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| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  | wordml://75.png | |  | | --- | | **TG/43/8(proj.3)** | | **ORIGINAL:** English | | **DATE:** 2023-05-17 | | | **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** | | | |  | Geneva |  | |  | |  |  |  | | --- | --- | --- | |  |  |  | |  | DRAFT |  | |  |  |  | |  | |  |  |  | |  | |  | | --- | |  | | **RASPBERRY; BLACK RASPBERRY** | |  | | |  | | --- | |  | | |  | | --- | | UPOV Code(s): RUBUS\_IDA; RUBUS\_OCC | | |  | | |  | | |  |  | | --- | --- | | |  | | --- | | *Rubus idaeus* L.;  *Rubus occidentalis* L. | | |  | | |  | | |  | | --- | | \* | | |  |  |  | | |  | | --- | | **GUIDELINES** | |  | | **FOR THE CONDUCT OF TESTS** | |  | | **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** | | | | |  |  |  | | |  | | --- | | *prepared by experts from Germany* | | *to be considered by the* | | |  | | --- | | *Technical Working Party for Fruit Crops* | | | *at its fifty-fourth session, to be held in Nîmes, France,* | | |  | | --- | | *from 2023-07-03 to 2023-07-07* | | | | | | *Disclaimer: this document does not represent UPOV policies or guidance* | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | Alternative names:\* | | | | | | | |  | | --- | |  | | | | | | | *Botanical name* | *English* | *French* | *German* | *Spanish* | | |  | | --- | | *Rubus idaeus* L. | | |  | | --- | | Raspberry | | |  | | --- | | Framboisier | | |  | | --- | | Himbeere | | |  | | --- | | Frambueso, Sangüeso | | | |  | | --- | | *Rubus occidentalis* L., *Rubus occidentalis* L. var. *occidentalis* | | |  | | --- | | Black Raspberry, Blackcap, Thimbleberry | | |  | | --- | | Frambosier noir, Frambosier de Virginie | | |  | | --- | | Schwarze Himbeere | | |  | | --- | | Frambueso negro | | | | | |  |  |  | | 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. | | |  |  |  | | --- | --- | --- | | Other associated UPOV documents: | |  | | --- | | TG/37 (Blackberry) | | | |

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| |  |  | | --- | --- | | TABLE OF CONTENTS | PAGE | |  |  | | |  |  |  | | --- | --- | --- | | 1. | SUBJECT OF THESE TEST GUIDELINES.......................................................................................................... | [4](#Section1) | |  |  |  | | 2. | MATERIAL REQUIRED..................................................................................................................... | [4](#Section2) | |  |  |  | | 3. | METHOD OF EXAMINATION............................................................................................................... | [4](#Section3) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 3.1 | Number of Growing Cycles................................................................................................................. | [4](#Section3-1) | | 3.2 | Testing Place................................................................................................................... | [4](#Section3-2) | | 3.3 | Conditions for Conducting the Examination............................................................................................... | [5](#Section3-3) | | 3.4 | Test Design................................................................................................................. | [6](#Section3-4) | | 3.5 | Additional Tests................................................................................................................... | [6](#Section3-5) | | | |  |  |  | | 4. | ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY................................................................. | [6](#Section4) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 4.1 | Distinctness.......................................................................................................... | [6](#Section4-1) | | 4.2 | Uniformity............................................................................................................ | [7](#Section4-2) | | 4.3 | Stability............................................................................................................... | [7](#Section4-3) | | | |  |  |  | | 5. | GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL................................................ | [8](#Section5) | |  |  |  | | 6. | INTRODUCTION TO THE TABLE OF CHARACTERISTICS................................................................................ | [8](#Section6) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 6.1 | Categories of Characteristics...................................................................................................... | [8](#Section6-1) | | 6.2 | States of Expression and Corresponding Notes........................................................................................ | [8](#Section6-2) | | 6.3 | Types of Expression............................................................................................................ | [9](#Section6-3) | | 6.4 | Example Varieties.............................................................................................................. | [9](#Section6-4) | | 6.5 | Legend................................................................................................................. | [10](#Section6-5) | | | |  |  |  | | 7. | TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.................................................................................................................. | [11](#Section7) | |  |  |  | | 8. | EXPLANATIONS ON THE TABLE OF CHARACTERISTICS............................................................................... | [28](#Section8) | |  | |  |  |  | | --- | --- | --- | | 8.1 | Explanations covering several characteristics........................................................................................... | [28](#Section8-1) | | |  | | --- | | 8.2 | | Explanations for individual characteristics................................................................................................. | [29](#Section8-2) | | | |  |  |  | | 9. | LITERATURE................................................................................................................... | [32](#Section9) | |  |  |  | | 10 | TECHNICAL QUESTIONNAIRE............................................................................................................ | [33](#Section10) | |  |  |  | |  | |  | | --- | |  | |  | | | |

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| 1. | Subject of these Test Guidelines |
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|  | |  | | --- | | These Test Guidelines apply to all varieties of *Rubus idaeus* L. and *Rubus occidentalis* L. and their hybrids. | |

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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 plants with a satisfactory number of adventitious buds on the roots. | |
|  |  |
| 2.3 | |  | | --- | | The minimum quantity of plant material, to be supplied by the applicant, should be: | |
|  |  |
|  | |  | | --- | | 12 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 two independent growing cycles. |
|  |  |
| |  | | --- | | 3.1.2 | | The two independent growing cycles may be observed from a single planting, examined in two separate growing cycles. |
|  |  |
| |  | | --- | | 3.1.3 | | |  | | --- | | In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles. | |
|  |  |
| |  | | --- | | 3.1.4 | | The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new season buds. |
|  |  |
| |  | | --- | |  | | |  | | --- | | (The wording does not fit; ASW3(a) needs being reworded:)  The growing cycle is considered to be the duration of a single growing season, beginning with the dormancy period, followed by bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period starts. | |
|  |  |
| |  | | --- | | 3.1.5 | | 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 10 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. | |
|  |  |
|  | |  | | --- | | In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2. | |
|  |  |
| 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 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is 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 |
|  |  |
| 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) | |  | |  | | --- | | Very young shoot: anthocyanin coloration of apex during rapid growth (characteristic 3) | | | |  | | --- | | (b) | |  | |  | | --- | | Spines: presence (characteristic 10) | | | |  | | --- | | (c) | |  | |  | | --- | | Current year's cane: flowers (characteristic 24) | | | |  | | --- | | (d) | |  | |  | | --- | | Fruit: color (characteristic 32) | | | |  | | --- | | (e) | |  | |  | | --- | | Time of beginning of flowering on current season’s cane (characteristic 39) | | | |  | | --- | | (f) | |  | |  | | --- | | Time of beginning of fruit ripening on current season’s cane (characteristic 41) | | | |  |  | | --- | --- | | |  | | --- | |  | | | | | |
| 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)-(f) | | |  |  | | --- | --- | | |  | | --- | | 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.** |  | **PQ** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Plant: growth habit** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | upright | |  | |  |  | Maravilla, Ontario | 1 |
|  |  | semi-upright | |  | |  |  | Regina, Schönemann | 2 |
|  |  | arching | |  | |  |  | Meeker, Pearl | 3 |
| **2.** | **(\*)** | **PQ** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Dormant cane: color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | brownish grey | |  | |  |  | NR 7, Schönemann | 1 |
|  |  | greyish brown | |  | |  |  | Meeker, Willamette | 2 |
|  |  | brown | |  | |  |  | Glen Ample, Tulameen | 3 |
|  |  | purplish brown | |  | |  |  | Radiance | 4 |
|  |  | brownish purple | |  | |  |  | Black Jewel, Sanibelle | 5 |
| **3.** | **(\*)** | **QN** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Very young shoot: anthocyanin coloration of apex during rapid growth** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  |  | 1 |
