



These Test Guidelines have been superseded by a later version. The latest adopted version of Test Guidelines can be found at [http://www.upov.int/test\\_guidelines/en/list.jsp](http://www.upov.int/test_guidelines/en/list.jsp)

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Ces principes directeurs d'examen ont été remplacés par une version ultérieure. La version adoptée la plus récente des principes directeurs d'examen figure à l'adresse suivante : [http://www.upov.int/test\\_guidelines/fr/list.jsp](http://www.upov.int/test_guidelines/fr/list.jsp)

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Diese Prüfungsrichtlinien wurden durch eine neuere Fassung ersetzt. Die neueste angenommene Fassung von Prüfungsrichtlinien ist unter [http://www.upov.int/test\\_guidelines/de/list.jsp](http://www.upov.int/test_guidelines/de/list.jsp) zu finden.

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Las presentes directrices de examen han sido reemplazadas por una versión posterior. La versión de las directrices de examen de más reciente aprobación está disponible en [http://www.upov.int/test\\_guidelines/es/list.jsp](http://www.upov.int/test_guidelines/es/list.jsp).



TG/184/4

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**ARTICHOKE, CARDOON**

UPOV Code: CYNAR\_CAR

*Cynara cardunculus* L.

**GUIDELINES**

**FOR THE CONDUCT OF TESTS**

**FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

*Alternative Names:\**

| <i>Botanical name</i>        | <i>English</i>                            | <i>French</i>        | <i>German</i>  | <i>Spanish</i>   |
|------------------------------|---|----------------------|--|------------------|
| <i>Cynara cardunculus</i> L. | Globe artichoke,<br>Artichoke,<br>Cardoon | Artichaut,<br>Cardon | Artischocke, Cardy,<br>Gemüseartichoke-<br>Cardy,<br>Kardonenartischocke | Alcachofa, Cardo |

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](http://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 *Cynara cardunculus* L..

## 2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of seed (seed propagated varieties) or plant (vegetatively propagated varieties).

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

- |                                       |             |
|---------------------------------------|-------------|
| a) seed propagated varieties:         | 1,500 seeds |
| b) vegetatively propagated varieties: | 60 plants.  |

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. 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 40 plants, which should be divided between at least two 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 10 plants or parts taken from each of 10 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:

### (a) *Cross-pollinated varieties*

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

### (b) *Hybrid varieties/Inbred lines*

4.2.3 For the assessment of uniformity of inbred lines and hybrids, a population standard of 5% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 40 plants, 4 off-types are allowed. In addition, for hybrids, the same population standard and acceptance probability should be applied to clearly recognizable inbred plants.

In the case of a sample size of 40 plants, 4 clearly recognizable inbred plants would be allowed.

(c) *Vegetatively propagated varieties*

4.2.4 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.

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 or plant 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 characteristics are used for grouping of varieties into Artichoke or Cardoon:

- (a) Midrib: thickness at 35 cm from base (characteristic 14)
- (b) Main stem: diameter (characteristic 19)
- (c) Central flower head: length (characteristic 20)
- (d) Central flower head: diameter (characteristic 21)
- (e) Outer bract: thickness at base (characteristic 39)
- (f) Plant: number of lateral heads on main stem (characteristic 40)

The following have been agreed as useful grouping characteristics within Artichoke:

- (a) Leaf: intensity of lobing (characteristic 3)
- (b) Artichoke varieties only: Main stem: time of beginning of elongation (characteristic 17)
- (c) Artichoke varieties only: Central flower head: shape in longitudinal section (characteristic 22)
- (d) Artichoke varieties only: Outer bract: violet color on external side (characteristic 30)

The following have been agreed as useful grouping characteristics within Cardoon:

- (a) Leaf: intensity of lobing (characteristic 3)
- (b) Cardoon varieties only: Midrib: color (characteristic 9)
- (c) Midrib: length of spines (characteristic 16)

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”.

5.5 A key for grouping varieties into artichoke and cardoon is provided in Chapter 8.1.

## 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.

The types of example varieties are indicated as follows:

- (A) Artichoke
- (C) Cardoon

### 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)-(d) See Explanations on the Table of Characteristics in Chapter 8.2

(+) See Explanations on the Table of Characteristics in Chapter 8.3

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

|            | English                  | français  | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielsorten<br>Variedades ejemplo | Note/<br>Nota   |
|------------|--------------------------|---|--|---|---|---|
| <b>1.1</b> | <b>VG/<br/>MS</b>        | <b><u>Artichoke</u><br/>varieties only:<br/>Plant: height</b> | <b><u>Variétés d'artichaut</u><br/>uniquement : Plante :<br/>hauteur</b> | <b><u>Nur</u><br/>Artischockensorten:<br/>Pflanze: Höhe</b> | <b><u>Sólo variedades de</u><br/>la alcachofa:<br/>Planta: altura</b> |   |
| <b>QN</b>  | (a)                      | short   | courte   | niedrig   | baja  | 3   |
|            |                          | medium  | moyenne  | mittel  | media   | Vert Globe (A) 5  |
|            |                          | tall  | haute  | hoch  | alta  | Madrigal (A) 7  |
| <b>1.2</b> | <b>VG/<br/>MS</b>        | <b><u>Cardoon varieties</u><br/>only: Plant:<br/>height</b>   | <b><u>Variétés de cardon</u><br/>uniquement : Plante :<br/>hauteur</b>   | <b><u>Nur Cardysorten:</u><br/>Pflanze: Höhe</b>            | <b><u>Sólo variedades del</u><br/>cardo: Planta:<br/>altura</b>       |   |
| <b>QN</b>  | (a)                      | short   | courte   | niedrig   | baja  | 3   |
|            |                          | medium  | moyenne  | mittel  | media   | Rouge d'Alger (C) 5   |
|            |                          | tall  | haute  | hoch  | alta  | Verde de Peralta (C) 7  |
| <b>2.</b>  | <b>VG</b>                | <b>Leaf: attitude</b>   | <b>Feuille : port</b>  | <b>Blatt: Stellung</b>                                      | <b>Hoja: porte</b>  |   |
| <b>QN</b>  | (a)                      | erect   | dressé   | aufrecht  | erecto  | Pètre (A),<br>Vert de Provence (A),<br>Vert de Vaulx en Velin<br>(C) 1                  |
|            |                          | semi-erect  | demi-dressé  | halbaufrecht  | semierecto  | Camus de Bretagne (A),<br>Olympus (A),<br>Plein blanc amélioré (C) 3                    |
|            |                          | horizontal  | horizontal   | waagerecht  | horizontal  | Blanc hyérois (A),<br>Symphony (A) 5  |
| <b>3.</b>  | <b>VG<br/>(*<br/>(+)</b> | <b>Leaf: intensity of<br/>lobing</b>                          | <b>Feuille : intensité<br/>de la découpe<br/>du bord</b>                 | <b>Blatt: Intensität der<br/>Lappung</b>                    | <b>Hoja: intensidad<br/>del lobulado</b>                              |   |
| <b>QN</b>  | (a)                      | weak  | faible   | gering  | leve  | Blanca de Tudela (A),<br>Plein blanc amélioré<br>Puvis (C),<br>Violet de Provence (A) 3 |
|            |                          | medium  | moyenne  | mittel  | medio   | Ateca (C),<br>Loma (A),<br>Plein blanc amélioré (C) 5                                   |
|            |                          | strong  | forte  | stark   | fuerte  | Opal (A),<br>Vert de Vaulx en Velin<br>(C) 7  |

|           | English   | français  | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota   |   |
|-----------|-----------|---|--|---|--|---|---|
| <b>4.</b> | <b>VG</b> | <b>Lobe: shape of tip (excluding terminal lobe)</b> | <b>Lobe : forme de l'extrémité (lobe terminal exclu)</b> | <b>Lappen: Form der Spitze (ohne Endlappen)</b> | <b>Lóbulo: forma del extremo (excluido el lóbulo terminal)</b>         |   |   |
| (+)       |           |   |  |   |  |   |   |
| <b>PQ</b> | (a)       | narrow acute  | aiguë, étroite   | schmal spitz                                    | agudo estrecho   | Ateca (C),<br>Matterhorn (A),<br>Vert de Vaulx en Velin (C)       | 1 |
|           |           | broad acute   | aiguë, large   | breit spitz                                     | agudo ancho  | Plein blanc amélioré (C)  | 2 |
|           |           | rounded   | arrondie   | abgerundet                                      | redondeado   |   | 3 |
| <b>5.</b> | <b>VG</b> | <b>Lobe: number of secondary lobes</b>              | <b>Lobe : nombre de lobes secondaires</b>                | <b>Lappen: Anzahl Sekundärlappen</b>            | <b>Lóbulo: número de lóbulos secundarios</b>                           |   |   |
| (+)       |           |   |  |   |  |   |   |
| <b>QN</b> | (a)       | absent or very few                                  | nul ou très petit  | fehlend oder sehr gering                        | ninguno o muy escaso   | Plein blanc amélioré (C),<br>Puvis (C),<br>Violet de Provence (A) | 1 |
|           |           | few   | petit  | gering  | escaso   | Camus de Bretagne (A),<br>Matterhorn (A),<br>Rouge d'Alger (C)    | 3 |
|           |           | medium  | moyen  | mittel  | medio  | Blanc hyérois (A),<br>Popvert (A),<br>Vert de Vaulx en Velin (C)  | 5 |
|           |           | many  | grand  | groß  | elevado  | Opal (A)  | 7 |
|           |           | very many   | très grand   | sehr groß                                       | muy elevado  |   | 9 |
| <b>6.</b> | <b>VG</b> | <b>Leaf blade: blistering</b>                       | <b>Limbe : cloquère</b>                                  | <b>Blattspreite: Blasigkeit</b>                 | <b>Limbo: abullonado</b>   |   |   |
| <b>QN</b> | (a)       | weak  | faible   | gering  | leve   | Blanc hyérois (A),<br>Matterhorn (A),<br>Plein blanc amélioré (C) | 3 |
|           |           | medium  | moyenne  | mittel  | medio  | Calico (A),<br>Rouge d'Alger (C)                                  | 5 |
|           |           | strong  | forte  | stark   | fuerte   | Chrysanthème (A),<br>Harmony (A),                                 | 7 |

