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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

FENNEL

UPOV Code(s):

FOENI_VUL

Foeniculum vulgare Mill.

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 fifty-third session, to be held in Seoul, Republic of Korea, from 2019-05-20 to 2019-05-24

Disclaimer: this document does not represent UPOV policies or guidance

| Alternative names:* Botanical name | English | French | German | Spanish |
|------------------------------------|----------------------|--------|---|---------|
| 5 | fennel, Sweet fennel | | Fenchel, Gemüsefench el, Gewürzfenchel | Hinojo |

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.

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GE

1. <u>Subject of these Test Guidelines</u>

These Test Guidelines apply to all varieties of *Foeniculum vulgare* Mill.

Excluding bitter fennel (Foeniculum vulgare Mill. ssp. piperitum (Ucria) Cout.).

2. <u>Material Required</u>

- 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:

4,000 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. <u>Method of Examination</u>
- 3.1 Number of Growing Cycles
- 3.1.1 The minimum duration of tests should normally be two independent growing cycles.
- 3.1.2 The two independent growing cycles should be in the form of two separate plantings.
- 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 or 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 of plants 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 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 These Test Guidelines have been developed for the examination of seed-propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.
- 4.2.3 The assessment of uniformity for open pollinated varietes should be according to the recommendations for cross-pollinated varieties in the General Introduction.
- 4.2.4 The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction.
- 4.2.5 For the assessment of uniformity of hybrid varieties, a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 60 plants, 3 off-types are allowed.
- 4.3 Stability
- 4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.
- 4.3.2 Where appropriate, or in cases of doubt, stability may be 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. <u>Grouping of Varieties and Organization of the Growing Trial</u>
- 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: grumolo formation (characteristic 2)
 - (b) Foliage: color (characteristic 6)
 - (c) <u>Only varieties with grumolo</u>: bolting tendency (characteristic 21)
 - (d) Male sterility (characteristic 26)
- 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:

| Otata | Mata |
|--------|------|
| 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 pseudoqualitative) 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

| | English | | françai | s | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-----|--|-------|--------------------------|--------------|----------------------------------|--------------------------------------|--|---------------|
| 1 2 | 3 | 4 5 6 | | 7 | | | | |
| | Name of characteristics in English | | Nom o carac frança | tère en | Name des Merkmals auf Deutsch | Nombre del carácter en español | | |
| | states of expression | | types | d'expression | Ausprägungsstufen | tipos de expresión | | |

1 Characteristic number

| 2 | (*) | Asterisked characteristic | - see Chapter 6.1.2 |
|---|---|--|---|
| 3 | Type of expression QL QN PQ | Qualitative characteristic Quantitative characteristic Pseudo-qualitative characteristic | see Chapter 6.3 see Chapter 6.3 see Chapter 6.3 |
| 4 | Method of observation (and type MG, MS, VG, VS | e of plot, if applicable) | - see Chapter 4.1.5 |
| 5 | (+) | See Explanations on the Table of | of Characteristics in Chapter 8.2 |
| 6 | (a) | See Explanations on the Table of | of Characteristics in Chapter 8.1 |
| | | | |

7 Not applicable

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

| | | En | ıglish | | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-------|---------------------------|--|--|-----|----------|---------|---------|--|---------------|
| 1. | C | QN MS | S/VG | | | | | · | |
| · | <u>C</u> g | Dnly varies arumolo: N ength of c | ties without Young plant: cotyledons | | | | | | |
| | s | short | | | | | | Foenimed | 3 |
| | 'n | nedium | | | | | | Chumen | 5 |
| | Ic | ong | | | | | | Magnafena | 7 |
| 2. (' | _ | QL VG | ; | (+) | (a) | | | | |
| | P | Plant: grur ormation | nolo | | : | | | | |
| | a | absent | | | | | | Berfena, Duitse | 1 |
| | | present | | | | | | Fino | 9 |
| 3. | C | QN MS | 6/VG | | | | | | |
| | <u>C</u> g le fi | Only varies grumolo: \ ength of p irst leaf | ties without Young plant: betiole of | | | | | | |
| | S | short | | | | | | Foenimed | 3 |
| | n | nedium | | | | | | | 5 |
| | | ong | | | | | | Berfena, Magnafena | 7 |
| 4. (' | *) 0 | QN MO | G/VG | | (a) | | - | | |
| | q | <u>Only varie</u> grumolo: F at harvest | Plant: height | | | | | | |
| | s | short | | | | | | Tenace | 3 |
| | n | nedium | | | | | | Fino | 5 |
| | ta | all | | | | | | Rondo | 7 |
| 5. | C | QN VG | ì | (+) | (a) | | | | |
| | F | Foliage: at | titude | | | | | | |
| | е | erect | | | | | | Apollo, Orion | 1 |
| | s | semi-erect | | | | | | Fino, Gemini | 3 |
| | h | norizontal | | | | | | Pontino, Romy | 5 |
| 6. (' | *) (| QL VG |) | | (a) | | | | |
| | F | Foliage: co | olor | | | | | | |
| | g | green | | | | | | Fino | 1 |
| | b | orownish | | | | | | Bronsvenkel | 2 |