|  |  | very weak to weak | |  | |  |  | Fallgold, Poranna Rosa | 2 |
|  |  | weak | |  | |  |  | Brilliance, Sapphire | 3 |
|  |  | weak to medium | |  | |  |  | Fruatfri, Sugana | 4 |
|  |  | medium | |  | |  |  | Regina, Tulameen | 5 |
|  |  | medium to strong | |  | |  |  | Malling Freya, Maravilla | 6 |
|  |  | strong | |  | |  |  | Polka, Sanibelle | 7 |
|  |  | strong to very strong | |  | |  |  | Royalty | 8 |
|  |  | very strong | |  | |  |  | Glen Moy, Malling Delight | 9 |
| **4.** | **(\*)** | **QN** | **MG/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: number of current season’s canes** | | |  | |  |  |  |  |
|  |  | very few | |  | |  |  |  | 1 |
|  |  | very few to few | |  | |  |  |  | 2 |
|  |  | few | |  | |  |  | Tulameen | 3 |
|  |  | few to medium | |  | |  |  | Pokusa, Qualicum | 4 |
|  |  | medium | |  | |  |  | Advarberimar, Fruatfri | 5 |
|  |  | medium to many | |  | |  |  | Grandeur, Regina | 6 |
|  |  | many | |  | |  |  | Pearl, Poranna Rosa | 7 |
|  |  | many to very many | |  | |  |  | Cascade Dawn, ma 2920 | 8 |
|  |  | very many | |  | |  |  |  | 9 |
| **5.** | **(\*)** | **QN** | **MG/VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Cane: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  | NR 7 | 2 |
|  |  | short | |  | |  |  |  | 3 |
|  |  | short to medium | |  | |  |  | Advabertwee, Loganlike | 4 |
|  |  | medium | |  | |  |  | Advarberimar | 5 |
|  |  | medium to long | |  | |  |  | Drisraspone, Radiance | 6 |
|  |  | long | |  | |  |  | Schönemann, Tulameen | 7 |
|  |  | long to very long | |  | |  |  | Meeker, Royalty | 8 |
|  |  | very long | |  | |  |  | Malling Leo | 9 |
| **6.** |  | **QN** | **MG/VG** |  | **(b)** |  | | | |
|  |  | |  | | --- | | **Cane: length of internode** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | short | |  | |  |  | Autumn Treasure, Poranna Rosa | 2 |
|  |  | medium | |  | |  |  | Glen Ample, Holyoke | 3 |
|  |  | long | |  | |  |  | Polka | 4 |
|  |  | very long | |  | |  |  |  | 5 |
| **7.** |  | **QN** | **MG/VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Cane: length of vegetative bud** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Autumn Bliss, Drisraspsix | 1 |
|  |  | medium | |  | |  |  | Driscoll Madonna, Grandeur | 2 |
|  |  | long | |  | |  |  | Schönemann | 3 |
| **8.** |  | **QN** | **VG** |  | **(b)** |  | | | |
|  |  | |  | | --- | | **Cane: anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Poranna Rosa, Valentina | 1 |
|  |  | weak | |  | |  |  | Cardinal, Vajolet | 2 |
|  |  | medium | |  | |  |  | Holyoke, Rafzaqu | 3 |
|  |  | strong | |  | |  |  | Drisraspfour, Malling Juno | 4 |
|  |  | very strong | |  | |  |  |  | 5 |
| **9.** |  | **QN** | **VG** |  | **(b)** |  | | | |
|  |  | |  | | --- | | **Cane: bloom** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Adelita, Lupita | 1 |
|  |  | very weak to weak | |  | |  |  | Bountiful,  Diamond Jubilee | 2 |
|  |  | weak | |  | |  |  | Fruatfri, Regina | 3 |
|  |  | weak to medium | |  | |  |  | Meeker, Qualicum | 4 |
|  |  | medium | |  | |  |  | ma 2920, Rafzmach | 5 |
|  |  | medium to strong | |  | |  |  | Lagorai Plus, NR 7 | 6 |
|  |  | strong | |  | |  |  | Advabereen, Sanibelle | 7 |
|  |  | strong to very strong | |  | |  |  | Brilliance, Pokusa | 8 |
|  |  | very strong | |  | |  |  | Ontario, Royalty | 9 |
| **10.** | **(\*)** | **QL** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Spines: presence** | | |  | |  |  |  |  |
|  |  | absent | |  | |  |  | Glen Ample, NR 7 | 1 |
|  |  | present | |  | |  |  | Malling Promise, Regina | 9 |
| **11.** |  | **QN** | **MG/VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Spines: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  | Resa | 1 |
|  |  | short | |  | |  |  | Carmelina, Grandeur | 2 |
|  |  | medium | |  | |  |  | Fruatfri, Regina | 3 |
|  |  | long | |  | |  |  | BP 1, Drisrasptwo | 4 |
|  |  | very long | |  | |  |  | Black Jewel, Lowden | 5 |
| **12.** |  | **PQ** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Spines: color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | green | |  | |  |  | Golden Bliss,  Poranna Rosa | 1 |
|  |  | brownish green | |  | |  |  | Brilliance, Holyoke | 2 |
|  |  | greenish brown | |  | |  |  | Advabereen, Radiance | 3 |
|  |  | brown | |  | |  |  | Glen Magna, Rusilva | 4 |
|  |  | purplish brown | |  | |  |  | Cardinal, Fruatfri | 5 |
|  |  | brownish purple | |  | |  |  | Maravilla, Octavia | 6 |
|  |  | purple | |  | |  |  | Polka, Sugana | 7 |
| **13.** |  | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Spines: size of base** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very small | |  | |  |  |  | 1 |
|  |  | very small to small | |  | |  |  | Gleam | 2 |
|  |  | small | |  | |  |  | Driscoll Pacifica, Rafzmach | 3 |
|  |  | small to medium | |  | |  |  | Octavia, Radiance | 4 |
|  |  | medium | |  | |  |  | Cardinal, Regina | 5 |
|  |  | medium to large | |  | |  |  | Fruatfri, Vajolet | 6 |
|  |  | large | |  | |  |  | BP 1, Dolomia Plus | 7 |
