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| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  | wordml://75.png | |  | | --- | | **TG/94/7(proj.4)** | | **ORIGINAL:** English | | **DATE:** 2023-06-22 | | | **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** | | | |  | Geneva |  | |  | |  |  |  | | --- | --- | --- | |  |  |  | |  | DRAFT |  | |  |  |  | |  | |  |  |  | |  | |  | | --- | |  | | **LING, SCOTS HEATHER** | |  | | |  | | --- | |  | | |  | | --- | | UPOV Code(s): CALLU\_VUL | | |  | | |  | | |  |  | | --- | --- | | |  | | --- | | *Calluna vulgaris* (L.) Hull | | |  | | |  | | |  | | --- | | \* | | |  |  |  | | |  | | --- | | **GUIDELINES** | |  | | **FOR THE CONDUCT OF TESTS** | |  | | **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** | | | | |  |  |  | | |  | | --- | | *prepared by an expert from Germany* | | *to be considered by*  *the Technical Committee for adoption by correspondence* | | | | | *Disclaimer: this document does not represent UPOV policies or guidance* | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | Alternative names:\* | | | | | | | |  | | --- | |  | | | | | | | *Botanical name* | *English* | *French* | *German* | *Spanish* | | |  | | --- | | *Calluna vulgaris* (L.) Hull | | |  | | --- | | Heather, Ling,  Scots Heather | | |  | | --- | | Bruyère callune,  Bruyère commune, Callune | | |  | | --- | | Besenheide | | |  | | --- | | Biercol, Brezo | | | | | |  |  |  | | 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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| |  |  | | --- | --- | | TABLE OF CONTENTS | PAGE | |  |  | | |  |  |  | | --- | --- | --- | | 1. | SUBJECT OF THESE TEST GUIDELINES.......................................................................................................... | [3](#Section1) | |  |  |  | | 2. | MATERIAL REQUIRED......................................................................................................................................... | [3](#Section2) | |  |  |  | | 3. | METHOD OF EXAMINATION................................................................................................................................ | [3](#Section3) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 3.1 | Number of Growing Cycles........................................................................................................................ | [3](#Section3-1) | | 3.2 | Testing Place............................................................................................................................................. | [3](#Section3-2) | | 3.3 | Conditions for Conducting the Examination............................................................................................... | [3](#Section3-3) | | 3.4 | Test Design................................................................................................................................................ | [3](#Section3-4) | | 3.5 | Additional Tests......................................................................................................................................... | [3](#Section3-5) | | | |  |  |  | | 4. | ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY................................................................. | [4](#Section4) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 4.1 | Distinctness............................................................................................................................................... | [4](#Section4-1) | | 4.2 | Uniformity.................................................................................................................................................. | [5](#Section4-2) | | 4.3 | Stability...................................................................................................................................................... | [5](#Section4-3) | | | |  |  |  | | 5. | GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL................................................ | [5](#Section5) | |  |  |  | | 6. | INTRODUCTION TO THE TABLE OF CHARACTERISTICS................................................................................ | [6](#Section6) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 6.1 | Categories of Characteristics..................................................................................................................... | [6](#Section6-1) | | 6.2 | States of Expression and Corresponding Notes........................................................................................ | [6](#Section6-2) | | 6.3 | Types of Expression.................................................................................................................................. | [6](#Section6-3) | | 6.4 | Example Varieties...................................................................................................................................... | [6](#Section6-4) | | 6.5 | Legend....................................................................................................................................................... | [7](#Section6-5) | | | |  |  |  | | 7. | TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES...................................................................................................................................................... | [8](#Section7) | |  |  |  | | 8. | EXPLANATIONS ON THE TABLE OF CHARACTERISTICS............................................................................... | [15](#Section8) | |  | |  |  |  | | --- | --- | --- | | 8.1 | Explanations covering several characteristics........................................................................................... | [15](#Section8-1) | | |  | | --- | | 8.2 | | Explanations for individual characteristics................................................................................................. | [15](#Section8-2) | | | |  |  |  | | 9. | LITERATURE......................................................................................................................................................... | [19](#Section9) | |  |  |  | | 10. | TECHNICAL QUESTIONNAIRE............................................................................................................................ | [20](#Section10) | |  |  |  | |  | |  | | --- | |  | |  | | | |

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| --- | --- |
| 1. | Subject of these Test Guidelines |
|  |  |
|  | |  | | --- | | These Test Guidelines apply to all varieties of *Calluna vulgaris* (L.) Hull. | |

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| --- | --- |
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|  |  |
| 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 young plants. | |
|  |  |
| 2.3 | |  | | --- | | The minimum quantity of plant material, to be supplied by the applicant, should be: | |
|  |  |
|  | |  | | --- | | 20 plants. | |
|  |  |
| 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. | |