| | | English | | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--------|---|---|-----|----------|---------|---------|--|---------------|
| 7. (*) | QN | VG | | (a) | | | | |
| | <u>Only</u> green intens color | <u>varieties with</u> <u>foliage</u> : Foliage: sity of green | | | | | | |
| | very li | ght | | | | | | 1 |
| | light | | | | | | | 3 |
| | mediu | m | | | | | | 5 |
| | dark | | 1 | | | | | 7 |
| | very d | ark | 1 | | | | | 9 |
| 8. | QN | VG | (+) | (a) | | | | |
| | Foliag | je: density | | | | | | |
| | sparse | 9 | | | | | Bola | 3 |
| | mediu | m | | | | | Fino, Rondo | 5 |
| | dense | | | | | | Carmo, Pontino | 7 |
| 9. | QN | MS/VG | | (a) | | | | 1 |
| | Leaf: | length | | - I | | | | |
| | short | | | | | | Tenace | 3 |
| | mediu | m | | | | | Fino | 5 |
| | long | | | | | | Antares, Orion | 7 |
| 10. | QN | VG | (+) | (a) | | | | |
| | Leaf: | curvature of tip | | | | | | |
| | absen | t or very weak | | | | | Rondo | 1 |
| | weak | | | | | | Fino, Virgo | 2 |
| | mediu | m | | | | | Antares, Serpico, Tiziano | 3 |
| | strong | | | | | | Idillio | 4 |
| | very s | | | | | | Bellotto | 5 |
| 11. | QN | VG | (+) | (a) | | 1 | | 1 |
| | | varieties with blo: Petiole: | | : | | | | |
| | narrov | v | 1 | | | | Boelli, Masaccio | 1 |
| | mediu | m | | | | | Carmo | 2 |
| | broad | | | | | | Virgo | 3 |

| | | English | | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---------|---------------------------------|---|-----|----------|---------|---------|--|---------------|
| 12. | QN | VG | | (a) | | | | |
| | <u>Only</u> grum grum | varieties with olo: Time of olo maturity | | | | | | |
| | early | | | | | | | 3 |
| | mediu | ım | | | | | Orion | 5 |
| | late | | | | | | Apollo, Caravaggio | 7 |
| 13. | QN | MS/VG | (+) | (a) | | | | |
| | <u>Only</u> grume heigh | <u>varieties with</u> <u>olo</u> : Grumolo: t | | | | | | |
| | short | | | | | | Orion | 3 |
| | mediu | ım | | | | | Fino | 5 |
| | tall | | | | | | | 7 |
| 14. | QN | MS/VG | (+) | (a) | | · | | |
| | <u>Only v</u> grumo width | <u>varieties with</u> <u>olo</u> : Grumolo: | | | | | | |
| | narrov | v | | | | | Caravaggio | 3 |
| | mediu | ım | | | | | Fino | 5 |
| | broad | | | | | | Preludio | 7 |
| 15. (*) |) QN | MS/VG | (+) | (a) | | | | |
| | <u>Only</u> grum ratio I | varieties with olo: Grumolo: height/width | | | | | | |
| | low | | | | | | Orion | 3 |
| | mediu | ım | | | | • | Fino | 5 |
| | high | | | | | | | 7 |
| 16. | QN | MS/VG | (+) | (a) | | | | |
| | Only grum thickr | varieties with olo: Grumolo: ness | | | | | | |
| | thin | | | | | • | Caravaggio | 3 |
| | mediu | Im | | | | | Fino | 5 |
| | thick | | | | | | Mars | 7 |

