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WORKING PAPER ON REVISED DRAFT TEST GUIDELINES
FOR LING, SCOTCH HEATHER (TG/94/3)
(*Calluna vulgaris* (L.) Hull)

Document prepared by experts from Germany

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
I. Subject of these Guidelines	3
II. Material Required	3
III. Conduct of Tests	3
IV. Methods and Observations.....	4
V. Grouping of Varieties	4
VI. Characteristics and Symbols	5
VII. Table of Characteristics	6
VIII Explanations and Methods	11
IX. Literature	12
X. Technical Questionnaire	13

I. Subject of these Guidelines

These test guidelines apply to all vegetatively propagated varieties of *Calluna vulgaris* (L.) Hull of the family Ericaceae.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material 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. As a minimum, the following quantity of plant material is recommended:

30 one year old potted plants

The plant material supplied must be visibly healthy, not lacking in vigor or affected by any important pests or diseases.

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. A test should normally be conducted for one growing period. If distinctness and/or uniformity cannot be sufficiently be established in one growing period, the test should be extended for a second growing period.

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 (conditions for the Northern Hemisphere).

Time of submission of plant material: October, 1

Planting of plants for the test: October, 1 in the open, 30 x 30 cm

Soil: sandy, peaty soil with at least 3% humus, pH 4 to 5

Fertilization: liquid feed according to soil analysis

Pruning: strong pruning before sprouting

The size of the plots should be such that parts of plants may be removed for measurement and counting without prejudice the observations which must be made up to the end of the growing period. As a minimum, each test should include a total of 30 plants. 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. For the assessment of uniformity a population standard of 2 per cent with acceptance probability of at least 95 per cent should be applied. In the case of a sample of 30 plants the maximum number of off-types allowed would be 2.
2. Unless otherwise indicated, all observations should be made on 30 plants. All observation determined by counting or assessing should be made on 10 plants or parts of 10 plants.
3. All observations on the plant, on the flowering shoot and on the leaf should be made before the beginning of flowering.
4. Unless otherwise indicated, all observations on the flower should be made when 50% of the plants present one third of the flowers flowering. The observation on the flower at the end of flowering should be made when 10% of the plants present at least 10 flowers with brown coloration.
5. Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D6,500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

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) Flower bud: opening (characteristic 12)
 - (b) Flower: type (characteristic 13)
 - (c) Flower: color of lower side of petal (17)