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|  |  |
| 3. | Method of Examination |
|  |  |
| *3.1* | *Number of Growing Cycles* |
|  |  |
| |  | | --- | | 3.1.1 | | The minimum duration of tests should normally be a single growing cycle. |
|  |  |
| |  | | --- | | 3.1.2 | | The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test. |
|  |  |
| *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* |
|  |  |
| |  | | --- | | 3.3.1 | | 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. |
|  |  |
| |  | | --- | | 3.3.2 | | 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 D 6500 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. The color chart and version used should be specified in the variety description. |
|  |  |

|  |  |
| --- | --- |
| *3.4* | *Test Design* |
|  |  |
| 3.4.1 | |  | | --- | | Each test should be designed to result in a total of at least 20 plants. | |
|  |  |
| |  | | --- | | 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. |

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| --- | --- |
| 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 5 plants or parts of plants taken from each of 5 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 vegetatively 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 | |  | | --- | | For the assessment of uniformity of vegetatively propagated 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 20 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 plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied. |

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| 5. | Grouping of Varieties and Organization of the Growing Trial |
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| 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: flowering type (characteristic 1) | | | |  | | --- | | (b) | |  | |  | | --- | | Leaf: color on sunny side in autumn (characteristic 10) | | | |  | | --- | | (c) | |  | |  | | --- | | Flower: opening of bud (characteristic 14) | | | |  | | --- | | (d) | |  | |  | | --- | | Flower: color of outer side of sepal at beginning of flowering (characteristic 19) with the following groups:  Gr. 1: white  Gr. 2: pink  Gr. 3: red  Gr. 4: purple red  Gr. 5: blue violet | | | |  | | --- | | (e) | |  | |  | | --- | | Flower: color of outer side of petal at beginning of flowering (characteristic 21) with the following groups:  Gr. 1: white  Gr. 2: pink  Gr. 3: red  Gr. 4: purple red  Gr. 5: blue violet | | | |  |  | | --- | --- | | |  | | --- | |  | | | | | |
| 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”. |

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| --- | --- |
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|  |  |
| 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 | All relevant states of expression are presented in the characteristic. |
|  |  |
| 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. |

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| --- | --- |
| *6.5* | *Legend* |
|  |  |
| |  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | **1** | | |  | | --- | | **2** | | |  | | --- | | **3** | | |  | | --- | | **4** | | |  | | --- | | **5** | | |  | | --- | | **6** | | |  | | --- | | **7** | | | | | |  |  | |  | | --- | | **Name of characteristics in English** | | | |  | | --- | | **Nom du caractère en français** | | | |  | | --- | | **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 | Qualitative characteristic | – see Chapter 6.3 | |  | QN | Quantitative characteristic | – see Chapter 6.3 | |  | PQ | Pseudo-qualitative characteristic | – see Chapter 6.3 | |  |  |  |  | | 4 | Method of observation (and type of plot, if applicable) | | | |  | MG, MS, VG, VS | | – see Chapter 4.1.5 | |  |  |  |  | | 5 | |  | | --- | | (+) | | |  |  | | --- | --- | | |  | | --- | | See Explanations on the Table of Characteristics in Chapter 8.2 | | | | |  |  |  |  | | 6 | |  | | --- | | (a)-(e) | | |  |  | | --- | --- | | |  | | --- | | See Explanations on the Table of Characteristics in Chapter 8.1 | | | | |  |  |  |  | | 7 | |  | | --- | | Not applicable | | | | | |