|                  | English  | français  | deutsch   | español  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|------------------|--|---|---|--|--|---------------|
| <b>7. VG</b>     | <b>Leaf blade: color</b>   | <b>Limbe : couleur</b>  | <b>Blattspreite: Farbe</b>  | <b>Limbo: color</b>  |  |               |
| <b>PQ</b>        | (a) yellow green   | vert-jaune  | gelbgrün  | verde amarillento  | Bianco avorio a foglia frastagliata (C),<br>Blanc hyérois (A)          | 1             |
|                  | light green  | vert clair  | hellgrün  | verde claro  | Salambo (A)  | 2             |
|                  | medium green   | vert moyen  | mittelgrün  | verde medio  | Plein blanc amélioré (C)   | 3             |
|                  | dark green   | vert foncé  | dunkelgrün  | verde oscuro   | Madrigal (A)   | 4             |
|                  | grey green   | vert-gris   | graugrün  | verde grisáceo   | Camus de Bretagne (A),<br>Symphony (A),<br>Vert de Vaulx en Velin (C)  | 5             |
| <b>8. VG</b>     | <b><u>Artichoke varieties only:</u><br/>Midrib:<br/>anthocyanin<br/>coloration at base</b> | <b><u>Variétés d'artichaut uniquement :</u><br/>Nervure médiane :<br/>pigmentation<br/>anthocianique au<br/>niveau de la base</b> | <b><u>Nur Artischockensorten:</u><br/>Mittelrippe:<br/>Anthocyanfärbung<br/>der Basis</b> | <b><u>Sólo variedades de la alcachofa:</u><br/>Nervio central:<br/>pigmentación<br/>antociánica de la<br/>base</b> |  |               |
| <b>QN</b>        | (a) absent or very weak  | nulle ou très faible  | fehlend oder sehr gering  | ausente o muy leve   | Blanca de Tudela   | 1             |
|                  | weak   | faible  | gering  | leve   | Castel, Loma   | 3             |
|                  | medium   | moyenne   | mittel  | media  | Adir, Opal, Pètre  | 5             |
|                  | strong   | forte   | stark   | fuerte   | Violet de Provence   | 7             |
|                  | very strong  | très forte  | sehr stark  | muy fuerte   |  | 9             |
| <b>9. VG (*)</b> | <b><u>Cardoon varieties only:</u><br/>Midrib:<br/>color</b>                                | <b><u>Variétés de cardon uniquement :</u><br/>Nervure médiane :<br/>couleur</b>   | <b><u>Nur Cardysorten:</u><br/>Mittelrippe: Farbe</b>                                     | <b><u>Sólo variedades del cardo:</u><br/>Nervio central: color</b>   |  |               |
| <b>PQ</b>        | (a) whitish  | blanchâtre  | weißlich  | blanquecino  | Plein blanc amélioré   | 1             |
|                  | light green  | vert clair  | hellgrün  | verde claro  | Vert de Vaulx en Velin   | 2             |
|                  | medium green   | vert moyen  | mittelgrün  | verde medio  |  | 3             |
|                  | dark green   | vert foncé  | dunkelgrün  | verde oscuro   |  | 4             |
|                  | light red  | rouge clair   | hellrot   | rojo claro   |  | 5             |
|                  | medium red   | rouge moyen   | mittelrot   | rojo medio   |  | 6             |
|                  | dark red   | rouge foncé   | dunkelrot   | rojo oscuro  | Rouge d'Alger  | 7             |

|            | English           | français   | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo   | Note/<br>Nota                                   |
|------------|-------------------|--|---|---|--|---|
| <b>10.</b> | <b>VG/<br/>MS</b> | <b><u>Cardoon varieties</u><br/>only: Midrib:<br/>length free of<br/>leaflets</b>  | <b><u>Variétés de cardon</u><br/>uniquement :<br/>Nervure médiane :<br/>longueur sans folioles</b>            | <b><u>Nur Cardysorten:</u><br/>Mittelrippe: Länge<br/>ohne Blattfiedern</b>             | <b><u>Sólo variedades del<br/>cardo: Nervio<br/>central: longitud<br/>sin folíolos</u></b>                     |   |
| <b>QN</b>  | <b>(a)</b>        | short  | courte  | kurz  | corto  | 3   |
|            |                   | medium   | moyenne   | mittel  | medio  | 5   |
|            |                   | long   | longue  | lang  | largo  | 7   |
| <b>11.</b> | <b>VG/<br/>MS</b> | <b><u>Cardoon varieties</u><br/>only: Midrib:<br/>length from base<br/>to apex</b> | <b><u>Variétés de cardon</u><br/>uniquement :<br/>Nervure médiane :<br/>longueur de la base<br/>au sommet</b> | <b><u>Nur Cardysorten:</u><br/>Mittelrippe: Länge<br/>von der Basis zur<br/>Spitze</b>  | <b><u>Sólo variedades del<br/>cardo: Nervio<br/>central: longitud<br/>desde la base hasta<br/>el ápice</u></b> |   |
| <b>QN</b>  | <b>(a)</b>        | short  | courte  | kurz  | corto  | 3   |
|            |                   | medium   | moyenne   | mittel  | medio  | Gigante di Romagna,<br>Vert de Vaulx en Velin 5 |
|            |                   | long   | longue  | lang  | largo  | Ateca 7   |
| <b>12.</b> | <b>VG/<br/>MS</b> | <b><u>Cardoon varieties</u><br/>only: Midrib:<br/>width at 5 cm<br/>from base</b>  | <b><u>Variétés de cardon</u><br/>uniquement :<br/>Nervure médiane :<br/>largeur à 5 cm de la<br/>base</b>     | <b><u>Nur Cardysorten:</u><br/>Mittelrippe: Breite<br/>5 cm oberhalb der<br/>Basis</b>  | <b><u>Sólo variedades del<br/>cardo: Nervio<br/>central: anchura a<br/>5 cm de la base</u></b>                 |   |
| <b>QN</b>  | <b>(a)</b>        | narrow   | étroite   | schmal  | estrecho   | 3   |
|            |                   | medium   | moyenne   | mittel  | medio  | Vert de Vaulx en Velin 5                        |
|            |                   | broad  | large   | breit   | amplio   | Plein blanc amélioré 7                          |
| <b>13.</b> | <b>VG/<br/>MS</b> | <b><u>Cardoon varieties</u><br/>only: Midrib:<br/>width at 35 cm<br/>from base</b> | <b><u>Variétés de cardon</u><br/>uniquement :<br/>Nervure médiane :<br/>largeur à 35 cm de la<br/>base</b>    | <b><u>Nur Cardysorten:</u><br/>Mittelrippe: Breite<br/>35 cm oberhalb der<br/>Basis</b> | <b><u>Sólo variedades del<br/>cardo: Nervio<br/>central: anchura a<br/>35 cm de la base</u></b>                |   |
| <b>QN</b>  | <b>(a)</b>        | narrow   | étroite   | schmal  | estrecho   | 3   |
|            |                   | medium   | moyenne   | mittel  | medio  | Vert de Vaulx en Velin 5                        |
|            |                   | broad  | large   | breit   | ancho  | Verde de Peralta 7                              |