|  |  | large to very large | |  | |  |  | Josephine | 8 |
|  |  | very large | |  | |  |  | Black Jewel, Lowden | 9 |
| **14.** | **(\*)** | **QN** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Spines: density** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very sparse | |  | |  |  | Ontario | 1 |
|  |  | very sparse to sparse | |  | |  |  | Festival, Korbfüller | 2 |
|  |  | sparse | |  | |  |  | Valentina | 3 |
|  |  | sparse to medium | |  | |  |  | Maravilla, Tulameen | 4 |
|  |  | medium | |  | |  |  | Lupita, Octavia | 5 |
|  |  | medium to dense | |  | |  |  | ma 2920, Schönemann | 6 |
|  |  | dense | |  | |  |  | Fruatfri, Regina | 7 |
|  |  | dense to very dense | |  | |  |  | Golden Bliss | 8 |
|  |  | very dense | |  | |  |  | Lloyd George | 9 |
| **15.** | **(\*)** | **PQ** | **VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Leaf: color of upper side** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | greenish yellow | |  | |  |  | JDEBOER005 | 1 |
|  |  | light green | |  | |  |  | Skeena, Watson | 2 |
|  |  | medium green | |  | |  |  | Autumn Bliss, Isabel | 3 |
|  |  | dark green | |  | |  |  | Dolomia Plus | 4 |
| **16.** | **(\*)** | **PQ** | **VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Leaf: predominant number of leaflets** | | |  | |  |  |  |  |
|  |  | three | |  | |  |  | Autumn Treasure, Lupita | 1 |
|  |  | equally three and five | |  | |  |  | Fruatfri, Lagorai Plus | 2 |
|  |  | five | |  | |  |  | Ontario, Sanibelle | 3 |
| **17.** |  | **QN** | **VG** | **(+)** | **(d)** |  | | | |
|  |  | |  | | --- | | **Leaf: arrangement of leaflets** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | free | |  | |  |  | Lupita, Regina | 1 |
|  |  | touching | |  | |  |  | Jade, ma 2920 | 2 |
|  |  | overlapping | |  | |  |  | Fruatfri | 3 |
| **18.** |  | **QN** | **MG/VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Terminal leaflet: length** | | |  | |  |  |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | NR 7 | 3 |
|  |  | short to medium | |  | |  |  | JDEBOER005 | 4 |
|  |  | medium | |  | |  |  | Glen Carron | 5 |
|  |  | medium to long | |  | |  |  | Advabereen, ma 2920 | 6 |
|  |  | long | |  | |  |  | Amaranta, Versailles | 7 |
|  |  | long to very long | |  | |  |  | Dolomia Plus, Polka | 8 |
|  |  | very long | |  | |  |  | Motueka, Tea | 9 |
| **19.** |  | **QN** | **MG/VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Terminal leaflet: width** | | |  | |  |  |  |  |
|  |  | very narrow | |  | |  |  |  | 1 |
|  |  | very narrow to narrow | |  | |  |  |  | 2 |
|  |  | narrow | |  | |  |  | Summit | 3 |
|  |  | narrow to medium | |  | |  |  | Caroline | 4 |
|  |  | medium | |  | |  |  | Advabertwee, Drisraspone | 5 |
|  |  | medium to broad | |  | |  |  | Brilliance, Joan J | 6 |
|  |  | broad | |  | |  |  | Fruatfri, Sugana | 7 |
|  |  | broad to very broad | |  | |  |  | Regina | 8 |
|  |  | very broad | |  | |  |  | Malling Sirius, Tea | 9 |
| **20.** |  | **QN** | **VG** |  | **(d)** |  | | | |
|  |  | |  | | --- | | **Terminal leaflet: profile in cross section** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | concave | |  | |  |  | NR 7, Pearl | 1 |
|  |  | straight | |  | |  |  | ma 2920, Versailles | 2 |
|  |  | convex | |  | |  |  | Grandeur, Heritage | 3 |
| **21** | **(\*)** | **QN** | **VG** | **(+)** | **(d)** |  | | | |
|  |  | |  | | --- | | **Terminal leaflet: folding** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very weak | |  | |  |  | Heritage | 1 |
|  |  | weak | |  | |  |  | Gleam | 2 |
|  |  | medium | |  | |  |  | Advarberimar, Pearl | 3 |
|  |  | strong | |  | |  |  | Sugana, Vajolet | 4 |
|  |  | very strong | |  | |  |  | Korbfüller | 5 |
| **22.** | **(\*)** | **QN** | **MG/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Previous year's cane: length of fruiting lateral** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  | Vene | 2 |
|  |  | short | |  | |  |  | Glen Moy | 3 |
|  |  | short to medium | |  | |  |  | Driscoll Pacifica | 4 |
|  |  | medium | |  | |  |  | Radiance, Sugana | 5 |
|  |  | medium to long | |  | |  |  | Regina, Versailles | 6 |
|  |  | long | |  | |  |  | Glen Ample | 7 |
|  |  | long to very long | |  | |  |  | Malling Leo | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **23.** |  | **QN** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Previous year's cane: attitude of fruiting lateral** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | erect | |  | |  |  | Advarberimar, NR 7 | 1 |
|  |  | semi-erect | |  | |  |  | Bountiful, Sapphire | 2 |
|  |  | horizontal to drooping | |  | |  |  | Malling Freya | 3 |
| **24.** | **(\*)** | **QL** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Current year's cane: flowers** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent | |  | |  |  | Glen Ample | 1 |
|  |  | present | |  | |  |  | Autumn Bliss | 9 |
| **25.** | **(\*)** | **QN** | **VG** |  | **(e)** |  | | | |
|  |  | |  | | --- | | **Peduncle: intensity of anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Golden Bliss | 1 |