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

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | **(\*)** | **QL** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: flowering type** | | | |  | | --- | | **Plante: type de floraison** | | | |  | | --- | | **Pflanze: Blühtyp** | | |  | | --- | | **Planta: tipo de floración** | |  |  |
|  |  | regular | | régulier | | regelmäßig | regular | Laurentine | 1 |
|  |  | irregular | | irrégulier | | unregelmäßig | irregular | Cologne | 2 |
| **2.** | **(\*)** | **PQ** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: growth habit** | | | |  | | --- | | **Plante: port** | | | |  | | --- | | **Pflanze: Wuchsform** | | |  | | --- | | **Planta: hábito de crecimiento** | |  |  |
|  |  | narrow upright | | dressé étroit | | schmal aufrecht | erecto estrecho | Linda | 1 |
|  |  | broad upright | | dressé large | | breit aufrecht | erecto ancho | Laurentine | 2 |
|  |  | broad upright to spreading | | dressé large à étalé | | breit aufrecht bis breitwüchsig | erecto ancho a extendido | Angie | 3 |
|  |  | spreading | | étalé | | breitwüchsig | extendido | Vaika | 4 |
|  |  | weeping | | pleureur | | lang überhängend | llorón | Nelly | 5 |
| **3.** |  | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: density** | | | |  | | --- | | **Plante: densité** | | | |  | | --- | | **Pflanze: Dichte** | | |  | | --- | | **Planta: densidad** | |  |  |
|  |  | very sparse | | très lâche | | sehr locker | muy laxa |  | 1 |
|  |  | very sparse to sparse | | très lâche à lâche | | sehr locker bis locker | muy laxa a laxa |  | 2 |
|  |  | sparse | | lâche | | locker | laxa | Zulu | 3 |
|  |  | sparse to medium | | lâche à moyenne | | locker bis mittel | laxa a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Dallas | 5 |
|  |  | medium to dense | | moyenne à dense | | mittel bis dicht | media a densa |  | 6 |
|  |  | dense | | dense | | dicht | densa | Las Vegas | 7 |
|  |  | dense to very dense | | dense à très dense | | dicht bis sehr dicht | densa a muy densa |  | 8 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 9 |
| **4.** | **(\*)** | **QN** | **MG/MS/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: height** | | | |  | | --- | | **Plante: hauteur** | | | |  | | --- | | **Pflanze: Höhe** | | |  | | --- | | **Planta: altura** | |  |  |
|  |  | very short | | très courte | | sehr niedrig | muy baja | Nelly | 1 |
|  |  | very short to short | | très courte à courte | | sehr niedrig bis niedrig | muy baja a baja |  | 2 |
|  |  | short | | courte | | niedrig | baja | Inid | 3 |
|  |  | short to medium | | courte à moyenne | | niedrig bis mittel | baja a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Franca | 5 |
|  |  | medium to tall | | moyenne à haute | | mittel bis hoch | media a alta |  | 6 |
|  |  | tall | | haute | | hoch | alta | Sydney | 7 |
|  |  | tall to very tall | | haute à très haute | | hoch bis sehr hoch | alta a muy alta |  | 8 |
|  |  | very tall | | très haute | | sehr hoch | muy alta |  | 9 |
| **5.** | **(\*)** | **PQ** | **VG** |  | **(a), (b)** |  | | | |
|  |  | |  | | --- | | **Shoot: color** | | | |  | | --- | | **Rameau: couleur** | | | |  | | --- | | **Trieb: Farbe** | | |  | | --- | | **Rama: color** | |  |  |
|  |  | yellow green | | vert-jaune | | gelbgrün | verde amarillento | Aufrechte Gelbe | 1 |
|  |  | light green | | vert clair | | hellgrün | verde claro | Nebula | 2 |
|  |  | grey red | | rouge-gris | | graurot | rojo grisáceo | Zilly | 3 |
|  |  | brown red | | rouge-brun | | braunrot | rojo amarronado | Selma | 4 |
|  |  | brown | | brun | | braun | marrón | Zulu | 5 |
| **6.** | **(\*)** | **PQ** | **VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Only varieties with Plant: flowering type: regular: Shoot apex: leaf color** | | | |  | | --- | | **Seulement variétés avec Plante: type de floraison: régulier: Apex du rameau: couleur de la feuille** | | | |  | | --- | | **Nur Sorten mit Pflanze: Blühtyp: regelmäßig: Triebspitze: Blattfarbe** | | |  | | --- | | **Solo variedades con Planta: tipo de floración: regular: Ápice de la rama: color de la hoja** | |  |  |
|  |  | light green | | vert clair | | hellgrün | verde claro | Sandy | 1 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Angie | 2 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro | Lisbeth | 3 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Grizabella | 4 |
| **7.** | **(\*)** | **PQ** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Only varieties with Plant: flowering type: regular: Shoot apex: leaf color on sunny side in winter** | | | |  | | --- | | **Seulement variétés avec Plante: type de floraison: régulier: Apex du rameau: couleur de la feuille du côté ensoleillé en hiver** | | | |  | | --- | | **Nur Sorten mit Pflanze: Blühtyp: regelmäßig: Triebspitze: Blattfarbe auf der Sonnenseite im Winter** | | |  | | --- | | **Solo variedades con Planta: tipo de floración: regular: Ápice de la rama: color de la hoja en el lado expuesto al sol en invierno** | |  |  |
|  |  | yellow | | jaune | | gelb | amarillo | Sandy | 1 |
|  |  | yellow green | | vert-jaune | | gelbgrün | verde amarillento | Lunolemon | 2 |
|  |  | light green | | vert clair | | hellgrün | verde claro | Lunospätrosa | 3 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Marlike | 4 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro | Linda | 5 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Silvana | 6 |
|  |  | green brown | | brun-vert | | grünbraun | marrón verdoso | WI 52018 | 7 |
|  |  | brown | | brun | | braun | marrón | Nirina | 8 |
|  |  | red | | rouge | | rot | rojo | Bonita | 9 |
|  |  | blackish purple | | pourpre noirâtre | | schwärzlichpurpurn | púrpura negruzco | Martina | 10 |
| **8.** | **(\*)** | **PQ** | **VG** | **(+)** | **(b), (d)** |  | | | |
|  |  | |  | | --- | | **Leaf: color** | | | |  | | --- | | **Feuille: couleur** | | | |  | | --- | | **Blatt: Farbe** | | |  | | --- | | **Hoja: color** | |  |  |
|  |  | light green | | vert clair | | hellgrün | verde claro | Aufrechte Gelbe | 1 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Angie | 2 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro | Lisbeth | 3 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Zilly | 4 |
| **9.** | **(\*)** | **PQ** | **VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Leaf: color on sunny side in summer** | | | |  | | --- | | **Feuille: couleur du côté ensoleillé en été** | | | |  | | --- | | **Blatt: Farbe auf der Sonnenseite im Sommer** | | |  | | --- | | **Hoja: color en el lado expuesto al sol en verano** | |  |  |
|  |  | yellow | | jaune | | gelb | amarillo | Aufrechte Gelbe | 1 |
|  |  | yellow green | | vert-jaune | | gelbgrün | verde amarillento | Sandy | 2 |
|  |  | light green | | vert clair | | hellgrün | verde claro | Nebula | 3 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Laurentine | 4 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro | Havanna | 5 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Cologne, Grizabella | 6 |