|            | English       | français  | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo                               | Note/<br>Nota  |   |
|------------|---------------|---|---|---|--|--|---|
| <b>14.</b> | <b>VG/ MS</b> | <b>Midrib: thickness at 35 cm from base</b>   | <b>Nervure médiane : épaisseur à 35 cm de la base</b>   | <b>Mittelrippe: Dicke 35 cm oberhalb der Basis</b>  | <b>Nervio central: grosor a 35 cm de la base</b>   |  |   |
| <b>QN</b>  | <b>(a)</b>    | very thin   | très mince  | sehr dünn   | muy fino   | Matterhorn (A),<br>Violet de Camargue (A)                | 1 |
|            |               | thin  | mince   | dünn  | fino   | Opal (A),<br>Vert de Vaulx en Velin (C)                  | 3 |
|            |               | medium  | moyenne   | mittel  | medio  | Plein blanc amélioré<br>Puvis (C)                        | 5 |
|            |               | thick   | épaisse   | dick  | grueso   | Menuet (A),<br>Plein blanc amélioré (C)                  | 7 |
|            |               | very thick  | très épaisse  | sehr dick   | muy grueso   | Verde de Peralta (C)                                     | 9 |
| <b>15.</b> | <b>VG</b>     | <b><u>Cardoon varieties only: Midrib: profile of inner side at 5 cm from base</u></b> | <b><u>Variétés de cardon uniquement : Nervure médiane : profil de la face interne à 5 cm de la base</u></b> | <b><u>Nur Cardysorten: Mittelrippe: Profil der Innenseite 5 cm oberhalb der Basis</u></b> | <b><u>Sólo variedades del cardo: Nervio central: perfil de la cara interna a 5 cm de la base</u></b> |  |   |
| <b>QN</b>  | <b>(a)</b>    | slightly concave  | légèrement concave  | leicht konkav   | ligeramente cóncavo  | Plein blanc amélioré                                     | 3 |
|            |               | moderately concave  | modérément concave  | mäßig konkav  | moderadamente cóncavo  | Rouge d'Alger  | 5 |
|            |               | strongly concave  | fortement concave   | stark konkav  | muy cóncavo  |  | 7 |
| <b>16.</b> | <b>VG/ MG</b> | <b>Midrib: length of spines</b>   | <b>Nervure médiane : longueur des épines</b>  | <b>Mittelrippe: Länge der Stacheln</b>  | <b>Nervio central: longitud de las espinas</b>   |  |   |
| <b>QN</b>  | <b>(a)</b>    | absent or very short  | nulle ou très courte  | fehlend oder sehr kurz  | ausentes o muy cortas  | Bianco inerma (C ),<br>Madrigal (A)                      | 1 |
|            |               | short   | courte  | kurz  | cortas   | Castel (A),<br>Plein blanc amélioré (C)                  | 3 |
|            |               | medium  | moyenne   | mittel  | medias   | Vert de Vaulx en Velin (C),<br>Violet de Provence (C)    | 5 |
|            |               | long  | longue  | lang  | largas   | Epineux argenté de Plainpalais (C),<br>Spinoso Sardo (A) | 7 |

|                             | English   | français  | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|-----------------------------|---|---|--|---|--|---------------|
| <b>17. MG</b><br>(*)<br>(+) | <b><u>Artichoke varieties only:</u></b><br>Main stem: time of beginning of elongation         | <b><u>Variétés d'artichaut uniquement :</u></b> Tige principale : époque de début d'élongation                          | <b><u>Nur Artischockensorten:</u></b><br>Haupttrieb: Zeitpunkt des Beginns der Streckung | <b><u>Sólo variedades de la alcachofa:</u></b> Tallo principal: época de inicio de la elongación      |  |               |
| <b>QN</b>                   | early   | précoce   | früh   | precoz  | Blanca de Tudela   | 3             |
|                             | medium  | moyenne   | mittel   | media   | Opal   | 5             |
|                             | late  | tardive   | spät   | tardía  | Madrigal   | 7             |
| <b>18.1 VG/ MS</b>          | <b><u>Artichoke varieties only:</u></b><br>Main stem: height from base to central flower head | <b><u>Variétés d'artichaut uniquement :</u></b> Tige principale : hauteur à partir de la base jusqu'au capitule central | <b><u>Nur Artischockensorten:</u></b><br>Haupttrieb: Höhe von Basis bis Hauptblütenkopf  | <b><u>Sólo variedades de la alcachofa:</u></b> Tallo principal: altura de la base al capítulo central |  |               |
| <b>QN</b> (b)               | short   | courte  | niedrig  | corto   | Blanca de Tudela, Opal   | 3             |
|                             | medium  | moyenne   | mittel   | medio   | Madrigal, Matterhorn   | 5             |
|                             | tall  | haute   | hoch   | alto  | Olympus  | 7             |
| <b>18.2 VG/ MS</b>          | <b><u>Cardoon varieties only:</u></b> Main stem: height from base to central flower head      | <b><u>Variétés de cardon uniquement :</u></b> Tige principale : hauteur à partir de la base jusqu'au capitule central   | <b><u>Nur Cardysorten:</u></b><br>Haupttrieb: Höhe von Basis bis Hauptblütenkopf         | <b><u>Sólo variedades del cardo:</u></b> Tallo principal: altura de la base al capítulo central       |  |               |
| <b>QN</b> (b)               | short   | courte  | niedrig  | corto   |  | 3             |
|                             | medium  | moyenne   | mittel   | medio   | Plein blanc amélioré<br>Puvís  | 5             |
|                             | tall  | haute   | hoch   | alto  | Ateca  | 7             |
| <b>19. (*)</b><br>(+)       | <b>VG/ MS</b><br>Main stem: diameter  | <b>Tige principale :</b> diamètre   | <b>Haupttrieb:</b> Durchmesser   | <b>Tallo principal:</b> diámetro  |  |               |
| <b>QN</b> (b)               | small   | petit   | klein  | pequeño   |  | 3             |
|                             | medium  | moyen   | mittel   | medio   |  | 5             |
|                             | large   | grand   | groß   | grande  |  | 7             |

|                   | English      | français   | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo                             | Note/<br>Nota                           |
|-------------------|--------------|--|---|---|--|---|
| <b>20. (*)</b>    | <b>VG/MS</b> | <b>Central flower head: length</b>   | <b>Capitule central : longueur</b>  | <b>Hauptblütenkopf: Länge</b>   | <b>Capítulo central: longitud</b>  |   |
| <b>QN</b>         | <b>(b)</b>   | short  | courte  | kurz  | corto  | Ateca (C) 3                             |
|                   |              | medium   | moyenne   | mittel  | medio  | Imperial Star (A) 5                     |
|                   |              | long   | longue  | lang  | largo  | Adir (A) 7                              |
| <b>21. (*)</b>    | <b>VG/MS</b> | <b>Central flower head: diameter</b>   | <b>Capitule central : diamètre</b>  | <b>Hauptblütenkopf: Durchmesser</b>   | <b>Capítulo central: diámetro</b>  |   |
| <b>QN</b>         | <b>(b)</b>   | small  | petit   | klein   | pequeño  | Ateca (C) 3                             |
|                   |              | medium   | moyen   | mittel  | medio  | 5                                       |
|                   |              | large  | grand   | groß  | grande   | Matterhorn (A) 7                        |
| <b>22. (*)(+)</b> | <b>VG/MS</b> | <b><u>Artichoke varieties only:</u><br/>Central flower head: shape in longitudinal section</b> | <b><u>Variétés d'artichaut uniquement :</u><br/>Capitule central : forme en section longitudinale</b> | <b><u>Nur Artischockensorten:</u><br/>Hauptblütenkopf: Form im Längsschnitt</b> | <b><u>Sólo variedades de la alcachofa:</u><br/>Capítulo central: forma en sección longitudinal</b> |   |
| <b>PQ</b>         | <b>(b)</b>   | triangular   | triangulaire  | dreieckig   | triangular   | Violet de Provence 1                    |
|                   |              | ovate  | ovale   | eiförmig  | oval   | Madrigal, Opal 2                        |
|                   |              | oblong   | oblongue  | rechteckig  | oblongo  | Chrysanthème 3                          |
|                   |              | circular   | ronde   | kreisförmig   | circular   | 4                                       |
|                   |              | oblate   | aplatie   | breitrund   | achatado   | 5                                       |
| <b>23. (+)</b>    | <b>VG</b>    | <b><u>Artichoke varieties only:</u><br/>Central flower head: shape of apex</b>                 | <b><u>Variétés d'artichaut uniquement :</u><br/>Capitule central : forme du sommet</b>                | <b><u>Nur Artischockensorten:</u><br/>Hauptblütenkopf: Form der Spitze</b>      | <b><u>Sólo variedades de la alcachofa:</u><br/>Capítulo central: forma del ápice</b>               |   |
| <b>PQ</b>         | <b>(b)</b>   | acute  | pointue   | spitz   | agudo  | Violet de Provence 1                    |
|                   |              | rounded  | arrondie  | abgerundet  | redondeado   | Camus de Bretagne, Concerto, Madrigal 2 |
|                   |              | flat   | aplatie   | flach   | plano  | Chrysanthème 3                          |
|                   |              | depressed  | déprimée  | eingesenkt  | deprimido  | Pètre 4                                 |