| | | English | | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---------|---------------------------------|---|-------|----------|----------|-------------|--|---------------|
| 17. (*) | QN | VG | (+) | (a) | | | | |
| | grumo | varieties with <u>plo</u> : Grumolo: in cross section | | | | | | |
| | round | | | | | | Apollo | 1 |
| | broad | elliptic | | | | | Orbit | 2 |
| | elliptic | | | | | | Caravaggio | 3 |
| 18. (*) | PQ | VG | | (a) | | | | |
| | grumo | varieties with <u>blo</u> : Grumolo: nal color | | | | | | |
| | whitish | ٦ | blanc | hâtre | weißlich | blanquecino | | 1 |
| | light g | reen | | | | | | 2 |
| | mediu | m green | | | | | | 3 |
| | dark g | reen | | | | | | 4 |
| 19. | QN | VG | (+) | (a) | | | | |
| | <u>grumo</u> ribbin | <u>varieties with</u> <u>blo</u> : Sheath: g | | | | | | |
| | weak | | | | | | | 3 |
| | mediu | | | | | | Fino | 5 |
| | strong | | | | | | | 7 |
| 20. | QN | VG | | (a) | | | 1 | |
| | grumo | varieties with <u>olo</u> : Sheath: apping of hs | | | | | | |
| | weak | | | | | | Cristal | 3 |
| | mediu | m | | | | | Fino | 5 |
| | strong | | | | | | Apollo | 7 |
| 21. (*) | QN | MS/VG | | | | | | |
| | <u>Only v</u> grumo tende | varieties with blo: bolting ncy | | | | | | |
| | absen | t or very weak | | | | | Antares | 1 |
| | weak | | | | | | Preludio, Rondo | 3 |
| | mediu | m | † | | | | Carmo | 5 |
| | strong | | † | | | | Cristal | 7 |
| | very s | trong | † | | | | Di Firenze | 9 |

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---------|---------------------------------|--|----------|---------|---------|--|---------------|
| 22. (*) | QN | MS/VG | | | | | |
| | grume | varieties without olo: time of arance of main I | | | | | |
| | early | | | | | Berfena | 3 |
| | mediu | m | | | | Foenimed | 5 |
| | late | | | | | Budakalászi, Soroksári | 7 |
| 23. | QN | MG/VG | | | | | |
| | <u>Only v</u> grumo begin | varieties without olo: time of ning of flowering | | | | | |
| | early | | | | | Berfena | 3 |
| | mediu | m | | | | Budakalászi | 5 |
| | late | | | | | | 7 |
| 24. | QN | MS/VG | | | | | |
| | <u>Only v</u> grumo heigh | varieties without <u>olo</u> : Main stem: t at flowering | | | | | |
| | short | | | | | Foenimed | 3 |
| | mediu | m | | | | | 5 |
| | tall | . <u>.</u> | | | | | 7 |
| 25. | QN | MS/VG | | | | | |
| | | varieties without olo: Main umbel: eter | | | | | |
| | small | | | | | Foenimed | 3 |
| | mediu | m | | | | Budakalászi | 5 |
| | large | | | | | | 7 |
| 26. (*) | QL | vs | (+) | | | · | |
| | Males | sterility | | | | | |
| | absen | t | | | | Fino | 1 |
| | preser | nt | | | | Carmo, Rondo | 9 |
| 27. | QN | MG | | | | | |
| | grume | varieties without olo: Seed: and seed weight | | | | | |
| | low | | | | | Foenimed | 3 |
| | mediu | m | | | | Soroksári | 5 |
| | high | | | | | Berfena, Magnafena | 7 |

- 8. <u>Explanations on the Table of Characteristics</u>
- 8.1 Explanations covering several characteristics

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

- (a) Observations should be made at harvest maturity.
- 8.2 Explanations for individual characteristics
- Ad. 2: Plant: grumolo formation



absent



9 present

Ad. 5: Foliage: attitude



erect



3 semi-erect



5 horizontal

Ad. 8: Foliage: density





medium

dense



open



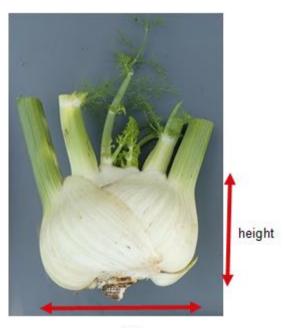
absent



3 strongly expressed

- 1 2 3 narrow medium broad
- Ad. 11: Only varieties with grumolo: Petiole: width

