

2
light pink
RHS 75D

3
dark pink
RHS 70D

4
blue
RHS 97A

5
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) |
| <p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights { ASW 13 (Chapter 10: TQ title) – TQ for hybrid varieties }</p> <p>“In the case of hybrid varieties which are the subject of an application for plant breeders' rights, and where the parent lines are to be submitted as a part of the examination of the hybrid variety, this Technical Questionnaire should be completed for each of the parent lines, in addition to being completed for the hybrid variety.”</p> | | |
| 1. Subject of the Technical Questionnaire | | |
| 1.1 Botanical name | <input type="text" value="{ Botanical name }"/> | |
| 1.2 Common name | <input type="text" value="{ Common name }"/> { ASW 14 (Chapter 10: TQ 1) – Subject of the TQ } | |
| 2. Applicant | | |
| Name | <input type="text"/> | |
| Address | <input type="text"/> | |
| Telephone No. | <input type="text"/> | |
| Fax No. | <input type="text"/> | |
| E-mail address | <input type="text"/> | |
| Breeder (if different from applicant) | <input type="text"/> | |
| 3. Proposed denomination and breeder's reference | | |
| Proposed denomination (if available) | <input type="text"/> | |

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

{ **ASW 15** (Chapter 10: TQ 4.1) – information on breeding scheme }

“Variety resulting from:

“4.1.1 Crossing

“(a) controlled cross []
(please state parent varieties)

(.....) x (.....)
female parent male parent

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

(.....) x (.....)
female parent male parent

“(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.

4.2 Method of propagating the variety

{ **GN 31** (Chapter 10: TQ 4.2) – information on method of propagating the variety }

Example 1

“4.2.1 Seed-propagated varieties

- “(a) Self-pollination []
- “(b) Cross-pollination []
- (i) population []
- (ii) synthetic variety []
- “(c) Hybrid []
- { ...see GN 32 for example... }
- “(d) Other []
- (please provide details)”

“4.2.2 Vegetatively propagated varieties

{ ...see Example 2... } [... ..]

“4.2.3 Other []”

(please provide details)”

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

Example 2

“4.2.1 Vegetative propagation

“(a) cuttings []

“(b) *in vitro* propagation []

“(c) other (state method) []

“4.2.2 Seed []

“4.2.3 Other []”
 (please provide details)”

{ **GN 32** (Chapter 10: TQ 4.2) – information on method of propagation of hybrid varieties }

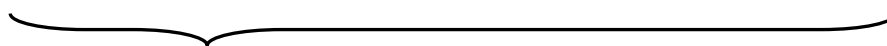
“In the case of hybrid varieties the production scheme for the hybrid should be provided on a separate sheet. This should provide details of all the parent lines required for propagating the hybrid e.g.

“Single Hybrid

(.....) x (.....)
 female parent male parent

“Three-Way Hybrid

(.....) x (.....)
 female line male line



(.....) x (.....)
 single hybrid used as female parent 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 Plant: botanical type (1) | | |
| plain type | <i>Cichorium endivia</i> var. <i>latifolia</i> | 1 |
| cut type | <i>Cichorium endivia</i> var. <i>crispa</i> | 2 |
| 5.2 Plain type varieties only: Plant: sub-type (2) | | |
| Grosse bouclée | | 1 |
| Breedblad Volhart Winter | | 2 |
| Géante maraîchère | | 3 |
| Cornet | | 4 |
| Ambio | | 5 |
| 5.3 Cut type varieties only: Plant: sub-type (3) | | |
| Wallonne | | 1 |
| Louviers | | 2 |
| D'été à cœur jaune | | 3 |
| Other types | | 4 |
| 5.4 Leaf: color (14) | | |
| yellowish green | Belusa, Blonde à cœur plein | 1 |
| green | Novema, Nummer Vijf 2 | 2 |
| greyish green | De Louviers, Nairobi | 3 |

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

| | | | |
|----------------------------|-----------------------------------|--|---|
| 5.5 Flower: color | | | |
| (28) | | | |
| white | De Louviers, Grosse pommant seule | | 1 |
| light pink | Lisuna | | 2 |
| dark pink | Ascari | | 3 |
| blue | Nummer Vijf 2 | | 4 |
| violet blue | Alaska, Ariga, Sally, Wallonne | | 5 |
| 5.6 Time of bolting | | | |
| (30) | | | |
| 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 |
|---|---|--|--|
|---|---|--|--|

| | | | |
|----------------|---|--|--|
| <i>Example</i> | { GN 33 } (Chapter 10: TQ 6) – similar varieties } | | |
|----------------|---|--|--|

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|-----------|
| 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

{ **GN 34** (Chapter 10: TQ 7.3) – variety use }

{ **ASW 16** (Chapter 10: TQ 7.3) – where a photograph of the variety is to be provided }

“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”.

.....

{ **ASW 17** (Chapter 10: TQ 9.3) – tests for the presence of virus or other pathogens }

“9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes []
(please provide details as specified by the Authority)

No []”

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant’s name

Signature

Date