|            | English           | français  | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo   | Note/<br>Nota                         |
|------------|-------------------|---|---|---|--|---------------------------------------|
| <b>24.</b> | <b>VG</b>         | <b><u>Artichoke varieties only:</u><br/>Central flower head: anthocyanin coloration of inner bracts</b> | <b><u>Variétés d'artichaut uniquement :</u><br/>Capitule central : pigmentation anthocianique des bractées internes</b> | <b><u>Nur Artischockensorten:</u><br/>Hauptblütenkopf: Anthocyanfärbung der inneren Deckblätter</b> | <b><u>Sólo variedades de la alcachofa:</u><br/>Capítulo central: pigmentación antocianica de las brácteas internas</b> |                                       |
| <b>QN</b>  | (c)               | absent or very weak   | nulle ou très faible  | fehlend oder sehr gering  | ausente o muy leve   | Popvert 1                             |
|            |                   | weak  | faible  | gering  | leve   | Catsel, Harmony, Madrigal, Opal, 3    |
|            |                   | medium  | moyenne   | mittel  | media  | Blanc hyérois, Matterhorn 5           |
|            |                   | strong  | forte   | stark   | fuerte   | Chrysanthème 7                        |
|            |                   | very strong   | très forte  | sehr stark  | muy fuerte   | Salambo 9                             |
| <b>25.</b> | <b>VG</b>         | <b><u>Artichoke varieties only:</u><br/>Central flower head: density of inner bracts</b>                | <b><u>Variétés d'artichaut uniquement :</u><br/>Capitule central : densité des bractées internes</b>                    | <b><u>Nur Artischockensorten:</u><br/>Hauptblütenkopf: Dichte der inneren Deckblätter</b>           | <b><u>Sólo variedades de la alcachofa:</u><br/>Capítulo central: densidad de las brácteas internas</b>                 |                                       |
| (+)        |                   |   |   |   |  |                                       |
| <b>QN</b>  | (c)               | sparse  | lâche   | locker  | laxas  | 3                                     |
|            |                   | medium  | moyenne   | mittel  | medias   | Blanca de Tudela, Camus de Bretagne 5 |
|            |                   | dense   | dense   | dicht   | densas   | Madrigal 7                            |
| <b>26.</b> | <b>VG/<br/>MS</b> | <b><u>Artichoke varieties only:</u><br/>Receptacle: diameter</b>  | <b><u>Variétés d'artichaut uniquement :</u><br/>Réceptacle : diamètre</b>   | <b><u>Nur Artischockensorten:</u><br/>Blütenboden: Durchmesser</b>                                  | <b><u>Sólo variedades de la alcachofa:</u><br/>Receptáculo: diámetro</b>   |                                       |
| (+)        |                   |   |   |   |  |                                       |
| <b>QN</b>  | (c)               | small   | petit   | klein   | pequeño  | Violet de Provence 3                  |
|            |                   | medium  | moyen   | mittel  | mediano  | Camus de Bretagne, Opal 5             |
|            |                   | large   | grand   | groß  | grande   | Salambo 7                             |

|            | English  | français  | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|------------|--|---|---|---|--|---------------|
| <b>27.</b> | <b>VG/<br/>MS</b>  | <b><u>Artichoke varieties only:</u></b>               | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>                     | <b><u>Sólo variedades de la alcachofa:</u></b>                         |               |
| (+)        | <b>Receptacle: thickness</b>                             | <b>Réceptacle : épaisseur</b>                         | <b>Blütenboden: Dicke</b>                                 | <b>Receptáculo: grosor</b>                                |  |               |
| <b>QN</b>  | (c) thin   | mince   | dünn  | fino  | Blanc hyérois,<br>Blanca de Tudela                                     | 3             |
|            | medium   | moyenne   | mittel  | medio   | Daniel, Pètre  | 5             |
|            | thick  | épaisse   | dick  | grueso  | Camus de Bretagne,<br>Castel   | 7             |
| <b>28.</b> | <b>VG</b>  | <b><u>Artichoke varieties only:</u></b>               | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>                     | <b><u>Sólo variedades de la alcachofa:</u></b>                         |               |
| (+)        | <b>Receptacle: shape in longitudinal section</b>         | <b>Réceptacle : forme en section longitudinale</b>    | <b>Blütenboden: Form im Längsschnitt</b>                  | <b>Receptáculo: forma en sección longitudinal</b>         |  |               |
| <b>QN</b>  | (c) flat or slightly depressed                           | plane ou légèrement déprimée                          | flach oder leicht eingesenkt                              | plano o levemente deprimido                               |  | 1             |
|            | moderately depressed                                     | modérément déprimée                                   | mäßig eingesenkt  | moderadamente deprimido                                   | Camus de Bretagne,<br>Salambo, Tempo                                   | 2             |
|            | strongly depressed                                       | fortement déprimée                                    | stark eingesenkt  | muy deprimido   | Blanc hyérois,<br>Imperial Star  | 3             |
| <b>29.</b> | <b>MG/<br/>MS</b>  | <b><u>Artichoke varieties only:</u></b>               | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>                     | <b><u>Sólo variedades de la alcachofa:</u></b>                         |               |
| (+)        | <b>Central flower head: time of beginning of opening</b> | <b>Capitule central : époque de début d'ouverture</b> | <b>Hauptblütenkopf: Zeitpunkt des Beginns der Öffnung</b> | <b>Capítulo central: época de comienzo de la apertura</b> |  |               |
| <b>QN</b>  | early  | précoce   | früh  | precoz  | Chrysanthème,<br>Imperial Star, Loma                                   | 3             |
|            | medium   | moyenne   | mittel  | mediana   | Camus de Bretagne  | 5             |
|            | late   | tardive   | spät  | tardía  | Blanca de Tudela,<br>Madrigal, Popvert                                 | 7             |

|            | English    | français  | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota  |
|------------|------------|---|--|---|--|--|
| <b>30.</b> | <b>VG</b>  | <b><u>Artichoke</u></b>                                 | <b><u>Variétés d'artichaut</u></b>                               | <b><u>Nur</u></b>   | <b><u>Sólo variedades de</u></b>                                       |  |
| (*)        |            | <b><u>varieties only:</u></b>                           | <b><u>uniquement :</u></b>                                       | <b><u>Artischockensorten:</u></b>                         | <b><u>la alcachofa:</u></b>  |  |
| (+)        |            | <b>Outer bract: violet color on external side</b>       | <b>Bractées externes : couleur violette sur la face externe</b>  | <b>Äußeres Deckblatt: violette Farbe der Außenseite</b>   | <b>Bráctea externa: color violeta en la cara externa</b>               |  |
| <b>PQ</b>  | <b>(d)</b> | absent or very weak                                     | nulle ou très faible   | fehlend oder sehr gering                                  | ausente o muy leve   | Harmony  |
|            |            | weak  | faible   | gering  | leve   | Violet de Provence   |
|            |            | medium  | moyenne  | mittel  | medio  | Chrysanthème   |
|            |            | strong  | forte  | stark   | fuerte   | Concerto, Salambo  |
|            |            | very strong   | très forte   | sehr stark  | muy fuerte   | Velours  |
| <b>31.</b> | <b>VG</b>  | <b><u>Artichoke</u></b>                                 | <b><u>Variétés d'artichaut</u></b>                               | <b><u>Nur</u></b>   | <b><u>Sólo variedades de</u></b>                                       |  |
| (*)        |            | <b><u>varieties only:</u></b>                           | <b><u>uniquement :</u></b>                                       | <b><u>Artischockensorten:</u></b>                         | <b><u>la alcachofa:</u></b>  |  |
| (+)        |            | <b>Outer bract: coloration of apex on external side</b> | <b>Bractées externes : couleur du sommet sur la face externe</b> | <b>Äußeres Deckblatt: Farbe der Spitze der Außenseite</b> | <b>Bráctea externa: color del ápice en la cara externa</b>             |  |
| <b>QL</b>  | <b>(d)</b> | green   | vert   | grün  | verde  | Calico   |
|            |            | bronze  | bronze   | bronzefarben  | bronce   | Blanc hyérois, Sakiz                                       |
|            |            | grey  | gris   | grau  | gris   | Camus de Bretagne  |
| <b>32.</b> | <b>VG</b>  | <b><u>Artichoke</u></b>                                 | <b><u>Variétés d'artichaut</u></b>                               | <b><u>Nur</u></b>   | <b><u>Sólo variedades de</u></b>                                       |  |
| (*)        |            | <b><u>varieties only:</u></b>                           | <b><u>uniquement :</u></b>                                       | <b><u>Artischockensorten:</u></b>                         | <b><u>la alcachofa:</u></b>  |  |
| (+)        |            | <b>Outer bract: shape of apex</b>                       | <b>Bractées externes : forme du sommet</b>                       | <b>Äußeres Deckblatt: Form der Spitze</b>                 | <b>Bráctea externa: forma del ápice</b>                                |  |
| <b>PQ</b>  | <b>(d)</b> | acute   | pointue  | spitz   | agudo  | Harmony,<br>Spinoso Sardo                                  |
|            |            | flat  | aplatie  | flach   | plano  | Concerto, Talpiot  |
|            |            | emarginate  | émargée  | eingekerbt  | emarginado   | Chrysanthème,<br>Imperial Star,<br>Madrigal,<br>Matterhorn |