|  |  | brown green | | vert-brun | | braungrün | verde amarronado | Zorina | 7 |
|  |  | yellow orange | | orange-jaune | | gelborange | naranja amarillento |  | 8 |
|  |  | yellow pink | | rose-jaune | | gelbrosa | rosa amarillento | Red Lake | 9 |
|  |  | red | | rouge | | rot | rojo |  | 10 |
| **10.** | **(\*)** | **PQ** | **VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Leaf: color on sunny side in autumn** | | | |  | | --- | | **Feuille: couleur du côté ensoleillé en automne** | | | |  | | --- | | **Blatt: Farbe auf der Sonnenseite im Herbst** | | |  | | --- | | **Hoja: color en el lado expuesto al sol en otoño** | |  |  |
|  |  | yellow | | jaune | | gelb | amarillo | Zipi | 1 |
|  |  | yellow green | | vert-jaune | | gelbgrün | verde amarillento | Sydney | 2 |
|  |  | light green | | vert clair | | hellgrün | verde claro | Zelena | 3 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Zelia | 4 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro | Stockholm | 5 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Cologne, Zilly | 6 |
|  |  | blackish green | | vert noirâtre | | schwärzlichgrün | verde negruzco | Havanna, Zalina | 7 |
|  |  | orange green | | vert-orange | | orangegrün | verde anaranjado | Dallas, Las Vegas | 8 |
|  |  | orange red | | rouge-orange | | orangerot | rojo anaranjado | Zoe | 9 |
|  |  | pink red | | rouge-rose | | rosarot | rojo rosado |  | 10 |
|  |  | red | | rouge | | rot | rojo |  | 11 |
|  |  | brown | | brun | | braun | marrón | Pretoria, Zorina | 12 |
| **11.** | **(\*)** | **PQ** | **VG** |  | **(c), (d)** |  | | | |
|  |  | |  | | --- | | **Only varieties with Plant: flowering type: irregular: Leaf: color on sunny side in winter** | | | |  | | --- | | **Seulement variétés avec Plante: type de floraison: irrégulier: Feuille: couleur du côté ensoleillé en hiver** | | | |  | | --- | | **Nur Sorten mit Pflanze: Blühtyp: unregelmäßig: Blatt: Farbe auf der Sonnenseite im Winter** | | |  | | --- | | **Solo variedades con Planta: tipo de floración: irregular: Hoja: color en el lado expuesto al sol en invierno** | |  |  |
|  |  | yellow | | jaune | | gelb | amarillo | Zipi | 1 |
|  |  | yellow green | | vert-jaune | | gelbgrün | verde amarillento | Barcelona | 2 |
|  |  | light green | | vert clair | | hellgrün | verde claro | Zelena | 3 |
|  |  | medium green | | vert moyen | | mittelgrün | verde medio | Zelia | 4 |
|  |  | dark green | | vert foncé | | dunkelgrün | verde oscuro |  | 5 |
|  |  | grey green | | vert-gris | | graugrün | verde grisáceo | Zilly | 6 |
|  |  | green brown | | brun-vert | | grünbraun | marrón verdoso | Stockholm | 7 |
|  |  | red | | rouge | | rot | rojo | Zoe | 8 |
|  |  | brown red | | rouge-brun | | braunrot | rojo amarronado | Zorina | 9 |
|  |  | blackish purple | | pourpre noirâtre | | schwärzlichpurpurn | púrpura negruzco | Havanna | 10 |
| **12.** | **(\*)** | **PQ** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Inflorescence: branching** | | | |  | | --- | | **Inflorescence: ramification** | | | |  | | --- | | **Blütenstand: Verzweigung** | | |  | | --- | | **Inflorescencia: ramificación** | |  |  |
|  |  | absent | | absente | | fehlend | ausente | Angie, Lisbeth | 1 |
|  |  | present | | présente | | vorhanden | presente | Sabella | 9 |
| **13.** |  | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Only varieties with Plant: flowering type: regular: Inflorescence: density of flowers** | | | |  | | --- | | **Seulement variétés avec Plante: type de floraison: régulier: Inflorescence: densité de fleurs** | | | |  | | --- | | **Nur Sorten mit Pflanze: Blühtyp: regelmäßig: Blütenstand: Dichte der Blüten** | | |  | | --- | | **Solo variedades con Planta: tipo de floración: regular: Inflorescencia: densidad de las flores** | |  |  |
|  |  | very sparse | | très lâche | | sehr locker | muy laxa |  | 1 |
|  |  | very sparse to sparse | | très lâche à lâche | | sehr locker bis locker | muy laxa a laxa |  | 2 |
|  |  | sparse | | lâche | | locker | laxa | Lisbeth | 3 |
|  |  | sparse to medium | | lâche à moyenne | | locker bis mittel | laxa a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Lisann | 5 |
|  |  | medium to dense | | moyenne à dense | | mittel bis dicht | media a densa |  | 6 |
|  |  | dense | | dense | | dicht | densa | Rote Janina | 7 |
|  |  | dense to very dense | | dense à très dense | | dicht bis sehr dicht | densa a muy densa |  | 8 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 9 |
| **14.** | **(\*)** | **QL** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Flower: opening of bud** | | | |  | | --- | | **Fleur: ouverture du bourgeon** | | | |  | | --- | | **Blüte: Öffnen der Knospe** | | |  | | --- | | **Flor: apertura de la yema** | |  |  |
|  |  | absent | | absente | | fehlend | ausente | Laurentine | 1 |
|  |  | present | | présente | | vorhanden | presente | Dark Beauty | 9 |
| **15.** | **(\*)** | **QL** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Only varieties with Flower: opening of bud: present: Flower: type** | | | |  | | --- | | **Seulement variétés avec Fleur: ouverture du bourgeon: présente: Fleur: type** | | | |  | | --- | | **Nur Sorten mit Blüte: Öffnen der Knospe: vorhanden: Blüte: Typ** | | |  | | --- | | **Solo variedades con Flor: apertura de la yema: presente: Flor: tipo** | |  |  |
|  |  | single | | simple | | einfach | simple | Grizabella | 1 |
|  |  | double | | double | | gefüllt | doble | Dark Beauty | 2 |
| **16.** | **(\*)** | **QN** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Only varieties with Flower: opening of bud: present: Flower: size** | | | |  | | --- | | **Seulement variétés avec Fleur: ouverture du bourgeon: présente: Fleur: taille** | | | |  | | --- | | **Nur Sorten mit Blüte: Öffnen der Knospe: vorhanden: Blüte: Größe** | | |  | | --- | | **Solo variedades con Flor: apertura de la yema: presente: Flor: tamaño** | |  |  |
|  |  | small | | petite | | klein | pequeño | Dark Beauty | 1 |
|  |  | medium | | moyenne | | mittel | medio | Flamenco | 2 |
|  |  | large | | grande | | groß | grande | Annemarie | 3 |
| **17.** | **(\*)** | **QN** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Only varieties with Flower: opening of bud: absent: Flower: length** | | | |  | | --- | | **Seulement variétés avec Fleur: ouverture du bourgeon: absente: Fleur: longueur** | | | |  | | --- | | **Nur Sorten mit Blüte: Öffnen der Knospe: fehlend: Blüte: Länge** | | |  | | --- | | **Solo variedades con Flor: apertura de la yema: ausente: Flor: longitud** | |  |  |
|  |  | very short | | très courte | | sehr kurz | muy corta | Zalina | 1 |
|  |  | very short to short | | très courte à courte | | sehr kurz bis kurz | muy corta a corta |  | 2 |
|  |  | short | | courte | | kurz | corta | Moulin Rouge | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Valeska | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Rita | 7 |