VI. Characteristics and Symbols

1. To assess distinctness, homogeneity 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.

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

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. Plant: growth (+) habit		Pflanze: Wuchsform			
creeping		kriechend		Heidezwerg	1
broad bushy		breit buschig		Long White	2
bushy		buschig		Marleen	3
upright		aufrecht		Amethyst	4
2. Plant: density		Pflanze: Dichte			
open		locker		Peter Sparkes	3
medium		mittel		Marleen	5
dense		dicht		Darkness	7
3. Plant: height		Pflanze: Höhe			
short		niedrig			3
medium		mittel		Darkness	5
high		hoch		Long White	7
4. Shoot tip: anthocyanin coloration (in middle of the vegetative rest)		Triebspitze: Anthocyanfärbung (in der Mitte der Vegetationsruhe)			
absent or very weak		fehlend oder sehr gering		Melanie	1
weak		gering		Dark Beauty	3
medium		mittel		Radnor	5
strong		stark		Marlies	7
very strong		sehr stark		Alexandra	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. Shoot tip: color after sprouting (3 cm long shoot)		Triebspitze: Farbe nach dem Austrieb (3 cm langer Trieb)			
yellow		gelb		Lambstails	1
yellow-green		gelbgrün			2
light green		hellgrün		Melanie	3
green		mittelgrün		Roswitha	4
dark green		dunkelgrün			5
grey-green		graugrün		Alportii	6
blue-green		blaugrün			7
brown-green		braungrün		Marlies	8
red-green		rotgrün			9
brown-red		braunrot			10
dark red		dunkelrot			11
purple-red		purpurrot			12
6. Shoot tip: anthocyanin coloration (in the middle of the growing period)		Triebspitze: Anthocyanfärbung (in der Mitte der Vegetationsperiode)			
absent or very weak		fehlend oder sehr gering		Josephine	1
weak		gering		Elsie Purnell	3
medium		mittel		Allegro	5
strong		stark		Marleen	7
very strong		sehr stark		Monja	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. Growing shoot: color on sunny side (as for 6)		Jahrestrieb: Farbe auf der Sonnenseite (wie unter 6)			
yellow-green		gelbgrün		Melanie	1
light green		hellgrün		Long White	2
green		mittelgrün			3
dark green		dunkelgrün			4
grey-green		graugrün			5
grey-red		graurot		Amethyst	6
red		rot		Marleen	7
8. Leaf: color		Blatt: Farbe			
yellow		gelb		Lambstails	1
yellow-green		gelbgrün		Adrie	2
light green		hellgrün		Melanie	3
green		mittelgrün		Marleen	4
dark green		dunkelgrün		Monja	5
grey-green		graugrün		Nico	6
blue-green		blaugrün			7
brown-green		braungrün			8
red-green		rotgrün			9
brown-red		braunrot			10
dark red		dunkelrot			11
purple red		purpurrot			12
9. Flowering shoot: length from the pinch		Blütentrieb: Länge ab Stutzstelle			
short		kurz		Marianne	3
medium		mittel		Marleen	5
long		lang		Amthyst	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. Flowering shoot: color		Blütentrieb: Farbe			
yellow-green		gelbgrün		Melanie	1
light green		hellgrün		Long White	2
grey-red		graurot		Alportii	3
red		rot		Marlies	4
11. Inflorescence: density		Blütenstand: Dichte			
loose		locker		Visser's Fancy	3
medium		mittel		Marleen	5
dense		dicht		Arabella	7
12. Flower bud: opening		Blütenknospe: Öffnen			
absent		fehlend		Marleen	1
present		vorhanden		Long White	9
13. Flower: type		Blüte: Typ			
single		einfach		Long White	1
double		gefüllt		Annemarie	2
14. Flower: size		Blüte: Größe			
small		klein		Lydia	3
medium		mittel		Roswitha	5
large		groß		Red Pimpernel	7
15. <u>Only open</u> <u>flowering</u> varieties: Flower: length of calyx compared to length of corolla		<u>Nur offenblühende</u> <u>Sorten: Blüte:</u> Kelchlänge im Vergleich zur Blütenkronlänge			
shorter		kürzer		Red Pimpernel	1
same length		gleichlang		Arabella	2
longer		länger		Allegro	3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<p>16. <u>Only open flowering varieties:</u> Flower: color of lower side of sepal</p> <p>RHS Colour Chart (indicate reference number)</p>		<p><u>Nur offenblühende Sorten:</u> Blüte: Farbe der Unterseite des Blütenblattes</p> <p>RHS-Farbkarte (Nummer angeben)</p>			
<p>17. Flower: color of lower side of petal</p> <p>RHS Colour Chart (indicate reference number)</p>		<p>Blüte: Farbe der Unterseite des Blütenblattes</p> <p>RHS-Farbkarte (Nummer angeben)</p>			
<p>18. Flower: color of lower side of petal at the end of flowering</p> <p>RHS Colour Chart (indicate reference number)</p>		<p>Blüte: Farbe der Unterseite des Kelchblattes zum Zeitpunkt der Abblüte</p> <p>RHS-Farbkarte (Nummer angeben)</p>			
<p>19. Flower: Time of beginning of flowering</p> <p>very early</p> <p>early</p> <p>medium</p> <p>late</p> <p>very late</p>		<p>Blüte: Zeitpunkt des Blühbeginns</p> <p>sehr früh</p> <p>früh</p> <p>mittel</p> <p>spät</p> <p>sehr spät</p>		<p>Tib</p> <p>Carmen</p> <p>Annemarie</p> <p>Romina</p> <p>Perestrojka</p>	<p>1</p> <p>3</p> <p>5</p> <p>7</p> <p>9</p>

VIII. Explanations and Methods

Ad 1: Plant: growth type

1
creeping

2
broad bushy

3
bushy

4
upright

IX. Literature

Underhill, Terry: Heaths & Heathers, The Growers Encyclopedia, David & Charles, Newton Abbot, London 1990

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><i>Calluna vulgaris</i> (L.) Hull</p> <p>Ling, Scotch Heather Callune Besenheide</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	

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

4.1 Origin

(a) Seedling (indicate parent varieties)

..... []

(b) Mutation (indicate parent variety)

..... []

(c) Discovery (indicate where and when)

..... []

(d) Other (specify)

..... []

4.2 Method of reproduction

– seed []

– cuttings []

– *in vitro* propagation []

4.3 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 Plant: growth habit (1)		
creeping	Heidezweg	1[]
broad bushy	Long White	2[]
bushy	Marleen	3[]
upright	Amethyst	4[]
5.2 Flower bud: opening (12)		
absent	Marleen	1[]
present	Long White	9[]
5.3 Flower: type (13)		
single	Long White	1[]
double	Annemarie	2[]
5.4 i: Flower: color of lower side of petal (17)	RHS Colour Chart (indicate reference number)	
5.5 ii: Flower: color of lower side of petal (17)		
	white	1[]
	light pink	2[]
	pink	3[]
	dark pink	4[]
	light red	5[]
	red	6[]
	dark red	7[]
	purple	8[]

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
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^{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

7.3 Other information

A representative color photo of the variety should be included in the Technical Questionnaire.