|            | English    | français                                  | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota                          |
|------------|------------|---|---|---|--|--|
| <b>33.</b> | <b>VG</b>  | <b><u>Artichoke varieties only:</u></b>   | <b><u>Variétés d'artichaut uniquement :</u></b>       | <b><u>Nur Artischockensorten:</u></b>               | <b><u>Sólo variedades de la alcachofa:</u></b>                         |  |
| (+)        |            | <b>Outer bract: depth of emargination</b> | <b>Bractées externes : profondeur de l'échancrure</b> | <b>Äußeres Deckblatt: Tiefe der Randeinschnitte</b> | <b>Bráctea externa: profundidad de la emarginación</b>                 |  |
| <b>QN</b>  | <b>(d)</b> | shallow                                   | peu profonde  | flach   | poco profunda  | Castel, Pyrenees, Violet de Provence 1 |
|            |            | medium                                    | moyenne   | mittel  | media  | Blanc hyérois, Monquelina 3            |
|            |            | deep                                      | profonde  | tief  | profunda   | Chrysanthème, Imperial Star 5          |
| <b>34.</b> | <b>VG</b>  | <b><u>Artichoke varieties only:</u></b>   | <b><u>Variétés d'artichaut uniquement :</u></b>       | <b><u>Nur Artischockensorten:</u></b>               | <b><u>Sólo variedades de la alcachofa:</u></b>                         |  |
| (+)        |            | <b>Outer bract: reflexing of tip</b>      | <b>Bractées externes : courbure de la pointe</b>      | <b>Äußeres Deckblatt: Biegung der Spitze</b>        | <b>Bráctea externa: curvatura del extremo</b>                          |  |
| <b>QN</b>  | <b>(d)</b> | inwards                                   | vers l'intérieur                                      | nach innen gebogen                                  | hacia dentro   | Chrysanthème 1                         |
|            |            | straight                                  | droite  | gerade  | derecho  | Castel, Violet de Provence 2           |
|            |            | outwards                                  | vers l'extérieur                                      | nach außen gebogen                                  | hacia fuera  | Olympus 3                              |
| <b>35.</b> | <b>VG</b>  | <b><u>Artichoke varieties only:</u></b>   | <b><u>Variétés d'artichaut uniquement :</u></b>       | <b><u>Nur Artischockensorten:</u></b>               | <b><u>Sólo variedades de la alcachofa:</u></b>                         |  |
| (*)        |            | <b>Outer bract: length of spine</b>       | <b>Bractées externes : longueur de l'épine</b>        | <b>Blütenstiel: Länge der Stacheln</b>              | <b>Bráctea externa: longitud de la espina</b>                          |  |
| <b>QN</b>  | <b>(d)</b> | absent or very short                      | nulle ou très courte                                  | fehlend oder sehr kurz                              | ausente o muy corta  | Matterhorn, Opal 1                     |
|            |            | short                                     | courte  | kurz  | corta  | Chrysanthème, Pyrenees 3               |
|            |            | medium                                    | moyenne   | mittel  | media  | Violet de Provence 5                   |
|            |            | long                                      | longue  | lang  | larga  | Spinoso Sardo 7                        |
|            |            | very long                                 | très longue   | sehr lang   | muy larga  | 9                                      |

|            | English      | français                                | deutsch   | español                                      | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota                           |
|------------|--------------|---|---|--|--|---|
| <b>36.</b> | <b>VG</b>    | <b><u>Artichoke varieties only:</u></b> | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>        | <b><u>Sólo variedades de la alcachofa:</u></b>                         |   |
| (+)        |              | <b>Outer bract: mucron</b>              | <b>Bractées externes : mucron</b>                         | <b>Äußeres Deckblatt: aufgesetzte Spitze</b> | <b>Bráctea externa: mucrón</b>   |   |
| <b>QL</b>  | (d)          | absent                                  | absent  | fehlend                                      | ausente  | Chrysanthème, Pyrenees 1                |
|            |              | present                                 | présent   | vorhanden                                    | presente   | Camus de Bretagne 9                     |
| <b>37.</b> | <b>VG</b>    | <b><u>Artichoke varieties only:</u></b> | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>        | <b><u>Sólo variedades de la alcachofa:</u></b>                         |   |
| (*)        |              | <b>Outer bract: shape</b>               | <b>Bractées externes : forme</b>                          | <b>Äußeres Deckblatt: Form</b>               | <b>Bráctea externa: forma</b>  |   |
| <b>QN</b>  | (d)          | broader than long                       | plus larges que longues                                   | breiter als lang                             | más ancha que larga  | Calico, Cric, Pètre 1                   |
|            |              | as broad as long                        | aussi larges que longues                                  | so breit wie lang                            | tan ancha como larga   | Camus de Bretagne, Pètre 2              |
|            |              | longer than broad                       | plus longues que larges                                   | länger als breit                             | más larga que ancha  | Harmony, Vert de Provence 3             |
| <b>38.</b> | <b>VG/MS</b> | <b><u>Artichoke varieties only:</u></b> | <b><u>Variétés d'artichaut uniquement :</u></b>           | <b><u>Nur Artischockensorten:</u></b>        | <b><u>Sólo variedades de la alcachofa:</u></b>                         |   |
| (+)        |              | <b>Outer bract: length of base</b>      | <b>Bractées externes : longueur de la base</b>            | <b>Äußeres Deckblatt: Länge der Basis</b>    | <b>Bráctea externa: longitud de la base</b>                            |   |
| <b>QN</b>  | (d)          | short                                   | courte  | kurz   | corta  | 3                                       |
|            |              | medium                                  | moyenne   | mittel                                       | media  | 5                                       |
|            |              | long                                    | longue  | lang   | larga  | 7                                       |
| <b>39.</b> | <b>VG/MG</b> | <b>Outer bract: thickness at base</b>   | <b>Bractées externes : épaisseur au niveau de la base</b> | <b>Äußeres Deckblatt: Dicke an der Basis</b> | <b>Bráctea externa: grosor en la base</b>                              |   |
| (*)        | (+)          |   |   |  |  |   |
| <b>QN</b>  | (d)          | thin                                    | fine  | dünn   | fina   | 1                                       |
|            |              | medium                                  | moyenne   | mittel                                       | media  | Blanc hyérois, Imperial Star, Popvert 2 |
|            |              | thick                                   | épaisse   | dick   | gruesa   | Pètre 3                                 |

|            | English    | français                | deutsch                    | español                | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|------------|------------|-------------------------|----------------------------|------------------------|--|---------------|
| <b>40.</b> | <b>VG/</b> | <b>Plant: number of</b> | <b>Plante : nombre de</b>  | <b>Pflanze: Anzahl</b> | <b>Planta: número de</b>   |               |
| <b>(*)</b> | <b>MS</b>  | <b>lateral heads on</b> | <b>têtes latérales sur</b> | <b>seitlicher</b>      | <b>capítulos laterales</b>   |               |
|            |            | <b>main stem</b>        | <b>la tige principale</b>  | <b>Blütenköpfe am</b>  | <b>en el tallo principal</b>   |               |
|            |            |                         | <b>Haupttrieb</b>          |                        |  |               |
| <b>QN</b>  | very few   | très petit              | sehr gering                | muy escaso             |  | 1             |
|            | few        | petit                   | gering                     | escaso                 | Blanc hyérois  | 3             |
|            | medium     | moyen                   | mittel                     | medio                  | Salambo  | 5             |
|            | many       | grand                   | groß                       | elevado                | Chrysanthème   | 7             |
|            | very many  | très grand              | sehr groß                  | muy elevado            | Cynamed  | 9             |

8. Explanations on the Table of Characteristics

8.1 *Key for grouping varieties into artichoke and cardoon*

- to classify varieties as Artichoke if at least one characteristic is in the Artichoke zone and no characteristics are in the Cardoon zone (in the grey zone for all other characteristics)

- to classify as Cardoon if at least one characteristic is in the Cardoon zone and no characteristics in the Artichoke zone (in the grey zone for all other characteristics)

- in all other cases the variety to be grown in both Artichoke and Cardoon trials.

The following characteristics are used for grouping of varieties into Artichoke or Cardoon:

**Characteristic 14: Midrib: thickness at 35 cm from base**

|   |           |
|---|-----------|
| 1 |           |
| 2 | Artichoke |
| 3 |           |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 | Cardoon   |
| 8 |           |
| 9 |           |

**Characteristic 18: Main stem: height from base to central flower head**

|   |           |
|---|-----------|
| 1 |           |
| 2 |           |
| 3 | Artichoke |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 |           |
| 8 | Cardoon   |
| 9 |           |

---

**Characteristic 19: Main stem: diameter**

---

|   |           |
|---|-----------|
| 1 |           |
| 2 | Cardoon   |
| 3 |           |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 | Artichoke |
| 8 |           |
| 9 |           |

---

**Characteristic 20: Central flower head: length**

---

|   |           |
|---|-----------|
| 1 |           |
| 2 | Cardoon   |
| 3 |           |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 | Artichoke |
| 8 |           |
| 9 |           |

---

**Characteristic 21: Central flower head: diameter**

---

|   |           |
|---|-----------|
| 1 |           |
| 2 | Cardoon   |
| 3 |           |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 | Artichoke |
| 8 |           |
| 9 |           |

---



---

**Characteristic 39: Outer bract: thickness at base**

---

|   |           |
|---|-----------|
| 1 |           |
| 2 | Cardoon   |
| 3 |           |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 | Artichoke |
| 8 |           |
| 9 |           |

---

**Characteristic 40: Plant: number of lateral heads on main stem**

---

|   |           |
|---|-----------|
| 1 |           |
| 2 |           |
| 3 | Artichoke |
| 4 |           |
| 5 |           |
| 6 |           |
| 7 |           |
| 8 | Cardoon   |
| 9 |           |

---

8.2 *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) Characteristics on plant, foliage (leaf, leaf blade and midrib = the central vein of the leaf, running down the centre of the blade) should be observed at fully vegetative development, just after the first flower head appears, but before the main flowering stem starts to elongate. Observations should be made at 10-12 leaves-stage on the 3rd-4th whorl of leaves from the base of the plant.
- (b) Characteristics on the main flowering stem and central flower head should be observed at the harvest stage of the central flower head (largest size of central flower head just before reflexing of lower part of bracts).
- (c) These characteristics should be observed on harvested central flower heads, cut in longitudinal section.
- (d) Characteristics on the outer bract should be observed on the 5<sup>th</sup> whorl of bracts from the base of the central flower head (close to the middle third of the flower head).