|  |  | very weak to weak | |  | |  |  | Autumn Bliss, Joan J | 2 |
|  |  | weak | |  | |  |  | Fruatfri, Lupita | 3 |
|  |  | weak to medium | |  | |  |  | NR 7 | 4 |
|  |  | medium | |  | |  |  | Grandeur, Radiance | 5 |
|  |  | medium to strong | |  | |  |  | Malling Juno, Qualicum | 6 |
|  |  | strong | |  | |  |  | Advabereen, Brilliance | 7 |
|  |  | strong to very strong | |  | |  |  | ABB 122, Glen Doll | 8 |
|  |  | very strong | |  | |  |  | Rafzmach | 9 |
| **26.** |  | **QN** | **MG/VG** |  | **(e)** |  | | | |
|  |  | |  | | --- | | **Pedicel: number of spines** | | |  | |  |  |  |  |
|  |  | absent or very few | |  | |  |  | Glen Moy, Malling Juno | 1 |
|  |  | very few to few | |  | |  |  | JDEBOER005, Wakefield | 2 |
|  |  | few | |  | |  |  | Bountiful, Lagorai Plus | 3 |
|  |  | few to medium | |  | |  |  | Diamond Jubilee, Drisraspone | 4 |
|  |  | medium | |  | |  |  | Fruatfri, Octavia | 5 |
|  |  | medium to many | |  | |  |  | Maravilla, Sugana | 6 |
|  |  | many | |  | |  |  | Holyoke, Poranna Rosa | 7 |
|  |  | many to very many | |  | |  |  | Autumn Bliss, Satine | 8 |
|  |  | very many | |  | |  |  | Golden Bliss | 9 |
| **27.** |  | **QN** | **MG/VG** | **(+)** | **(e)** |  | | | |
|  |  | |  | | --- | | **Flower: diameter** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very small | |  | |  |  |  | 1 |
|  |  | very small to small | |  | |  |  | Trent | 2 |
|  |  | small | |  | |  |  | Bella, Ontario | 3 |
|  |  | small to medium | |  | |  |  | Brilliance, Radiance | 4 |
|  |  | medium | |  | |  |  | ma 2920, Pearl | 5 |
|  |  | medium to large | |  | |  |  | Joan J | 6 |
|  |  | large | |  | |  |  | Evita, Lagorai Plus | 7 |
|  |  | large to very large | |  | |  |  | Amaranta | 8 |
|  |  | very large | |  | |  |  |  | 9 |
| **28.** | **(\*)** | **QN** | **MG/VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: length** | | |  | |  |  |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Golden Queen | 3 |
|  |  | short to medium | |  | |  |  | Golden Bliss | 4 |
|  |  | medium | |  | |  |  | Octavia, Sugana | 5 |
|  |  | medium to long | |  | |  |  | Brilliance, Rafzaqu | 6 |
|  |  | long | |  | |  |  | Driscoll Pacifica, Radiance | 7 |
|  |  | long to very long | |  | |  |  | Lagorai Plus, Maravilla | 8 |
|  |  | very long | |  | |  |  | Evita | 9 |
| **29.** | **(\*)** | **QN** | **MG/VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: width** | | |  | |  |  |  |  |
|  |  | very narrow | |  | |  |  |  | 1 |
|  |  | narrow | |  | |  |  |  | 2 |
|  |  | medium | |  | |  |  | ma 2920, Rafzmach | 3 |
|  |  | broad | |  | |  |  | Lagorai Plus, Pearl | 4 |
|  |  | very broad | |  | |  |  | Evita | 5 |
| **30.** | **(\*)** | **PQ** | **VG** | **(+)** | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: shape in lateral view** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | circular | |  | |  |  | Black Jewel | 1 |
|  |  | broad conical | |  | |  |  | Autumn Bliss, Glen Ample | 2 |
|  |  | conical | |  | |  |  | Autumn Treasure, Maravilla | 3 |
|  |  | trapezoidal | |  | |  |  | Titan | 4 |
| **31.** |  | **QN** | **VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: size of single drupe** | | |  | |  |  |  |  |
|  |  | very small | |  | |  |  |  | 1 |
|  |  | small | |  | |  |  | Jochems Roem | 2 |
|  |  | medium | |  | |  |  | Carmelina, Qualicum | 3 |
|  |  | large | |  | |  |  | Maravilla, Octavia | 4 |
|  |  | very large | |  | |  |  | Pokusa | 5 |
| **32.** | **(\*)** | **PQ** | **VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: color** | | |  | |  |  |  |  |
|  |  | yellow | |  | |  |  | Golden Bliss, Sungold | 1 |
|  |  | orange | |  | |  |  | Valentina | 2 |
|  |  | light red | |  | |  |  | Qualicum, Vision | 3 |
|  |  | medium red | |  | |  |  | Diamond Jubilee, Pearl | 4 |
|  |  | dark red | |  | |  |  | Bella, BP 1 | 5 |
|  |  | purple | |  | |  |  | Glen Coe, Royalty | 6 |
|  |  | blackish | |  | |  |  | Black Jewel | 7 |
| **33.** |  | **QN** | **VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: glossiness** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very weak | |  | |  |  |  | 1 |
|  |  | weak | |  | |  |  | Glen Magna,  Poranna Rosa | 2 |
|  |  | medium | |  | |  |  | Pearl, Sapphire | 3 |
|  |  | strong | |  | |  |  | Advabertwee, Sanibelle | 4 |
|  |  | very strong | |  | |  |  |  | 5 |
| **34.** | **(\*)** | **QN** | **MG/VG** |  | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **Fruit: firmness** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very soft | |  | |  |  |  | 1 |
|  |  | soft | |  | |  |  | Fallred, Golden Queen | 2 |
|  |  | medium | |  | |  |  | Brilliance, Meeker | 3 |
|  |  | firm | |  | |  |  | Advabereen, Maravilla | 4 |
|  |  | very firm | |  | |  |  |  | 5 |
| **35.** |  | **PQ** | **VG** | **(+)** | **(e), (f)** |  | | | |
|  |  | |  | | --- | | **(Proposal not to take in) Fruit: color of torus at distal end** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | greenish | |  | |  |  | NR 7 | 1 |
|  |  | whitish | |  | |  |  |  | 2 |