Ad. 13: Only varieties with grumolo: Grumolo: height



width

Ad. 14: Only varieties with grumolo: Grumolo: width

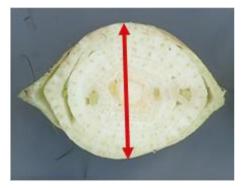
See Ad. 13

Ad. 15: Only varieties with grumolo: Grumolo: ratio height/width

See Ad. 13

Ad. 16: Only varieties with grumolo: Grumolo: thickness

Observations should be made at the broadest part.



thickness

Ad. 17: Only varieties with grumolo: Grumolo: shape in cross section

Observations should be made at the broadest part.



Ad. 19: Only varieties with grumolo: Sheath: ribbing

The sheath is the basal part of the petiole which forms with the other petioles the grumolo.

Ad. 26: Male sterility

· Male fertile varieties show umbels with flowers with well-developed anthers.

 \cdot Male sterile varieties show umbels with flowers without anthers or with very deformed, degenerated anthers.

9. <u>Literature</u>

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10. <u>Technical Questionnaire</u>

| TECHN | | UESTIONNAIRE | | Page {x} of {y} | Reference Number: |
|-------|-----------------------|-----------------------------|------|--------------------------|---|
| | | | | | Application date: (not to be filled in by the applicant) |
| | | | - | CHNICAL QUESTIONN | AIRE n for plant breeders' rights |
| 1. | Subjec | t of the Technical Questio | nnai | re | |
| | 1.1 | Botanical name | Fo | eniculum vulgare Mill. | |
| | 1.2 | Common name | Fe | nnel, Florence fennel, S | Sweet fennel |
| | | | | | |
| 2. | Applica | Int | | | |
| | Name | | | | |
| | Addres | S | | | |
| | Teleph | one No. | | | |
| | Fax No | | | | |
| | E-mail | address | | | |
| | Breede applica | r (if different from nt) | | | |
| 3. | Propos | ed denomination and bre | eder | 's reference | |
| | Proposed denomination | | | | |
| | Breede | r's reference | | | |

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|-------|---|--|--|--|--|--|
| #4. | Information on the breeding scheme and propagation of the variety | | | | | |
| | 4.1 | Breeding scheme | | | | |
| | Variety | y resulting from: | | | | |
| | 4.1.1 | 1 Crossing | | | | |
| | (a) | controlled cross [] | | | | |
| | (b) | partially known cross [] (please state known parent variety(ies)) | | | | |
| | (c) | unknown cross [] | | | | |
| | 4.1.2 | Other [] (Please provide details) | | | | |
| | | | | | | |
| | | | | | | |

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|--------------------------|---|-----------------|------------------|-------------------|
| 4.2 4.2.1 | Method of propagating the seed-propagated varieties | variety | | |
| (a) (b) (c) (d) | Self-pollination Cross-pollination Hybrid Other (please provide detail | ls) | | [] [] [] |
| 4.2.2 | Other (Please provide details) | | | [] |

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|-------------|---|---|-------|--|--|--|
| . (| Characteristics of the variety to be indicated characteristic in Test Guidelines; please ma | (the number in brackets refers to the correspor rk the note which best corresponds). | nding | | | |
| | Characteristics | Example Varieties | Note | | | |
| 5.1 (2) | Plant: grumolo formation | | | | | |
| ., | absent | Berfena, Duitse | 1 [| | | |
| | present | Fino | 9 [| | | |
| 5.2 (4) | Only varieties with grumolo: Plant: height at | harvest maturity | | | | |
| (-) | very short | | 1 [| | | |
| | very short to short | | 2 [| | | |
| | short | Tenace | 3 [| | | |
| | short to medium | | 4 [| | | |
| | medium | Fino | 5 [| | | |
| | medium to tall | | 6 [| | | |
| | tall | Rondo | 7 [| | | |
| | tall to very tall | | 8 [| | | |
| 5.3 (6) | Foliage: color | | | | | |
| ., | green | Fino | 1 [| | | |
| | brownish | Bronsvenkel | 2 [| | | |
| 5.4 (7) | <u>Only varieties with green foliage</u> : Foliage: intensity of green color | | | | | |
| (-) | very light | | 1 [| | | |
| | very light to light | | 2 [| | | |
| | light | | 3 [| | | |
| | light to medium | | 4 [| | | |
| | medium | | 5 [| | | |
| | medium to dark | | 6 [| | | |
| | dark | | 7 [| | | |
| | dark to very dark | | 8 [| | | |
| | very dark | | 9 [| | | |
| 5.5 (15) | Only varieties with grumolo: Grumolo: ratio height/width | | | | | |
| () | low | Orion | 3 [| | | |
| | medium | Fino | 5 [| | | |
| | high | | 7 [| | | |