8.3 *Explanations for individual characteristics*

Ad. 3: Leaf: intensity of lobing

It includes the number of the primary lobes and the secondary lobes of the leaf.



3  
weak



5  
medium



7  
strong

Ad. 4: Lobe: shape of tip (excluding terminal lobe)



1  
narrow acute

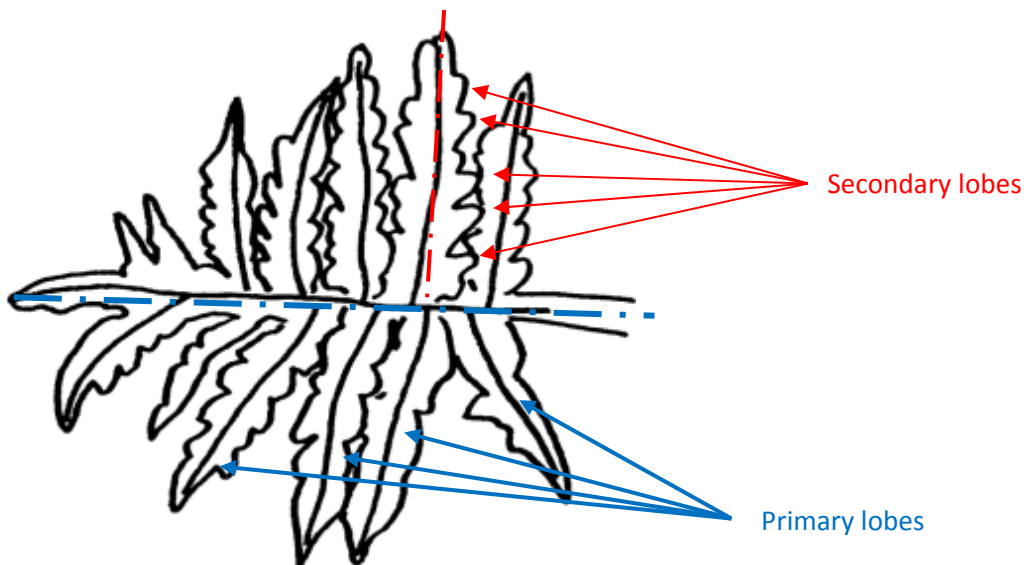


2  
broad acute



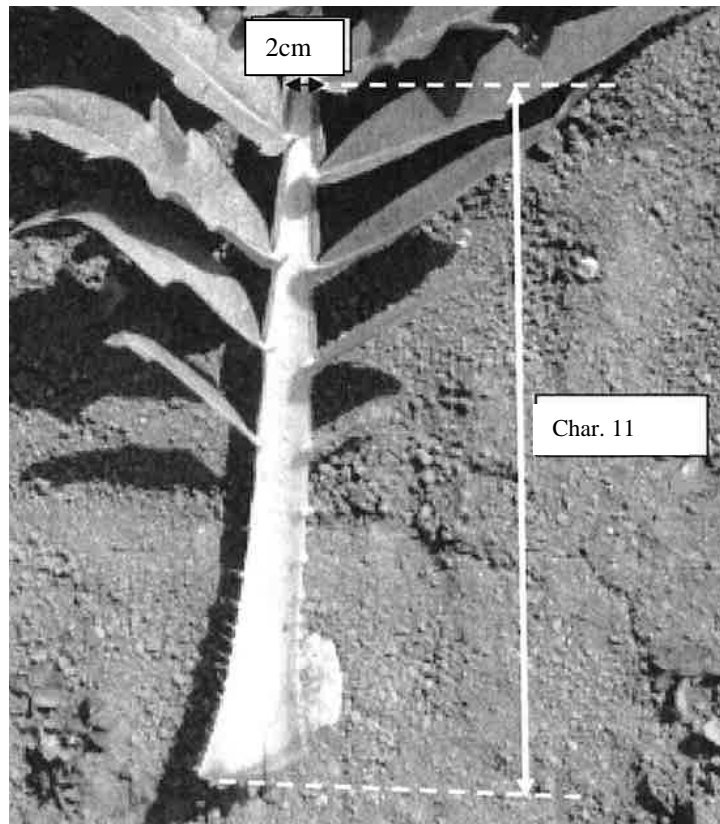
3  
rounded

Ad. 5: Lobe: number of secondary lobes



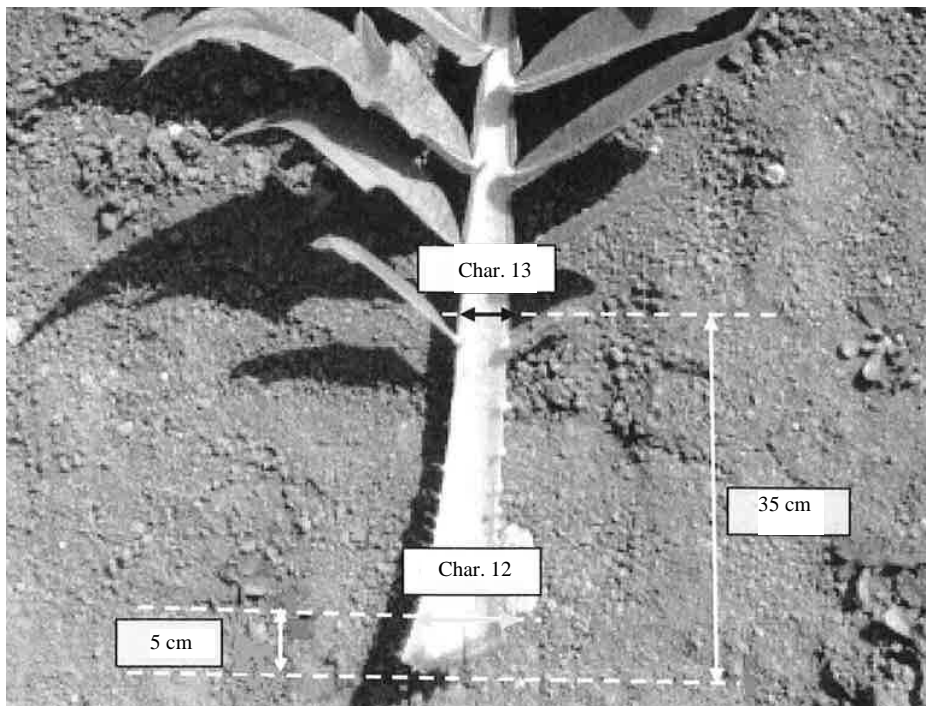
Ad. 11: Cardoon varieties only: Midrib: length from base to apex

The length of the midrib is estimated by the distance between the base of the leaf to the point at 2 cm width on the rib.







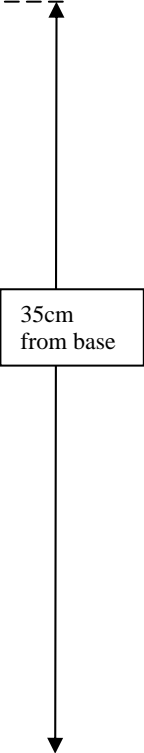


Ad. 12: Cardoon varieties only: Midrib: width at 5 cm from base


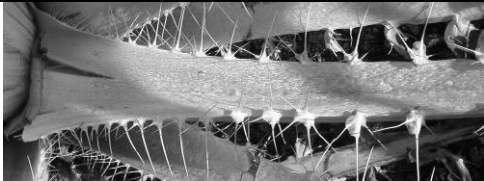
Ad. 13: Cardoon varieties only: Midrib: width at 35 cm from base



Ad. 14: Midrib: thickness at 35 cm from base

|           |  |  |   |            |
|-----------|--|--|---|------------|
|           |     |   |   |            |
|           |    |  |  |            |
|           |  |  |   |            |
| 1         | 3  | 5  | 7   | 9          |
| very thin | thin   | medium   | thick   | very thick |

Ad. 16: Midrib: length of spines

|        |   |  |
|--------|---|--|
| short  | 3 |  |
| medium | 5 |  |
| long   | 7 |  |

Ad. 17: Artichoke varieties only: Main stem: time of beginning of elongation

The time of beginning of elongation is when the flower stem emerges from the rosette of leaves.

The functioning of the cauline apex dominates the whole life of the plant. After forming a rosette of leaves, its transformation leads to the development of a complex form of inflorescence: a cyme of flower heads.

