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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR VEGETABLES

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WORKING PAPER ON TEST GUIDELINES FOR FENNEL
(*Foeniculum vulgare* Miller)

Document prepared by experts from the Netherlands

TABLE OF CONTENTS PAGE

I. Subject of these Guidelines

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

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 germination capacity should be as high as possible but 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 similar growing periods.

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. All observations determined by measurement or counting should be made on 40 plants or parts of 40 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 5)
(b) Tendency to bolt (characteristic 15)

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 purpose of electronic data processing, are given opposite the states of expression for each characteristic.

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.a ***Proposal D(*)***	**Youngplant: length of petiole of first leaf**					
	Short					3
	Medium					5
	Long					7
1.b ***Proposal D***	**Youngplant: length of cotyledons**					
	Short					3
	Medium					5
	Long					7
1. ***Proposal F(*)***	**Plant: height at harvest maturity**					
	Low				*Heracles*	*3*
	Medium				*Fino*	*5*
	High				*Genio*	*7*
2.	**Foliage: attitude**					
	Erect				*Genio*	*3*
	Semi-erect				*Fino*	*5*
	Horizontal					*7*
2.a ***Proposal F*** ***(*)***	*Erect* *Semi-erect* *Pendulous*				*Genio* *Fino*	*3* *5* *7*

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
3. **(*)**	**Foliage: intensity of green color**					
	light				Latina	3
	medium				Fino	5
	dark				Heracles	7
4. ***Proposal F(*)***	**Leaf: division**					
	Fine					3
	Medium				Fino	5
	Coarse				Tardo	7
Proposal F:						
4.a	***Leaf:length***					
	Short					*3*
	Medium				*Genio*	*5*
	Long					*7*
4.b	***Leaf: width***					
	Thin					*3*
	Medium					*5*
	Thick				*Genio*	*7*
4.c	***Foliage: density***					
	Weak				*Albaro*	*3*
	Medium				*Fino*	*5*
	Strong				*Genio,Sirio, Carmo*	*7*

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
Proposal D:						
4.d	***Leaf: curvature of tip***					
	Absent					*1*
	Present					*9*
4.e	***Leaf: petiole width***					
	Thin					*3*
	Medium					*5*
	Thick					*7*
5. **(*)**	**Grumolo formation**					
	Absent				Latina, Di Firenze	1
	Present				Fino	9
6. **(+)**	**Grumolo: height**					
	Low				Heracles	3
	Medium				Fino	5
	High				Sirio	7
7. **(+)**	**Grumolo: width**					
	Narrow					3
	Medium				Fino	5
	Broad				Kompolti törpe	7
7.a ***Proposal D***	***Grumolo: ratio height/width***					
	Small					3
	Medium					5
	Large					*7*

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
8. **(+)**	**Grumolo: thickness**					
	Thin				Genio	3
	Medium				Fino	5
	Thick				Heracles	7
8.a (*) ***Proposal F:***	***Grumolo: shape in longitudinal section***					
						1
						2
						3
8.b (*) ***Proposal F:***	***Grumolo: shape in transversal section***					
	Rounded					*1*
	Elliptic					*2*
proposal D:						
8.c	*Small elliptic*					*1*
	Elliptic					*2*
	Broad elliptic					*3*
	round					*4*
9. **(*)**	**Grumolo: color**					
	Whitish				Fino	1
	Green				Sirio, Carmo	2

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10.	**Grumolo: intensity of green color**					
	Light					3
	Medium					5
	Dark					7
11.	**Sheath: surface**					
Proposal F: (*)	Smooth				Heracles	3
	medium				Fino	5
	strong				Rudy, Sirio	7
12.	**Sheath: overlapping**					
	Weak				Cristal	3
	Medium				Fino, Genio	5
	strong					7
13. ***Proposal D: Delete***	**Plant: number of lateral shoots**					
	absent or very few				Fino	1
	few				Cantino, Genio	3
	medium				Sirio	5
	many					7
	very many					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14. ***Proposal F:*** ***(*)***	**Time of harvest maturity**					
	Early					3
	Medium					5
	late				Genio	7
15. **(*)** ***France preferes: Resistance to bolting***	**Tendency to bolt** ***Germany want to add: (under long day conditions)***					
	absent or very weak				Pollux, Fino	1
	weak				Tardo	3
	medium					5
	strong				Sirio, Cristel	7
	very strong				Di Firenze	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
Additional characteristics proposed by France:						
I.	***Sheath: main shape***					
	Narrow ovate					*1*
	Ovate					*2*
	Large ovate				Genio	*3*
II.	***Main stem: height***					
	Short					*3*
	Medium				Genio	*5*
	High					*7*
III. (*)	***Main stem: width at base***					
	Narrow					*3*
	Medium				Genio	*5*
	Large					*7*
IV.	***Resistance to frost***					
	Weak					*3*
	Medium				Genio	*5*
	Strong					*7*

VIII. Explanations on the Table of Characteristics

[no special explanations]

IX. Literature

[no special literature]

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1.	Species	*Foeniculum vulgare* Miller. Fennel
2.	Applicant (Name and address)	
3.	Proposed denomination or breeder's reference	
4.	Information on origin, maintenance and reproduction of the variety	

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 (3)	**Foliage: intensity of greencolor**		
	Light	Latina	3
	Medium	Fino	5
	Dark	Heracles	7
5.2 (5)	**Grumolo formation**		
	Absent	Latina, Di Firenze	1
	Present	Fino	9
5.3 (9)	**Grumolo: color**		
	Whitish	Fino	1
	Green	Sirio, Charmo	2

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

(a) Use / Growing season:

– spring [ ]
– summer [ ]
– autumn [ ]

(b) 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.

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