| | Characteristics | Example Varieties | Note | | |
|--------------|--|------------------------|------|--|--|
| 5.6 (17) | Only varieties with grumolo: Grumolo: shape in cross section | | | | |
| | round | Apollo | 1[] | | |
| | broad elliptic | Orbit | 2[] | | |
| | elliptic | Caravaggio | 3[] | | |
| 5.7 (18) | Only varieties with grumolo: Grumolo: external color | | | | |
| | whitish | | 1[] | | |
| | light green | | 2[] | | |
| | medium green | | 3[] | | |
| | dark green | | 4[] | | |
| 5.8 (21) | Only varieties with grumolo: bolting tendency | | | | |
| | absent or very weak | Antares | 1[] | | |
| | very weak to weak | | 2[] | | |
| | weak | Preludio, Rondo | 3[] | | |
| | weak to medium | | 4[] | | |
| | medium | Carmo | 5[] | | |
| | medium to strong | | 6[] | | |
| | strong | Cristal | 7[] | | |
| | strong to very strong | | 8[] | | |
| | very strong | Di Firenze | 9[] | | |
| 5.9 (22) | Only varieties without grumolo: time of appearance of main umbel | | | | |
| | early | Berfena | 3[] | | |
| | early to medium | | 4[] | | |
| | medium | Foenimed | 5[] | | |
| | medium to late | | 6[] | | |
| | late | Budakalászi, Soroksári | 7[] | | |
| 5.10 (26) | Male sterility | | | | |
| | absent | Fino | 1[] | | |
| | present | Carmo, Rondo | 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 | c(s) in which variety differs ar variety(ies) | the characte | e expression of ristic(s) for the /ariety(ies) | Describe the expression of the characteristic(s) for your candidate variety | | |
| Example | nple Only varieties grum Grumolo: shape in c section | | broad elliptic | | rounded | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Comments: | | | | | | |

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| #7. | | | | | | | | |
| #1. | Additional mormation which may r | | e vallety | | | | | |
| 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 | | | | | | | |
| Use/Growing season: Spring [] Summer [] Autumn [] | | | | | | | | |

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| | _ | | | | | | | | |
| 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 be | en obtained? | | | | | | |
| | | Yes [] | No [] | | | | | | |
| | If the | answer to (b) is yes, please | attach a copy of the au | ithorization. | | | | | |
| 9. Inf | formatio | on on plant material to be ex | kamined or submitted for | or examination | | | | | |
| 9.2 chara | s and o stocks, s The pla acterist undergo | e expression of a character disease, chemical treatmer scions taken from different g ant material should not h ics of the variety, unless th one such treatment, full det your knowledge, if the plant | nt (e.g. growth retarda growth phases of a tree ave undergone any tr e competent authorities ails of the treatment m | nts or pesticides), effec , etc. eatment which would allow or request such t ust be given. In this resp | affect the treatment. I bect, please | e culture, difference cult | ferent of the aterial | | |
| | (a) | Microorganisms (e.g. | virus, bacteria, phytopl | asma) Ye | es [] | No [] | | | |
| | (b) | Chemical treatment (| e.g. growth retardant, p | esticide) Ye | es [] | No [] | | | |
| | (c) | Tissue culture | | Ye | es [] | No [] | | | |
| | (d) | Other factors | | Ye | es [] | No [] | | | |
| | Please provide details for where you have indicated "yes". | | | | | | | | |
| 10. | 10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct: | | | | | | | | |
| | Applicant's name | | | | | | | | |
| | Sig | gnature | | Date | | | | | |

[End of document]