|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
|  |  | **E** |
|  |   |  |
|  | wordml://75.png |

|  |
| --- |
| **TG/37/11(proj.9)** |
| **ORIGINAL:** English |
| **DATE:** 2022-03-23 |

 |
| **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** |
|  | Geneva  |  |
|  |

|  |  |  |
| --- | --- | --- |
|  |   |  |
|  | DRAFT |  |
|  |   |  |

 |  |
|  |   |  |
|  |

|  |
| --- |
|   |
| **TURNIP** |
|   |
|

|  |
| --- |
|  |
|

|  |
| --- |
| UPOV Code(s): BRASS\_RAP\_RAP |

 |
|  |

 |
|   |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| *Brassica rapa* L. var. *rapa*  |

 |
|   |

 |
|   |

 |

|  |
| --- |
| \* |

 |
|  |   |  |
|

|  |
| --- |
| **GUIDELINES** |
|   |
| **FOR THE CONDUCT OF TESTS** |
|   |
| **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** |

 |
|  |   |  |
|

|  |
| --- |
| *prepared by experts from France* |
| *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* |
|

|  |
| --- |
| *Brassica rapa* L. var. *rapa*  |

 |

|  |
| --- |
| Turnip |

 |

|  |
| --- |
| Navet |

 |

|  |
| --- |
| Herbstrübe, Mairübe |

 |

|  |
| --- |
| Nabo |

 |

 |
|  |   |  |
| 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/185 Turnip rape |

 |

 |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| 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......................................................................................................................................... | [4](#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............................................................................... | [21](#Section8) |
|  |

|  |   |  |
| --- | --- | --- |
| 8.1 | Explanations covering several characteristics........................................................................................... | [21](#Section8-1) |
|

|  |
| --- |
| 8.2 |

 | Explanations for individual characteristics................................................................................................. | [22](#Section8-2) |
| 8.3 | Key to Growth Stages................................................................................................................................ | [27](#Section9) |

 |
|  |   |  |
| 9. | LITERATURE......................................................................................................................................................... | [28](#Section9) |
|  |   |  |
| 10. | TECHNICAL QUESTIONNAIRE............................................................................................................................ | [29](#Section10) |
|  |   |  |
|  |

|  |
| --- |
|  |

 |  |

 |

 |

|  |  |
| --- | --- |
| 1. | Subject of these Test Guidelines |
|  |   |
|  |

|  |
| --- |
| These Test Guidelines apply to all varieties of *Brassica rapa* L. var. *rapa*. |

 |

|  |  |
| --- | --- |
|  |   |
|  |   |
| 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 seed. |

 |
|  |   |
| 2.3 |

|  |
| --- |
| The minimum quantity of plant material, to be supplied by the applicant, should be: |

 |
|  |   |
|  |

|  |
| --- |
| 20 g or 10,000 seeds |

 |
|  |   |
|  | The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant. |
|  |   |
| 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. |

 |

|  |  |
| --- | --- |
|  |   |
|  |   |
| 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 should be in the form of two separate plantings. |
|  |   |
|

|  |
| --- |
| 3.1.3 |

 | 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 | The optimum stage of development for the assessment of each characteristic is indicated by a number in the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.3. |
|  |   |

|  |  |
| --- | --- |
| *3.4* | *Test Design* |
|  |   |
| 3.4.1 |

|  |
| --- |
| Each test should be designed to result in a total of at least 60 plants, which should be divided between at least 2 replicates. |

 |
|  |
|  |   |
|

|  |
| --- |
| 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. |

|  |  |
| --- | --- |
|  |   |
|  |   |
| 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 40 plants or parts of plants taken from each of 40 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 plantsVS: 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 seed-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 |

 | The assessment of uniformity for open-pollinated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction. |
|  |   |
| 4.2.4 | The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction. |
|  |   |
| *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 seed stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.  |

|  |  |
| --- | --- |
| 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) |

 |  |

|  |
| --- |
| Ploidy (characteristic 1) |

 |
|

|  |
| --- |
| (b) |

 |  |

|  |
| --- |
| Petiole: intensity of anthocyanin coloration (characteristic 2) |

 |
|

|  |
| --- |
| (c) |

 |  |

|  |
| --- |
| Leaf: number of lobes (characteristic 6) |

 |
|

|  |
| --- |
| (d) |

 |  |

|  |
| --- |
| Root: degree of swelling (characteristic 15) |

 |
|

|  |
| --- |
| (e) |

 |  |

|  |
| --- |
| Only varieties with Root: degree of swelling: medium or strong: Root: color of skin above soil (characteristic 16) |

 |
|

|  |
| --- |
| (f) |

 |  |

|  |
| --- |
| Only varieties with Root: degree of swelling: medium or strong: Root: color of skin below soil (characteristic 18) |

 |
|

|  |
| --- |
| (g) |

 |  |

|  |
| --- |
| Only varieties with Root: degree of swelling: medium or strong: Root: color of flesh (characteristic 19) |

 |
|

|  |
| --- |
| (h) |

 |  |

|  |
| --- |
| Only varieties with Root: degree of swelling: medium or strong: Root: shape in longitudinal section (characteristic 22) |

 |
|

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

 |

 |
| 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”. |

|  |  |
| --- | --- |
|  |   |
|  |   |

|  |  |
| --- | --- |
| 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. |
|  |  |

|  |  |
| --- | --- |
| *6.5* | *Legend* |
|  |   |
|

|  |  | English | français | deutsch | español | Example VarietiesExemplesBeispielssortenVariedades 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)-(c) |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| See Explanations on the Table of Characteristics in Chapter 8.1 |