|  |  | long to very long | | longue à très longue | | lang bis sehr lang | larga a muy larga | Pink Madonna | 8 |
|  |  | very long | | très longue | | sehr lang | muy larga |  | 9 |
| **18.** | **(\*)** | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Only varieties with Flower: opening of bud: absent: Flower: width** | | | |  | | --- | | **Seulement variétés avec Fleur: ouverture du bourgeon: absente: Fleur: largeur** | | | |  | | --- | | **Nur Sorten mit Blüte: Öffnen der Knospe: fehlend: Blüte: Breite** | | |  | | --- | | **Solo variedades con Flor: apertura de la yema: ausente: Flor: anchura** | |  |  |
|  |  | very narrow | | très étroite | | sehr schmal | muy estrecha | Angie, Ini | 1 |
|  |  | narrow | | étroite | | schmal | estrecha | Linda, Vaika | 2 |
|  |  | medium | | moyenne | | mittel | media | Franca, Lisann | 3 |
|  |  | broad | | large | | breit | ancha | Bettina, Maggy | 4 |
|  |  | very broad | | très large | | sehr breit | muy ancha | Mary Ann | 5 |
| **19.** | **(\*)** | **PQ** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Flower: main color of outer side of sepal at beginning of flowering** | | | |  | | --- | | **Fleur: couleur principale de la face externe du sépale au début de la floraison** | | | |  | | --- | | **Blüte: Hauptfarbe der Außenseite des Kelchblattes bei Blühbeginn** | | |  | | --- | | **Flor: color principal de la cara externa del sépalo al inicio de la floración** | |  |  |
|  |  | RHS Colour Chart (indicate reference number) | | Code RHS des couleurs (indiquer le numéro de référence) | | RHS-Farbkarte (Nummer angeben) | Carta de colores RHS (indíquese el número de referencia) |  |  |
| **20.** | **(\*)** | **PQ** | **VG** | **(+)** | **(e)** |  | | | |
|  |  | |  | | --- | | **Flower: main color of outer side of sepal at end of flowering** | | | |  | | --- | | **Fleur: couleur principale de la face externe du sépale à la fin de la floraison** | | | |  | | --- | | **Blüte: Hauptfarbe der Außenseite des Kelchblattes bei Blühende** | | |  | | --- | | **Flor: color principal de la cara externa del sépaloal final de la floración** | |  |  |
|  |  | RHS Colour Chart (indicate reference number) | | Code RHS des couleurs (indiquer le numéro de référence) | | RHS-Farbkarte (Nummer angeben) | Carta de colores RHS (indíquese el número de referencia) |  |  |
| **21.** | **(\*)** | **PQ** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Flower: color of outer side of petal at beginning of flowering** | | | |  | | --- | | **Fleur: couleur de la face externe du pétale au début de la floraison** | | | |  | | --- | | **Blüte: Farbe der Außenseite des Blütenblattes bei Blühbeginn** | | |  | | --- | | **Flor: color de la cara externa del pétalo al inicio de la floración** | |  |  |
|  |  | RHS Colour Chart (indicate reference number) | | Code RHS des couleurs (indiquer le numéro de référence) | | RHS-Farbkarte (Nummer angeben) | Carta de colores RHS (indíquese el número de referencia) |  |  |
| **22.** | **(\*)** | **PQ** | **VG** | **(+)** | **(e)** |  | | | |
|  |  | |  | | --- | | **Flower: color of outer side of petal at end of flowering** | | | |  | | --- | | **Fleur: couleur de la face externe du pétale à la fin de la floraison** | | | |  | | --- | | **Blüte: Farbe der Außenseite des Blütenblattes bei Blühende** | | |  | | --- | | **Flor: color de la cara externa del pétalo al final de la floración** | |  |  |
|  |  | RHS Colour Chart (indicate reference number) | | Code RHS des couleurs (indiquer le numéro de référence) | | RHS-Farbkarte (Nummer angeben) | Carta de colores RHS (indíquese el número de referencia) |  |  |
| **23.** |  | **PQ** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Time of beginning of flowering** | | | |  | | --- | | **Époque du début de la floraison** | | | |  | | --- | | **Zeitpunkt des Blühbeginns** | | |  | | --- | | **Época de inicio de la floración** | |  |  |
|  |  | very early | | très précoce | | sehr früh | muy temprana | Martina | 1 |
|  |  | very early to early | | très précoce à précoce | | sehr früh bis früh | muy temprana a temprana |  | 2 |
|  |  | early | | précoce | | früh | temprana | Pink Madonna | 3 |
|  |  | early to medium | | précoce à moyenne | | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Amethyst | 5 |
|  |  | medium to late | | moyenne à tardive | | mittel bis spät | de media a tardía |  | 6 |
|  |  | late | | tardive | | spät | tardía | Moulin Rouge | 7 |
|  |  | late to very late | | tardive à très tardive | | spät bis sehr spät | de tardía a muy tardía |  | 8 |
|  |  | very late | | très tardive | | sehr spät | muy tardía | Ronja | 9 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | 8. | Explanations on the Table of Characteristics | | | |  | | | | | *8.1* | *Explanations covering several characteristics* | | | |  | | | | |  | |  | | --- | | Unless otherwise indicated, observations on varieties with Plant: flowering type: regular should be made at the beginning of flowering when one third of the flowers are fully developed on 50% of the plants. Observations on varieties with Plant: flowering type: irregular should be made in the middle of autumn. | | | | |  |  |  |  | |  | Characteristics containing the following key in the Table of Characteristics should be examined as indicated below: | | | |  | | | | | |  | | --- | | (a) | | |  | | --- | | Observations should be made in the middle third of the shoots. | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | Observations should be made on the shaded part of the plant. | | | | |  |  |  |  | | |  | | --- | | (c) | | |  | | --- | | Observations should be made after a few days with minimum temperatures below zero degrees Celsius. | | | | |  |  |  |  | | |  | | --- | | (d) | | |  | | --- | | Observations should be made based on the general impression of the leaves. | | | | |  |  |  |  | | |  | | --- | | (e) | | |  | | --- | | Observations should be made when 10 % of the plants have at least 10 senescent flowers. | | | | |  |  |  |  | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | |  | | | |  | | --- | | Ad. 1: Plant: flowering type  Varieties with Plant: flowering type: regular flower on the majority of shoots. Varieties with Plant: flowering type: irregular do not flower on the majority of shoots and if flowering does occur the number of flowers are few. | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 2: Plant: growth habit     |  |  |  |  |  | | --- | --- | --- | --- | --- | | wordml://76.png | wordml://77.png | wordml://78.png | wordml://79.png | wordml://80.png | | 1 | 2 | 3 | 4 | 5 | | narrow upright | broad upright | broad upright to spreading | spreading | weeping | | | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 3: Plant: density     |  |  |  | | --- | --- | --- | | wordml://81.png | wordml://82.png | wordml://83.png | | 3 | 5 | 7 | | sparse | medium | dense | | | | | |  | | --- | | Ad. 4: Plant: height  wordml://84.png  Observations should be made from the surface of the growing medium to the top of the plant. | | | |