|  |  | yellowish white | |  | |  |  | Drisraspthirteen | 3 |
|  |  | orange reddish | |  | |  |  | Drisraspsix | 4 |
| **36.** | **(\*)** | **QN** | **MG/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Time of vegetative bud burst** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | ver early to early | |  | |  |  | Pacific Gema | 2 |
|  |  | early | |  | |  |  | Grandeur | 3 |
|  |  | early to medium | |  | |  |  | Advabertwee, Brilliance | 4 |
|  |  | medium | |  | |  |  | Advarberimar,  Lagorai Plus | 5 |
|  |  | medium to late | |  | |  |  | Glen Ample, Vajolet | 6 |
|  |  | late | |  | |  |  | Glen Magna | 7 |
|  |  | late to very late | |  | |  |  | Drisraspfour | 8 |
|  |  | very late | |  | |  |  |  | 9 |
| **37.** | **(\*)** | **QN** | **MG/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Time of cane emergence** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  | Drisraspthirteen, Majestic | 2 |
|  |  | early | |  | |  |  | Sungold | 3 |
|  |  | early to medium | |  | |  |  | ma 2920, Maravilla | 4 |
|  |  | medium | |  | |  |  | Lagorai Plus, Sugana | 5 |
|  |  | medium to late | |  | |  |  | Amaranta, Tulameen Plus | 6 |
|  |  | late | |  | |  |  | Glen Fyne | 7 |
|  |  | late to very late | |  | |  |  | Glen Ample | 8 |
|  |  | very late | |  | |  |  | Malling Juno, Valentina | 9 |
| **38.** | **(\*)** | **QN** | **MG/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of beginning of flowering on previous year’s cane** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  | Malling Freya | 2 |
|  |  | early | |  | |  |  | Advabereen, Malling Juno | 3 |
|  |  | early to medium | |  | |  |  | Brilliance, Fruatfri,  Glen Fyne | 4 |
|  |  | medium | |  | |  |  | Sapphire | 5 |
|  |  | medium to late | |  | |  |  | Drisraspone, Grandeur | 6 |
|  |  | late | |  | |  |  | Octavia, Tulameen Plus | 7 |
|  |  | late to very late | |  | |  |  | Annamaria | 8 |
|  |  | very late | |  | |  |  |  | 9 |
| **39.** | **(\*)** | **QN** | **MG/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of beginning of flowering on current season’s cane** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  | Polana | 2 |
|  |  | early | |  | |  |  | Adelita, Polka | 3 |
|  |  | early to medium | |  | |  |  | Brilliance, ma 2920 | 4 |
|  |  | medium | |  | |  |  | Rafzaqu, Regina | 5 |
|  |  | medium to late | |  | |  |  | Maravilla, Sugana | 6 |
|  |  | late | |  | |  |  | Advabertwee, Vajolet | 7 |
|  |  | late to very late | |  | |  |  | Drisraspone, Lagorai Plus | 8 |
|  |  | very late | |  | |  |  | Driscoll Madonna, Pearl | 9 |
| **40.** | **(\*)** | **QN** | **MG/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of beginning of fruit ripening on previous year’s cane** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  | ABB 122, Malling Freya | 2 |
|  |  | early | |  | |  |  | Advabereen, Lupita | 3 |
|  |  | early to medium | |  | |  |  | Adelita, Advarberimar | 4 |
|  |  | medium | |  | |  |  | Advabertwee, Radiance | 5 |
|  |  | medium to late | |  | |  |  | Mayfair, Satine | 6 |
|  |  | late | |  | |  |  | Grandeur, Octavia | 7 |
|  |  | late to very late | |  | |  |  | Lowden | 8 |
|  |  | very late | |  | |  |  | Augusta | 9 |
| **41.** | **(\*)** | **QN** | **MG/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of beginning of fruit ripening on current season’s cane** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  | Autumn Bliss | 2 |
|  |  | early | |  | |  |  | Isabel, Sugana | 3 |
|  |  | early to medium | |  | |  |  | Advarberimar, Grandeur | 4 |
|  |  | medium | |  | |  |  | Drisrasptwo, NY One | 5 |
|  |  | medium to late | |  | |  |  | Brilliance | 6 |
|  |  | late | |  | |  |  | Advabertwee | 7 |
|  |  | late to very late | |  | |  |  | ABB 122 | 8 |
|  |  | very late | |  | |  |  |  | 9 |

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| |  |  |  |  | | --- | --- | --- | --- | | 8. | Explanations on the Table of Characteristics | | | |  | | | | | *8.1* | *Explanations covering several characteristics* | | | |  | | | | |  | |  | | --- | |  | | | | |  |  |  |  | |  | Characteristics containing the following key in the Table of Characteristics should be examined as indicated below: | | | |  | | | | | |  | | --- | | (a) | | |  | | --- | | Observations should be made when the cane is fully developed. | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | Observations should be made on current season's canes. | | | | |  |  |  |  | | |  | | --- | | (c) | | |  | | --- | | Observations should be made in the middle third of the cane, when the cane is fully developed. | | | | |  |  |  |  | | |  | | --- | | (d) | | |  | | --- | | Observations should be made on fully developed leaves from the middle third of the cane. | | | | |  |  |  |  | | |  | | --- | | (e) | | |  | | --- | | Observations should be made on canes which flower and fruit first in the vegetation period, either on previous year's canes in summer or on current year’s canes in autumn. | | | | |  |  |  |  | | |  | | --- | | (f) | | |  | | --- | | Observations should be made on fruit picked during the second and third harvest. | | | | |  |  |  |  | |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | |  | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 1: Plant: growth habit  Observations should be made on fully developed current season's shoots, before flowering.     |  |  |  | | --- | --- | --- | | wordml://76.png | wordml://77.png | wordml://78.png | | 1 | 2 | 3 | | upright | semi-upright | arching | | | | | |  | | --- | | Ad. 2: Dormant cane: color  If the canes peel the unpeeled area should be observed. | | | | |  | | --- | | Ad. 4: Plant: number of current season’s canes  Should be assessed when the canes are about 15 cm long. | | | | |  | | --- | | Ad. 5: Cane: length  Observations should be made at the end of the vegetation period. | | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 7: Cane: length of vegetative bud  Observations should be made in the middle third of the cane.     |  |  |  | | --- | --- | --- | | wordml://79.png | wordml://80.png | wordml://81.png | | 2 | 3 | 4 | | short | medium | long | | | | |
| |  |  | | --- | --- | | |  | | --- | | Ad. 13: Spines: size of base  wordml://82.png | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 17: Leaf: arrangement of leaflets     |  |  |  | | --- | --- | --- | | wordml://83.png | wordml://84.png | wordml://85.png | | 1 | 2 | 3 | | free | touching | overlapping | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 21: Terminal leaflet: folding  Should be assessed as the folding along / between the lateral veins.     |  |  |  | | --- | --- | --- | | wordml://86.png | wordml://87.png | wordml://88.png | | 1 | 2 | 3 | | very weak | weak | medium |      |  |  | | --- | --- | | wordml://89.png | wordml://90.png | | 4 | 5 | | strong | very strong | | | | |  | | --- | | Ad. 27: Flower: diameter  The observation should be made with petals pressed into horizontal position. | | |

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| |  |  | | --- | --- | | 10. | Technical Questionnaire | | | | | | | |
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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 | | | | |  |  |  |  |  | |  | |  | | --- | | 1.1.1 | | Botanical name | |  | | --- | | *Rubus idaeus* L. | | |  | | --- | | [  ] | | |  |  |  |  |  | |  | |  | | --- | | 1.1.2 | | Common name | |  | | --- | | Raspberry | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |  | |  | | --- | | 1.2.1 | | Botanical name | |  | | --- | | *Rubus occidentalis* L. | | |  | | --- | | [  ] | | |  |  |  |  |  | |  | |  | | --- | | 1.2.2 | | Common name | |  | | --- | | Black Raspberry, Blackcap, Thimbleberry | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |  | |  | | --- | | 1.3.1 | | Botanical name | |  | | --- | | *Rubus idaeus* L. x *Rubus* x *neglectus* Peck | | |  | | --- | | [  ] | | |  |  |  |  |  | |  | |  | | --- | | 1.3.2 | | Common name | |  | | --- | |  | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |  | |  | | --- | | 1.4.1 | | Botanical name | |  | | --- | | *Rubus idaeus* L. x *Rubus occidentalis* L. | | |  | | --- | | [  ] | | |  |  |  |  |  | |  | |  | | --- | | 1.4.2 | | Common name | |  | | --- | |  | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |  | |  | | --- | | 1.5.1 | | Botanical name | |  | | --- | | *Rubus idaeus* L. x *Rubus parviflorus* L. | | |  | | --- | | [  ] | | |  |  |  |  |  | |  | |  | | --- | | 1.5.2 | | Common name | |  | | --- | |  | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |  | |  | | --- | | 1.6.1 | | Botanical name | |  | | --- | | Hybrids with other species of *Rubus* L. | | |  | | --- | | [  ] | | |  |  |  |  |  | | | | | | | |
|  | |  | | --- | | 1.6.2 | | Common name | |  | | --- | |  | |  |
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| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 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) | | |  | | --- | | *In vitro* propagation | | [ ] | | |  | | --- | | (b) | | |  | | --- | | Rhizomes | | [ ] | | |  | | --- | | (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** |  |  | | --- | | **(2)** | | |  | | --- | | **Dormant cane: color** | |  |  |
|  | |  | | --- | | brownish grey | | |  | | --- | | NR 7, Schönemann | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | greyish brown | | |  | | --- | | Meeker, Willamette | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | brown | | |  | | --- | | Glen Ample, Tulameen | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | purplish brown | | |  | | --- | | Radiance | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | brownish purple | | |  | | --- | | Black Jewel, Sanibelle | | |  | | --- | | 5 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.2** |  |  | | --- | | **(4)** | | |  | | --- | | **Plant: number of current season’s canes** | |  |  |
