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PLANTS

UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES

INTERNATIONALER
VERBAND ZUM SCHUTZ
VON PFLANZEN-
ZÜCHTUNGEN

UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES

DRAFT

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

FENNEL
(Foeniculum vulgare
Miller)

These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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I. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Foeniculum vulgare* Miller including varieties with grumolo (*Foeniculum vulgare* Miller sep. *vulgare* var. *azoricum*) and medicinal/aromatic varieties (*Foeniculum vulgare* Miller sep. *vulgare* var. *dulce*).

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. The minimum quantity of seed to be supplied by the applicant in one or several samples should be:

25 g.

The seed should at least meet the minimum requirements for germination capacity, moisture content and purity for marketing seed in the country in which the application is made.

2. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. The minimum duration of tests should normally be two independent growing cycles.
2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.
3. The tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include a total of 60 plants which should be divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.
4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise indicated, all observations determined by measurement, weighting or counting should be made on 20 plants or parts taken from each of 20 plants.

V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
 - (a) Grumolo formation (characteristic 14)
 - (b) Varieties with grumolo only: bolting tendency (characteristic 25)

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of the different characteristics.
3. Legend:
 - (*) Characteristics that should be used on all varieties in every growing period over which the examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
 - (+) See Explanations on the Table of Characteristics in Chapter VIII.