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| |  |  | | --- | --- | | |  | | --- | | Ad. 6: Only varieties with Plant: flowering type: regular: Shoot apex: leaf color  wordml://85.png  Observations should be made above the top flowers. | | | |  | | --- | | Ad. 8: Leaf: color  Observations should be made in the lower third of the plant. | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Ad. 12:  Inflorescence: branching     |  |  | | --- | --- | |  |  | | 1 | 9 | | absent | present | | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 13: Only varieties with Plant: flowering type: regular: Inflorescence: density of flowers     |  |  |  | | --- | --- | --- | | wordml://92.png | wordml://93.png | wordml://94.png | | 3 | 5 | 7 | | sparse | medium | dense | | | |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Ad. 14: Flower: opening of bud     |  |  | | --- | --- | | wordml://95.png | wordml://96.png | | 1 | 9 | | absent | present | | | | |  | | --- | | Ad. 15: Only varieties with Flower: opening of bud: present: Flower: type  A single flower has four petals. A double flower has more than four petals. | | | |  | | --- | | Ad. 18: Only varieties with Flower: opening of bud: absent: Flower: width  Observations should be made in the upper third of the flowering shoots. | | | |  | | --- | | Ad. 19: Flower: main color of outer side of sepal at beginning of flowering  wordml://97.png  a = sepal (characteristics 19 and 20)  b = petal (characteristics 21 and 22) | | | |  | | --- | | Ad. 20: Flower: main color of outer side of sepal at end of flowering  See Ad. 19 | | | |  | | --- | | Ad. 21: Flower: color of outer side of petal at beginning of flowering  See Ad. 19  Ad. 22: Flower: color of outer side of petal at end of flowering  See Ad. 19 | | |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | 9. | Literature | | |  |  |  | | --- | | Nelson, E. C., 2011: Hardy Heathers from the Northern Hemisphere. Royal Botanic Gardens, Kew, GB  Knight, F. P., 1986: Heaths and Heathers. Wisley Handbook, Cassell/RHS.  Underhill, T., 1990: Heaths & Heathers, The Growers Encyclopedia. David & Charles, Newton Abbot, GB. | | |