|  | |  | | --- | | very few | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very few to few | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | few | | |  | | --- | | Tulameen | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | few to medium | | |  | | --- | | Pokusa, Qualicum | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Advarberimar, Fruatfri | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to many | | |  | | --- | | Grandeur, Regina | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | many | | |  | | --- | | Pearl, Poranna Rosa | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | many to very many | | |  | | --- | | Cascade Dawn, ma 2920 | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very many | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.3** |  |  | | --- | | **(10)** | | |  | | --- | | **Spines: presence** | |  |  |
|  | |  | | --- | | absent | | |  | | --- | | Glen Ample, NR 7 | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | present | | |  | | --- | | Malling Promise, Regina | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.4** |  |  | | --- | | **(24)** | | |  | | --- | | **Current year's cane: flowers** | |  |  |
|  | |  | | --- | | absent | | |  | | --- | | Glen Ample | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | present | | |  | | --- | | Autumn Bliss | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.5** |  |  | | --- | | **(30)** | | |  | | --- | | **Fruit: shape in lateral view** | |  |  |
|  | |  | | --- | | circular | | |  | | --- | | Black Jewel | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | broad conical | | |  | | --- | | Autumn Bliss, Glen Ample | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | conical | | |  | | --- | | Autumn Treasure, Maravilla | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | trapezoidal | | |  | | --- | | Titan | | |  | | --- | | 4 [   ] | |
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|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
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| |  | | --- | | **5.6** |  |  | | --- | | **(32)** | | |  | | --- | | **Fruit: color** | |  |  |
|  | |  | | --- | | yellow | | |  | | --- | | Golden Bliss, Sungold | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | orange | | |  | | --- | | Valentina | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | light red | | |  | | --- | | Qualicum, Vision | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium red | | |  | | --- | | Diamond Jubilee, Pearl | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | dark red | | |  | | --- | | Bella, BP 1 | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | purple | | |  | | --- | | Glen Coe, Royalty | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | blackish | | |  | | --- | | Black Jewel | | |  | | --- | | 7 [   ] | |
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|  |  |  |  |
| |  | | --- | | **5.7** |  |  | | --- | | **(40)** | | |  | | --- | | **Time of beginning of fruit ripening on previous year’s cane** | |  |  |
|  | |  | | --- | | very early | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very early to early | | |  | | --- | | ABB 122, Malling Freya | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | early | | |  | | --- | | Advabereen, Lupita | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | early to medium | | |  | | --- | | Adelita, Advarberimar | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Advabertwee, Radiance | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to late | | |  | | --- | | Mayfair, Satine | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | late | | |  | | --- | | Grandeur, Octavia | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | late to very late | | |  | | --- | | Lowden | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very late | | |  | | --- | | Augusta | | |  | | --- | | 9 [   ] | |
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| |  |  |  | | --- | --- | --- | | TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
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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* | |  | | --- | | *Fruit: firmness* | | |  | | --- | | *very soft* | | |  | | --- | | *firm* | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | 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.] | | | | | | |  | | --- | | Bearing type       mainly on previous year's canes in summer:              [   ]         both on previous year's canes in summer       and on current season's canes in autumn:                  [   ]         mainly on current season's canes in autumn               [   ]  Virus status           The variety is free from all known viruses as follows:                               [   ]         (indicate from which viruses)           The plant material is virus tested:                                                             [   ]         (indicate against which viruses)           The virus status is unknown                                                                      [   ] | | | | | | |  |  |  |  |  | |

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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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