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

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---|---|--|---|--|---------------|
| 1. Young plant (seedling): length of cotyledons | Plantule: longueur des cotylédons | Jungpflanze (Keimpflanze): Länge des Keimblatts | Planta joven (plántula): longitud de los cotiledones | | |
| short | courts | kurz | cortos | | 3 |
| medium | moyens | mittel | medios | | 5 |
| long | longs | lang | largos | | 7 |
| 2. Young plant (seedling): length of petiole of first leaf | Plantule: longueur du pétiole de la première feuille | Jungpflanze (Keimpflanze): Länge des Stieles des ersten Blattes | Planta joven (plántula): longitud del peciolo de la primera hoja | | |
| short | court | kurz | corto | | 1 |
| medium | moyen | mittel | medio | | 3 |
| long | long | lang | largo | | 5 |
| 3. (*) Plant: height at harvest maturity | Plante: hauteur à maturité de récolte | Pflanze: Höhe zur Erntereife | Planta: altura en la madurez de cosecha | | |
| short | courte | niedrig | corta | Heracles | 1 |
| medium | moyenne | mittel | media | Fino | 3 |
| tall | haute | hoch | alta | Genio | 5 |
| 4. Plant: number of lateral shoots | Plante: nombre de pousses latérales | Pflanze: Anzahl Seitentriebe | Planta: número de tallos laterales | | |
| absent or very few | nul ou très petit | fehlend oder sehr gering | ausente o muy bajo | Fino | 1 |
| few | petit | gering | bajo | Cantino, Genio | 3 |
| medium | moyen | mittel | medio | Sirio | 5 |
| many | grand | groß | alto | | 7 |
| very many | très grand | sehr groß | muy alto | | 9 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota | |
|-----------|---------------------------------------|---|--|--|---------------------|---|
| 5. | Foliage: attitude | Feuillage: port | Laub: Haltung | Follaje: porte | | |
| (+) | | | | | | |
| | erect | dressé | aufrecht | erecto | Genio | 1 |
| | semi-erect | demi-dressé | halbaufrecht | semierecto | Fino | 3 |
| | horizontal | horizontal | waagrecht | horizontal | | 5 |
| 6. | Foliage: density | Feuillage: densité | Laub: Dichte | Follaje: densidad | | |
| | sparse | lâche | locker | laxa | Albaro | 3 |
| | medium | moyenne | mittel | media | Fino | 5 |
| | dense | dense | dicht | densa | Carmo, Genio, Sirio | 7 |
| 7. | Foliage: green color | Feuillage: couleur verte | Laub: Grünfärbung | Follaje: color verde | | |
| (*) | | | | | | |
| | very light | très claire | sehr hell | muy claro | | 1 |
| | light | claire | hell | claro | Latina | 3 |
| | medium | moyenne | mittel | medio | Fino | 5 |
| | dark | foncée | dunkel | oscuro | Heracles | 7 |
| | very dark | très foncée | sehr dunkel | muy oscura | | 9 |
| 8. | Main stem: height at flowering | Tige principale: hauteur à l'époque de floraison | Hauptstengel: Höhe zur Zeit der Blüte | Tallo principal: altura a la floración | | |
| | short | courte | kurz | corta | | 3 |
| | medium | moyenne | mittel | media | Genio | 5 |
| | long | longue | lang | larga | | 7 |
| 9. | Main stem: thickness at base | Tige principale: épaisseur à la base | Hauptstengel: Dicke an der Basis | Tallo principal: grosor en la base | | |
| | thin | mince | dünn | delgado | | 3 |
| | medium | moyenne | mittel | medio | Genio | 5 |
| | thick | épaisse | dick | grueso | | 7 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|---|---|--|--|---------------|
| 10. Leaf: length | Feuille: longueur | Blatt: Länge | Hoja: longitud | | |
| short | courte | kurz | corta | Heracles | 3 |
| medium | moyenne | mittel | media | Fino | 5 |
| long | longue | lang | larga | Orion | 7 |
| 11. Leaf: width | Feuille: largeur | Blatt: Breite | Hoja: anchura | | |
| narrow | étroite | schmal | estrecha | | 3 |
| medium | moyenne | mittel | media | | 5 |
| broad | large | breit | ancha | Genio | 7 |
| 12. Leaf: curvature of tip | Feuille: courbure de l'extrémité | Blatt: Krümmung der Spitze | Hoja: curvatura de la extremidad | | |
| absent | absente | fehlend | ausente | | 1 |
| weakly expressed | faiblement exprimée | gering ausgeprägt | débilmente expresada | | 2 |
| strongly expressed | fortement exprimée | stark ausgeprägt | fuertemente expresada | | 3 |
| 13. Leaf: petiole width | Feuille: largeur du pétiole | Blatt: Breite des Stieles | Hoja: anchura del peciolo | | |
| narrow | étroit | schmal | estrecho | | 3 |
| medium | moyen | mittel | medio | | 5 |
| broad | large | breit | ancho | | 7 |
| 14. Grumolo formation (*) | Formation de bulbe | Knollenbildung | Formación de cabeza | | |
| absent | absente | fehlend | ausente | Latina, Di Fireze | 1 |
| present | présente | vorhanden | presente | Fino | 9 |
| 15. <u>Only varieties with grumolo:</u> Grumolo: height | <u>Seulement variétés avec bulbe:</u> Bulbe: hauteur | <u>Nur Sorten mit Knolle:</u> Knolle: Höhe | <u>Solo variedades con cabeza:</u> Cabeza: altura | | |
| low | bas | niedrig | baja | Heracles | 3 |
| medium | moyen | mittel | media | Fino | 5 |
| high | élevé | hoch | alta | Sirio | 7 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---|---|--|--|--|---------------|
| 16. <u>Only varieties with grumolo:</u> Grumolo: width | <u>Seulement variétés avec bulbe:</u> Bulbe: largeur | <u>Nur Sorten mit Knolle:</u> Knolle: Breite | <u>Solo variedades con cabeza:</u> Cabeza: anchura | | |
| narrow | étroit | schmal | estrecha | | 3 |
| medium | moyen | mittel | media | Fino | 5 |
| broad | large | breit | ancha | Kompolti törpe | 7 |
| 17. <u>Only varieties with grumolo:</u> Grumolo: ratio height/width | <u>Seulement variétés avec bulbe:</u> Bulbe: rapport hauteur/largeur | <u>Nur Sorten mit Knolle:</u> Knolle: Verhältnis Höhe/Breite | <u>Solo variedades con cabeza:</u> Cabeza: razón altura/anchura | | |
| small | petit | klein | pequeño | | 3 |
| medium | moyen | mittel | medio | | 5 |
| large | grand | groß | grande | | 7 |
| 18. <u>Only varieties with grumolo:</u> Grumolo: thickness | <u>Seulement variétés avec bulbe:</u> Bulbe: épaisseur | <u>Nur Sorten mit Knolle:</u> Knolle: Dicke | <u>Solo variedades con cabeza:</u> Cabeza: grosor | | |
| thin | mince | dünn | delgada | | 3 |
| medium | moyen | mittel | media | Fino | 5 |
| thick | épais | dick | gruesa | Mars | 7 |