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| |  |  | | --- | --- | | 10. | Technical Questionnaire | |
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| |  |  |  | | --- | --- | --- | | TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
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| |  |  | | --- | --- | |  | Application date: (not to be filled in by the applicant) | | TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights | | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 1. | Subject of the Technical Questionnaire | | | | |  |  |  |  |  | |  | |  | | --- | | 1.1 | | Botanical name | |  | | --- | | *Calluna vulgaris* (L.) Hull | | |  | | --- | |  | | |  |  |  |  |  | |  | |  | | --- | | 1.2 | | Common name | |  | | --- | | Heather, Ling, Scots Heather | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 2. | Applicant | | | | |  |  |  |  |  | |  | Name | |  |  | |  |  |  |  |  | |  | Address | |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  |  | |  | Telephone No. | |  |  | |  |  |  |  |  | |  | Fax No. | |  |  | |  |  |  |  |  | |  | E-mail address | |  |  | |  |  |  |  |  | |  | Breeder (if different from | |  |  | |  | applicant) | |  |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 3. | Proposed denomination and breeder's reference | | | | |  |  |  |  |  | |  | Proposed denomination | |  |  | |  | (if available) | |  |  | |  |  |  |  |  | |  | Breeder's reference | |  |  | |  |  |  |  |  | |