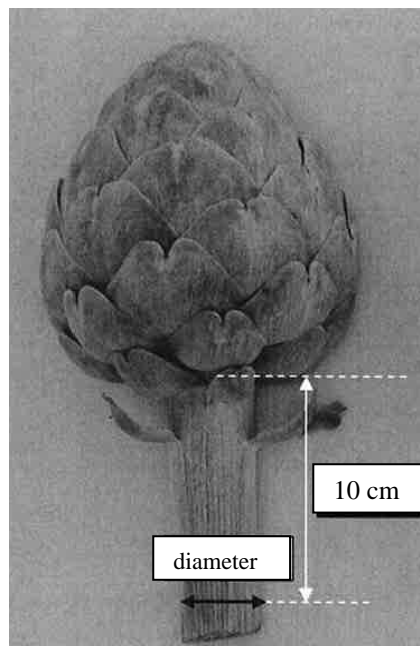
According to Foury (1967), there are six phenological stages during floral organogenesis. The two first stages clearly define the development of the flowering stem.

Stage A: Completely enveloped by the leaves, the main stem is still very short. The head is palpable at the bottom of the rosette.

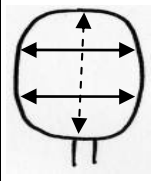
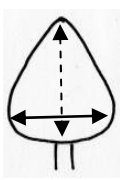
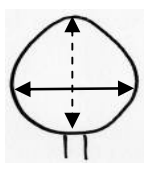
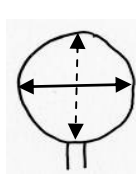
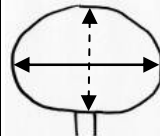
Stage B: The growth of the main stem and the deployment of the leaves show the flower head in the center of the rosette of leaves.



Ad. 19: Main stem: diameter

The main stem diameter can be measured with a caliper at 10 cm below the central flower head, at the stage of its full physiological development (harvest stage).



Ad. 22: Artichoke varieties only: Central flower head: shape in longitudinal section

|                      |            | Position of the broadest part  |   |  |
|----------------------|------------|--|---|--|
|                      |            | below middle   |   | at middle  |
|                      |            | clearly  | slightly  |  |
| Ratio length / width | elongated  |  |   | <br>3<br>oblong    |
|                      | compressed | <br>1<br>triangular | <br>2<br>ovate | <br>4<br>circular |
|                      |            |  |   | <br>5<br>oblate  |

 Maximum diameter = d  
 Maximum height = h

Ad. 23: Artichoke varieties only: Central flower head: shape of apex



1  
acute



2  
rounded



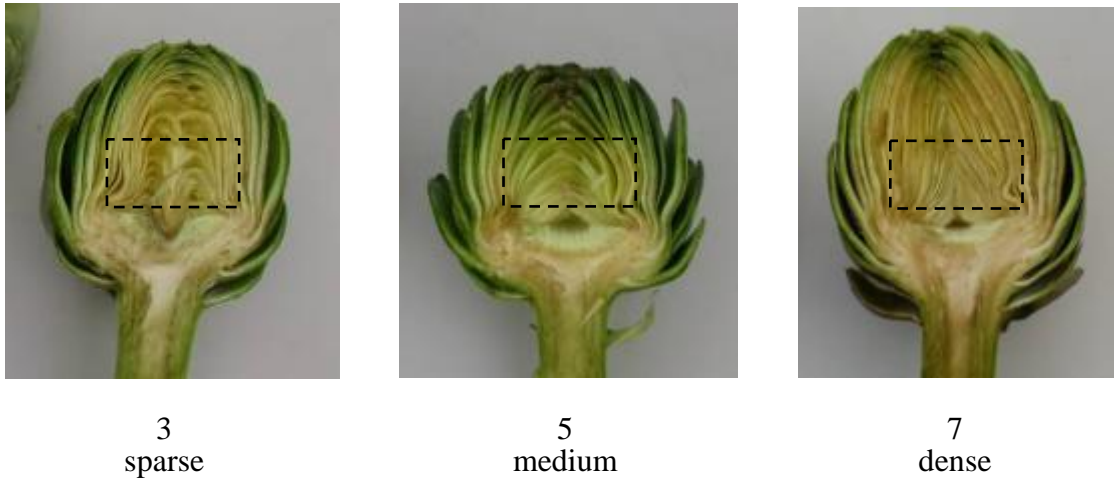
3  
flat



4  
depressed



Ad. 25: Artichoke varieties only: Central flower head: density of inner bracts



Ad. 26: Artichoke varieties only: Receptacle: diameter  
Ad. 27: Artichoke varieties only: Receptacle: thickness



Ad. 28: Artichoke varieties only: Receptacle: shape in longitudinal section



Ad. 29: Artichoke varieties only: Central flower head: time of beginning of opening

The time of beginning of opening of the central flower head is when the central flower head has opened on 50% of plants.

Ad. 30: Artichoke varieties only: Outer bract: violet color on external side



1  
absent or  
very weak

2  
weak

3  
medium

4  
strong

5  
very strong

Ad. 31: Artichoke varieties only: Outer bract: color of apex on external side



1  
green

2  
bronze

3  
grey

Ad. 32: Artichoke varieties only: Outer bract: shape of apex



1  
acute



2  
flat



3  
emarginate



Ad. 33: Artichoke varieties only: Outer bract: depth of emargination



1  
shallow

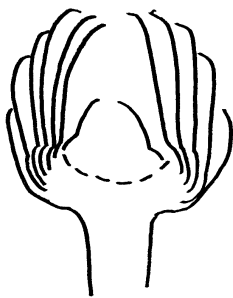


3  
medium



5  
deep

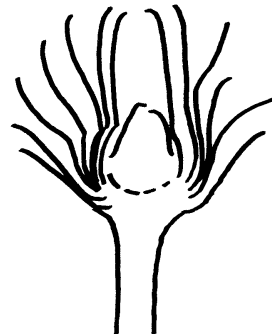
Ad. 34: Artichoke varieties only: Outer bract: reflexing of tip



1  
inwards

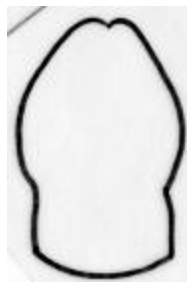


2  
straight

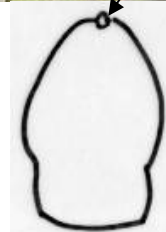
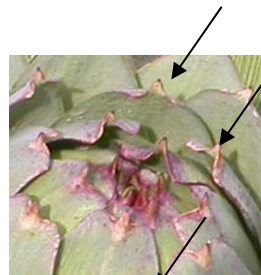


3  
outwards

Ad. 36: Artichoke varieties only: Outer bract: mucron

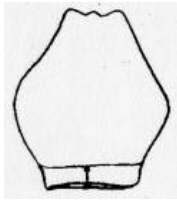


1  
absent

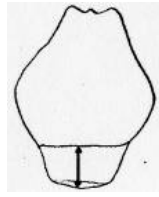


9  
present

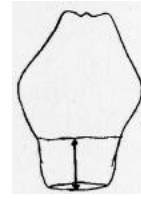
Ad. 38: Artichoke varieties only: Outer bract: length of base



3  
short



5  
medium



7  
long

Ad. 39: Outer bract: thickness of base



1  
thin



2  
medium



3  
thick

## 9. Literature

Basnizky, J. et Zohary, D. 1994 : Breeding of seed-planted artichoke. Plant Breeding Reviews 12: 253-267

Bravi, R., Spataro, G., Crino, P., Saccardo, F. 2008: L'istituzione del Registro Varietale del carciofo. Dal Seme n°2: 24-29

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Foury, C. 1969 : Étude de la biologie florale de l'artichaut (*Cynara scolymus* L.); Application à la sélection. 2<sup>e</sup> partie : étude des descendances obtenues en fécondation contrôlée, Ann. Amélior. Plantes 19 (1): 23-52

Foury, C. et Aubert, S. 1977 : Observations préliminaires sur la présence et la répartition de pigments anthocyaniques dans un mutant d'artichaut (*Cynara scolymus* L.) à fleurs blanches, Ann. Amélior. Plantes 27 (5): 603-612

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Pécaut, P. et Martin F. 1993 : Variation occurring after natural and *in vitro* multiplication of early Mediterranean cultivars of globe artichoke *Cynara scolymus* L. Agronomie 13: 909-919

Péron, J.Y. 2006: Références productions légumières, 2ème édition. chap. Artichaut :150-159

Péron, J.Y. 2006: Références productions légumières, 2ème édition. chap. Cardon :194-197

Zohary, D. et Basnizky J. 1975 : The cultivated artichoke – *Cynara scolymus* L. Its probable wild ancestors. Economic Botany 29: 233-235

10. Technical Questionnaire

|  |  |   |
|--|--|---|
| TECHNICAL QUESTIONNAIRE  | Page {x} of {y}                                    | Reference Number:   |
|  |  | Application date:<br>(not to be filled in by the applicant) |
| <b>TECHNICAL QUESTIONNAIRE</b><br>to be completed in connection with an application for plant breeders' rights |  |   |
| 1. Subject of the Technical Questionnaire (please indicate the relevant species)                               |  |   |
| 1.1 Botanical name   | <input type="text" value="Cynara cardunculus L."/> |   |
| 1.2.1 Common name  | <input type="text" value="Globe artichoke"/>       | [ ]   |
| 1.2.2 Common name  | <input type="text" value="Cardoon"/>               | [ ]   |
| 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<br>(if available)  | <input type="text"/>                               |   |
| Breeder's reference  | <input type="text"/>                               |   |

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

#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

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

(.....) 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.