| 19. <u>Only varieties with grumolo:</u> Grumolo: shape in transverse section | <u>Seulement variétés avec bulbe:</u> Bulbe: forme en section transversale | <u>Nur Sorten mit Knolle:</u> Knolle: Form im Querschnitt | <u>Solo variedades con cabeza:</u> Cabeza: forma en sección transversal | | |
| rounded | arrondie | abgerundet | redondeada | | 1 |
| elliptic | elliptique | elliptisch | elíptica | | 2 |
| 20. (*) <u>Only varieties with grumolo:</u> Grumolo: external color | <u>Seulement variétés avec bulbe:</u> Bulbe: couleur externe | <u>Nur Sorten mit Knolle:</u> Knolle: Außenfarbe | <u>Solo variedades con cabeza:</u> Cabeza: color externo | | |
| whitish | blanchâtre | weißlich | blanquecino | Fino | 1 |
| green | vert | grün | verde | Sirio, Carmo | 2 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|---|---|--|--|---------------|
| 21. <u>Only varieties with grumolo:</u> Grumolo: intensity of green color | <u>Seulement variétés avec bulbe:</u> Bulbe: intensité de la couleur verte | <u>Nur Sorten mit Knolle:</u> Knolle: Intensität der Grünfärbung | <u>Solo variedades con cabeza:</u> Cabeza: intensidad del color verde | | |
| light | claire | hell | clara | | 3 |
| medium | moyenne | mittel | media | | 5 |
| dark | foncée | dunkel | oscura | | 7 |
| 22. (*) <u>Only varieties with grumolo:</u> Sheath: ribbing | <u>Seulement variétés avec bulbe:</u> Gaine: cannelures | <u>Nur Sorten mit Knolle:</u> Blattscheide: Rip-pung | <u>Solo variedades con cabeza:</u>Vaina: acostillado | | |
| weak | faibles | gering | débil | Heracles | 3 |
| medium | moyennes | mittel | medio | Fino | 5 |
| strong | fortes | stark | fuerte | Rudy, Sirio | 7 |
| 23. <u>Only varieties with grumolo:</u>Sheath: overlapping | <u>Seulement variétés avec bulbe:</u> Gaine: chevauchement | <u>Nur Sorten mit Knolle:</u> Blattscheide: Über-lappung | <u>Solo variedades con cabeza:</u>Vaina: superposición | | |
| weak | faible | gering | débil | Cristal | 3 |
| medium | moyen | mittel | media | Fino, Genio | 5 |
| strong | fort | stark | fuerte | | 7 |
| 24. <u>Only varieties with grumolo:</u> Time of grumolo maturity | <u>Seulement variétés avec bulbe:</u> époque de maturité du bulbe | <u>Nur Sorten mit Knolle:</u> Knolle: Zeit der Reife der Knolle | <u>Solo variedades con cabeza:</u> Época de madurez de la cabeza | | |
| early | précoce | früh | precoz | | 3 |
| medium | moyenne | mittel | media | | 5 |
| late | tardive | spät | tardía | Genio | 7 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---------------------|---|--|---|---|---------------|
| 25. (*) | <u>Only varieties with</u> grumolo: Bolting tendency | <u>Seulement variétés</u> avec bulbe: tendance à la montaison | <u>Nur Sorten mit</u> Knolle: Neigung zum Schossen | <u>Solo variedades con</u> cabeza: Cabeza: tendencia a la salida a flor | |
| absent or very weak | nulle ou très faible | fehlend oder sehr gering | ausente o muy débil | Fino, Goal, Pollux | 1 |
| weak | faible | gering | débil | Tardo | 3 |
| medium | moyenne | mittel | media | | 5 |
| strong | forte | stark | fuerte | Sirio, Cristel | 7 |
| very strong | très forte | sehr stark | muy fuerte | Di Fireze | 9 |
| 26. | Male sterility | Stérilité mâle | Männliche Sterilität | Androesterilidad | |
| absent | absente | fehlend | ausente | Fino | 1 |
| present | présente | vorhanden | presente | Carmo, Rudy | 9 |
| 27. | <u>Only medicinal/</u> aromatic varieties: Plant: number of umbels | <u>Seulement variétés</u> médicinales/aroma- tiques: Plante: nombre d'ombelles | <u>Nur heilkräftige/</u> aromatische Sorten: Pflanze: Anzahl Dolden | <u>Solamente</u> variedades médicinales/ aromáticas: Planta: número de umbelas | |
| few | petit | gering | bajo | | 3 |
| medium | moyen | mittel | medio | | 5 |
| many | grand | groß | alto | | 7 |
| 28. | <u>Only medicinal/</u> aromatic varieties: Main umbel: diameter | <u>Seulement variétés</u> médicinales/aroma- tiques: Ombelle principale: diamètre | <u>Nur heilkräftige/</u> aromatische Sorten: Hauptdolde: Durchmesser | <u>Solamente</u> variedades médicinales/ aromáticas: Umbela principal: diámetro | |
| small | petit | klein | pequeño | | 3 |
| medium | moyen | mittel | medio | | 5 |
| large | grand | groß | grande | | 7 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|---|---|--|---|--|---------------|
| 29. <u>Only medicinal/ aromatic varieties:</u> Main umbel: number of peduncles | <u>Seulement variétés médicinales/aromatiques:</u> Ombelle principale: nombre de pédoncules | <u>Nur heilkräftige/ aromatische Sorten:</u> Hauptdolde: Anzahl Doldenstrahlen | <u>Solamente variedades medicinales/ aromáticas:</u> Umbela principal: número de pedúnculos | | |
| few | petit | gering | bajo | | 3 |
| medium | moyen | mittel | medio | | 5 |
| many | grand | groß | alto | | 7 |
| 30. <u>Only medicinal/ aromatic varieties:</u> Time of appearance of main umbel | <u>Seulement variétés médicinales/aromatiques:</u> Époque d'apparition de l'ombelle principale | <u>Nur heilkräftige/ aromatische Sorten:</u> Zeitpunkt des Erscheinens der Hauptdolde | <u>Solamente variedades medicinales/ aromáticas:</u> Época de aparición de la umbela principal | | |
| early | précoce | früh | precoz | | 3 |
| medium | moyenne | mittel | media | | 5 |
| late | tardive | spät | tardía | | 7 |
| 31. <u>Only medicinal/ aromatic varieties:</u> Time of beginning of flowering | <u>Seulement variétés médicinales/aromatiques:</u> Époque du début de la floraison | <u>Nur heilkräftige/ aromatische Sorten:</u> Zeitpunkt des Blühbeginns | <u>Solamente variedades medicinales/ aromáticas:</u> Época de comienzo de floración | | |
| early | précoce | früh | precoz | | 3 |
| medium | moyenne | mittel | media | | 5 |
| late | tardive | spät | tardía | | 7 |
| 32. <u>Only medicinal/ aromatic varieties:</u> Seed: adherence | <u>Seulement variétés médicinales/aromatiques:</u> Semence: adhérence | <u>Nur heilkräftige/ aromatische Sorten:</u> Samen: Anhaften | <u>Solamente variedades medicinales/ aromáticas:</u> Semilla: adherencia | | |
| weak | faible | gering | débil | | 3 |
| medium | moyenne | mittel | media | | 5 |
| strong | forte | stark | fuerte | | 7 |