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | 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 variety)  (…………………..……………..…)                          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) | [ ] | |  |  | | |  |  | | | | | | |

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| |  |  |  | | --- | --- | --- | |  |  |  | |  | 4.2 | Method of propagating the variety | |  | |  |  |  | | --- | --- | --- | | |  | | --- | | 4.2.1 | | |  | | --- | | Vegetative propagation | |  | | |  | | --- | | (a) | | |  | | --- | | Cuttings | | [ ] | | |  | | --- | | (b) | | |  | | --- | | *In vitro* propagation | | [ ] | | |  | | --- | | (c) | | |  | | --- | | Other (state method) | | [ ] | |  |  |  | |  |  |  | |  |  |  | | |  | | --- | | 4.2.2 | | Other (Please provide details) | [ ] | |  |  |  | |  |  |  | |  |  |  | | | |  | |  |  | | --- | --- | | |  | | --- | |  | | | | |

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| |  |  |  |  | | --- | --- | --- | --- | | 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). | | | |  |  |  |  | |

|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
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| |  | | --- | | **5.1** |  |  | | --- | | **(1)** | | |  | | --- | | **Plant: flowering type** | |  |  |
|  | |  | | --- | | regular | | |  | | --- | | Laurentine | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | irregular | | |  | | --- | | Cologne | | |  | | --- | | 2 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.2** |  |  | | --- | | **(2)** | | |  | | --- | | **Plant: growth habit** | |  |  |
|  | |  | | --- | | narrow upright | | |  | | --- | | Linda | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | broad upright | | |  | | --- | | Laurentine | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | broad upright to spreading | | |  | | --- | | Angie | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | spreading | | |  | | --- | | Vaika | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | weeping | | |  | | --- | | Nelly | | |  | | --- | | 5 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.3** |  |  | | --- | | **(10)** | | |  | | --- | | **Leaf: color on sunny side in autumn** | |  |  |
|  | |  | | --- | | yellow | | |  | | --- | | Zipi | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | yellow green | | |  | | --- | | Sydney | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | light green | | |  | | --- | | Zelena | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium green | | |  | | --- | | Zelia | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | dark green | | |  | | --- | | Stockholm | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | grey green | | |  | | --- | | Cologne, Zilly | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | black green | | |  | | --- | | Havanna, Zalina | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | orange green | | |  | | --- | | Dallas, Las Vegas | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | orange red | | |  | | --- | | Zoe | | |  | | --- | | 9 [   ] | |
|  | |  | | --- | | pink red | | |  | | --- | |  | | |  | | --- | | 10 [   ] | |
|  | |  | | --- | | red | | |  | | --- | |  | | |  | | --- | | 11 [   ] | |
|  | |  | | --- | | brown | | |  | | --- | | Pretoria, Zorina | | |  | | --- | | 12 [   ] | |
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|  | Characteristics | Example Varieties | Note |
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| |  | | --- | | **5.4** |  |  | | --- | | **(11)** | | |  | | --- | | **Only varieties with Plant: flowering type: irregular: Leaf: color on sunny side in winter** | |  |  |
|  | |  | | --- | | yellow | | |  | | --- | | Zipi | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | yellow green | | |  | | --- | | Barcelona | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | light green | | |  | | --- | | Zelena | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium green | | |  | | --- | | Zelia | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | dark green | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | grey green | | |  | | --- | | Zilly | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | green brown | | |  | | --- | | Stockholm | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | red | | |  | | --- | | Zoe | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | brown red | | |  | | --- | | Zorina | | |  | | --- | | 9 [   ] | |
|  | |  | | --- | | blackish purple | | |  | | --- | | Havanna | | |  | | --- | | 10 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.5** |  |  | | --- | | **(14)** | | |  | | --- | | **Flower: opening of bud** | |  |  |
|  | |  | | --- | | absent | | |  | | --- | | Laurentine | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | present | | |  | | --- | | Dark Beauty | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.6** |  |  | | --- | | **(17)** | | |  | | --- | | **Only varieties with Flower: opening of bud: absent: Flower: length** | |  |  |
|  | |  | | --- | | very short | | |  | | --- | | Zalina | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very short to short | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | short | | |  | | --- | | Moulin Rouge | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | short to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Valeska | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to long | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | long | | |  | | --- | | Rita | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | long to very long | | |  | | --- | | Pink Madonna | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very long | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.7** |  |  | | --- | | **(18)** | | |  | | --- | | **Only varieties with Flower: opening of bud: absent: Flower: width** | |  |  |
|  | |  | | --- | | very narrow | | |  | | --- | | Angie, Ini | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | narrow | | |  | | --- | | Linda, Vaika | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Franca, Lisann | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | broad | | |  | | --- | | Bettina, Maggy | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | very broad | | |  | | --- | | Mary Ann | | |  | | --- | | 5 [   ] | |
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|  | Characteristics | Example Varieties | Note |
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| |  | | --- | | **5.8(i)** |  |  | | --- | | **(19)** | | |  | | --- | | **Flower: main color of outer side of sepal at beginning of flowering** | |  |  |
|  | |  | | --- | | RHS Colour Chart (indicate reference number) | | |  | | --- | |  | |  |
|  |  |  |  |
| |  | | --- | | **5.8(ii)** |  |  | | --- | | **(19)** | | |  | | --- | | **Flower: main color of outer side of sepal at beginning of flowering** | |  |  |
|  | |  | | --- | | white | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | pink | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | red | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | purple red | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | blue violet | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | other (please indicate) | | |  | | --- | |  | | |  | | --- | | [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.9(i)** |  |  | | --- | | **(21)** | | |  | | --- | | **Flower: color of outer side of petal at beginning of flowering** | |  |  |
|  | |  | | --- | | RHS Colour Chart (indicate reference number) | | |  | | --- | |  | |  |
|  |  |  |  |
| |  | | --- | | **5.9(ii)** |  |  | | --- | | **(21)** | | |  | | --- | | **Flower: color of outer side of petal at beginning of flowering** | |  |  |
|  | |  | | --- | | white | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | pink | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | red | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | purple red | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | blue violet | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | other (please indicate) | | |  | | --- | |  | | |  | | --- | | [   ] | |
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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 **similar** variety(ies) | | |  | | --- | | Describe the expression of the characteristic(s) for **your** candidate variety | | | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | *Example* | |  | | --- | | *Leaf: color* | | |  | | --- | | *light green* | | |  | | --- | | *dark green* | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | Comments: | |

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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | #7. | | Additional information which may help in the examination of the variety | | | | |  |  |  | | | | 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 | | | | |  |  |  |  |  | | A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.   The key points to consider when taking a photograph of the candidate variety are:  • Indication of the date and geographic location • Correct labeling (breeder’s reference) • Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)”  Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (http://www.upov.int/tgp/en/).  [The link provided may be deleted by members of the Union when developing authorities’ own test guidelines.] | | | | | | |  | | --- | |  | | | | | | |  |  |  |  |  | |

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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 been obtained? | | | | |  |  | Yes | [ ] | No | [ ] | |  | If the answer to (b) is yes, please attach a copy of the authorization. | | | | | |  |  |  |  |  |  | |
| |  |  | | --- | --- | | |  | | --- | | 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 |  |  | |  |  |  | |  |  | |  |  |  |  |  |  | |
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