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

4.2 Method of propagating the variety

- (a) Vegetative propagation [ ]
  
- (b) Seed propagation
  - Hybrid [ ]
  - Parental line [ ]
  - Open pollinated [ ]
  
- (c) Other [ ]  
(please provide details)

| TECHNICAL QUESTIONNAIRE   | Page {x} of {y}  | Reference Number: |
|---|--|-------------------|
| <p>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).</p> |  |                   |
| Characteristics   | Example Varieties  | Note              |
| <p><b>5.1 Leaf: intensity of lobing</b><br/>(3)</p>   |  |                   |
| very weak   |  | 1 [ ]             |
| very weak to weak   |  | 2 [ ]             |
| weak  | Blanca de Tudela (A),<br>Violet de Provence (A),<br>Plein blanc amélioré Puvis (C) | 3 [ ]             |
| weak to medium  |  | 4 [ ]             |
| medium  | Ateca (C), Loma (A),<br>Plein blanc amélioré (C)                                   | 5 [ ]             |
| medium to strong  |  | 6 [ ]             |
| strong  | Opal (A),<br>Vert de Vaulx en Velin (C)  | 7 [ ]             |
| strong to very strong   |  | 8 [ ]             |
| very strong   |  | 9 [ ]             |
| <p><b>5.2 Midrib: thickness at 35 cm from base</b><br/>(14)</p>   |  |                   |
| very thin   | Matterhorn (A),<br>Violet de Camargue (A)  | 1 [ ]             |
| very thin to thin   |  | 2 [ ]             |
| thin  | Opal (A),<br>Vert de Vaulx en Velin (C)  | 3 [ ]             |
| thin to medium  |  | 4 [ ]             |
| medium  | Plein blanc amélioré Puvis (C)   | 5 [ ]             |
| medium to thick   |  | 6 [ ]             |
| thick   | Menuet (A),<br>Plein blanc amélioré (C)  | 7 [ ]             |
| thick to very thick   |  | 8 [ ]             |
| very thick  | Verde de Peralta (C)   | 9 [ ]             |

|                         |                 |                   |
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| Characteristics                              | Example Varieties  | Note  |
|--|--|-------|
| <b>5.3 Midrib: length of spines<br/>(16)</b> |  |       |
| absent or very short                         | Bianco inerma (C),<br>Madrigal (A)                       | 1 [ ] |
| very short to short                          |  | 2 [ ] |
| short  | Castel (A),<br>Plein blanc amélioré (C)                  | 3 [ ] |
| short to medium                              |  | 4 [ ] |
| medium                                       | Vert de Vaulx en Velin (C),<br>Violet de Provence (C)    | 5 [ ] |
| medium to long                               |  | 6 [ ] |
| long   | Epineux argenté de Plainpalais (C),<br>Spinoso Sardo (A) | 7 [ ] |
| long to very long                            |  | 8 [ ] |
| very long                                    |  | 9 [ ] |
| <b>5.4 Main stem: diameter<br/>(19)</b>      |  |       |
| 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 [ ] |



|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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|             | Characteristics                       | Example Varieties                     | Note  |
|-------------|---------------------------------------|---------------------------------------|-------|
| <b>5.5</b>  | <b>Central flower head: length</b>    |                                       |       |
| <b>(20)</b> |                                       |                                       |       |
|             | very short                            |                                       | 1 [ ] |
|             | very short to short                   |                                       | 2 [ ] |
|             | short                                 | Ateca (C)                             | 3 [ ] |
|             | short to medium                       |                                       | 4 [ ] |
|             | medium                                | Imperial Star (A)                     | 5 [ ] |
|             | medium to long                        |                                       | 6 [ ] |
|             | long                                  | Adir (A)                              | 7 [ ] |
|             | long to very long                     |                                       | 8 [ ] |
|             | very long                             |                                       | 9 [ ] |
| <b>5.6</b>  | <b>Central flower head: diameter</b>  |                                       |       |
| <b>(21)</b> |                                       |                                       |       |
|             | very small                            |                                       | 1 [ ] |
|             | very small to small                   |                                       | 2 [ ] |
|             | small                                 | Ateca (C)                             | 3 [ ] |
|             | small to medium                       |                                       | 4 [ ] |
|             | medium                                |                                       | 5 [ ] |
|             | medium to large                       |                                       | 6 [ ] |
|             | large                                 | Matterhorn (A)                        | 7 [ ] |
|             | large to very large                   |                                       | 8 [ ] |
|             | very large                            |                                       | 9 [ ] |
| <b>5.7</b>  | <b>Outer bract: thickness at base</b> |                                       |       |
| <b>(39)</b> |                                       |                                       |       |
|             | thin                                  |                                       | 1 [ ] |
|             | medium                                | Blanc hyérois, Imperial Star, Popvert | 2 [ ] |
|             | thick                                 | Pètre                                 | 3 [ ] |

|                         |                 |                   |
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| Characteristics   | Example Varieties | Note  |
|---|-------------------|-------|
| <b>5.8 Plant: number of lateral heads on main stem (40)</b>                                 |                   |       |
| very few  |                   | 1 [ ] |
| very few to few   |                   | 2 [ ] |
| few   | Blanc hyérois     | 3 [ ] |
| few to medium   |                   | 4 [ ] |
| medium  | Salambo           | 5 [ ] |
| medium to many  |                   | 6 [ ] |
| many  | Chrysanthème      | 7 [ ] |
| many to very many   |                   | 8 [ ] |
| very many   | Cynamed           | 9 [ ] |
| <b>5.9 <u>Artichoke varieties only</u>: Main stem: time of beginning of elongation (17)</b> |                   |       |
| very early  |                   | 1 [ ] |
| very early to early   |                   | 2 [ ] |
| early   | Blanca de Tudela  | 3 [ ] |
| early to medium   |                   | 4 [ ] |
| medium  | Opal              | 5 [ ] |
| medium to late  |                   | 6 [ ] |
| late  | Madrigal          | 7 [ ] |
| late to very late   |                   | 8 [ ] |
| very late   |                   | 9 [ ] |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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| Characteristics  | Example Varieties      | Note  |
|--|------------------------|-------|
| <b>5.10</b> <u>Artichoke varieties only:</u> <b>Main stem: height</b><br><b>(18.1)</b> <b>from base to central flower head</b> |                        |       |
| very short   |                        |       |
| very short to short  |                        |       |
| short  | Blanca de Tudela, Opal | 3 [ ] |
| short to medium  |                        |       |
| medium   | Madrigal, Matterhorn   | 5 [ ] |
| medium to tall   |                        |       |
| tall   | Olympus                | 7 [ ] |
| tall to very tall  |                        |       |
| <b>5.11</b> <u>Artichoke varieties only:</u> <b>Central flower head:</b><br><b>(22)</b> <b>shape in longitudinal section</b>   |                        |       |
| triangular   | Violet de Provence     | 1 [ ] |
| ovate  | Madrigal, Opal         | 2 [ ] |
| oblong   | Chrysanthème           | 3 [ ] |
| circular   |                        | 4 [ ] |
| oblate   |                        | 5 [ ] |
| <b>5.12</b> <u>Artichoke varieties only:</u> <b>Outer bract: violet</b><br><b>(30)</b> <b>color on external side</b>           |                        |       |
| absent to very weak  | Harmony                | 1 [ ] |
| weak   | Violet de Provence     | 2 [ ] |
| medium   | Chrysanthème           | 3 [ ] |
| strong   | Concerto, Salambo      | 4 [ ] |
| very strong  | Velours                | 5 [ ] |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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| Characteristics   | Example Varieties          | Note  |
|---|----------------------------|-------|
| <b>5.13</b> <u>Cardoon varieties only:</u> Midrib: color<br>(9)   |                            |       |
| whitish   | Plein blanc amélioré       | 1 [ ] |
| light green   | Vert de Vaulx en Velin     | 2 [ ] |
| medium green  |                            | 3 [ ] |
| dark green  |                            | 4 [ ] |
| light red   |                            | 5 [ ] |
| medium red  |                            | 6 [ ] |
| dark red  | Rouge d'Alger              | 7 [ ] |
| <b>5.14</b> <u>Cardoon varieties only:</u> Main stem: height from<br>(18.2) base to central flower head |                            |       |
| very short  |                            | 1 [ ] |
| very short to short   |                            | 2 [ ] |
| short   |                            | 3 [ ] |
| short to medium   |                            | 4 [ ] |
| medium  | Plein blanc amélioré Puvis | 5 [ ] |
| medium to tall  |                            | 6 [ ] |
| tall  | Ateca                      | 7 [ ] |
| tall to very tall   |                            | 8 [ ] |
| very tall   |                            | 9 [ ] |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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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 <b>similar</b> variety(ies) | Describe the expression of the characteristic(s) for <b>your</b> candidate variety |
|---|---|--|--|
| <i>Example</i>  | Leaf: intensity of lobing   | weak   | medium   |
|   |   |  |  |
|   |   |  |  |
|   |   |  |  |

Comments:

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|--|-----------------|-------------------|
| <p>#7.. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [ ] No [ ]</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [ ] No [ ]</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>A representative color image of the variety should accompany the Technical Questionnaire.</p> |                 |                   |
| <p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [ ] No [ ]</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [ ] No [ ]</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>   |                 |                   |

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# Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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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]