| English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|--|--|--|--|--|---------------|
| 33. <u>Only medicinal/ aromatic varieties:</u> Seed: thousand seed weight | <u>Seulement variétés médicinales/aroma- tiques:</u> Semence: poids de 1000 grains | <u>Nur heilkräftige/ aromatische Sorten:</u> Samen: Gewicht von tausend Samen | <u>Solamente variedades médicinales/ aromáticas:</u> Semilla: peso de 1000 semillas | | |
| low | faible | niedrig | bajo | | 3 |
| medium | moyen | mittel | medio | | 5 |
| high | élevé | hoch | alto | | 7 |

VIII. Explanations on the Table of Characteristics

[to be added]

IX. Literature

[to be added]

X. Technical Questionnaire

| | |
|--|--|
| | Reference Number (not to be filled in by the applicant) |
| <p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p> | |
| 1. Species | <p style="text-align: center;"><i>Foeniculum vulgare</i> Miller. FENNEL</p> |
| 2. Applicant (Name and address) | |
| 3. Proposed denomination or breeder's reference | |

4. Information on origin, maintenance and reproduction of the variety

4.2 Other information

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

| Characteristics | Example Varieties | Note |
|---|--------------------|------|
| 5.1 Foliage: green color (7) | | |
| very light | | 1[] |
| light | Latina | 3[] |
| medium | Fino | 5[] |
| dark | Heracles | 7[] |
| very dark | | 9[] |
| 5.2 Grumolo formation (14) | | |
| absent | Latina, Di Firenze | 1[] |
| present | Fino | 9[] |
| 5.3 Only varieties with grumolo: Grumolo: external color (20) | | |
| whitish | Fino | 1[] |
| green | Carmo, Sirio | 2[] |
| 5.4 Varieties with grumolo only: bolting tendency (25) | | |
| absent or very weak | Fino, Goal, Pollux | 1[] |
| weak | Tardo | 3[] |
| medium | | 5[] |
| strong | Cristel, Sirio | 7[] |
| very strong | Di Fireze | 9[] |

6. Similar varieties and differences between these varieties

| Denomination of similar variety | Characteristic in which the similar variety is different ^{o)} | State of expression of similar variety | State of expression of candidate variety |
|---------------------------------|--|--|--|
|---------------------------------|--|--|--|

^{o)} In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

7.2.1 Use/Growing season:

- spring []
- summer []
- autumn []

7.2.2 Other conditions

7.3 Other information

8. Authorization for release

- (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes No

- (b) Has such authorization been obtained?

Yes No

If the answer to that question is yes, please attach a copy of such an authorization.

[End of document]