 |

 |
|  |   |  |  |
| 7 |

|  |
| --- |
| Growth stage key See Explanations on the Table of Characteristics in Chapter 8.3 |

 |
| (A)(S) | Types of example varieties:Swelling root absent or weakSwelling root medium or strong |

 |

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

|  |  | English | français | deutsch | español | Example VarietiesExemplesBeispielssortenVariedades ejemplo  | Note/Nota |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | **(\*)** | **QL** | **VG/VS** | **(+)** |  | **00-60** |
|  |  |

|  |
| --- |
| **Ploidy** |

 |

|  |
| --- |
| **Ploïdie** |

 |

|  |
| --- |
| **Ploidie** |

 |

|  |
| --- |
| **Ploidía** |

 |  |  |
|  |  | diploid | diploïde | diploid | diploide | Milan White (S) | 2 |
|  |  | tetraploid | tétraploïde | tetraploid | tetraploide | Taronda (S) | 4 |
| **2.** | **(\*)** | **QN** | **VG** | **(+)** |  | **100-130** |
|  |  |

|  |
| --- |
| **Petiole: intensity of anthocyanin coloration** |

 |

|  |
| --- |
| **Pétiole : intensité de la pigmentation anthocyanique** |

 |

|  |
| --- |
| **Blattstiel: Intensität der Anthocyanfärbung** |

 |

|  |
| --- |
| **Pecíolo: intensidad de la pigmentación antociánica** |

 |  |  |
|  |  | absent or very weak | nulle ou très faible | fehlend oder schwach | ausente o muy débil | Delilah (S), Long d’Alsace (S) | 1 |
|  |  | weak | faible | schwach | débil | Kranjska Podolgovata (S),Simax (A) | 2 |
|  |  | medium | moyenne | mittel | media | Samson (S) | 3 |
|  |  | strong | forte | stark | fuerte |  | 4 |
|  |  | very strong | très forte | sehr stark | muy fuerte | Scarlet Queen Red Stem (S) | 5 |
| **3.** |  | **QN** | **VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: attitude** |

 |

|  |
| --- |
| **Limbe : port** |

 |

|  |
| --- |
| **Blatt: Haltung** |

 |

|  |
| --- |
| **Hoja: porte** |

 |  |  |
|  |  | erect | dressé | aufrecht | erecto | Hinona (A), Samson (S) | 1 |
|  |  | erect to semi-erect | dressé à demi-dressé | aufrecht bis halbaufrecht | erecto a semierecto |  | 2 |
|  |  | semi-erect | demi-dressé | halbaufrecht | semierecto | Noir long (S), Agressa (S) | 3 |
|  |  | semi-erect to horizontal | demi-dressé à horizontal | halbaufrecht bis waagerecht | semierecto a horizontal |  | 4 |
|  |  | horizontal | horizontal | waagerecht | horizontal | Goldana (S), Richelieu (S), Teltower Kleine (S) | 5 |
| **4.** |  | **QN** | **VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: degree of recurving of the apex** |

 |

|  |
| --- |
| **Feuille : degré de courbure de l’apex** |

 |

|  |
| --- |
| **Blatt: Grad der Rückbiegung des Apex** |

 |

|  |
| --- |
| **Hoja: grado de recurvado del ápice** |

 |  |  |
|  |  | absent or very weak | nul ou très faible | fehlend oder sehr gering | ausente o muy débil | Milan White Forcing (S) | 1 |
|  |  | very weak to weak | très faible à faible | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | faible | gering | débil | Declic (S), Fuku Komachi (S) | 3 |
|  |  | weak to medium | faible à moyen | gering bis mittel | débil a medio |  | 4 |
|  |  | medium | moyen | mittel | medio | Delilah (S) | 5 |
|  |  | medium to strong | moyen à fort | mittel bis stark | medio a fuerte |  | 6 |
|  |  | strong | fort | stark | fuerte | Simax (A) | 7 |
|  |  | strong to very strong | fort à très fort | stark bis sehr stark | fuerte a muy fuerte |  | 8 |
|  |  | very strong | très fort | sehr stark | muy fuerte |  | 9 |
| **5.** | **(\*)** | **QN** | **VG** |  | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: intensity of green color** |

 |

|  |
| --- |
| **Limbe : intensité de la couleur verte** |

 |

|  |
| --- |
| **Blatt: Intensität der Grünfärbung** |

 |

|  |
| --- |
| **Hoja: intensidad del color verde** |

 |  |  |
|  |  | very light | très claire | sehr hell | muy clara |  | 1 |
|  |  | very light to light | très claire à claire | sehr hell bis hell | muy clara a clara |  | 2 |
|  |  | light | claire | hell | clara | Rondo (S) | 3 |
|  |  | light to medium | claire à moyenne | hell bis mittel | clara a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Civasto R (S) | 5 |
|  |  | medium to dark | moyenne à foncée | mittel bis dunkel | media a oscura |  | 6 |
|  |  | dark | foncée | dunkel | oscura | Simax (A), Tokyo Top (S) | 7 |
|  |  | dark to very dark | foncée à très foncée | dunkel bis sehr dunkel | oscura a muy oscura |  | 8 |
|  |  | very dark | très foncée | sehr dunkel | muy oscura | Richelieu (S) | 9 |
| **6.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: number of lobes** |

 |

|  |
| --- |
| **Feuille : nombre de lobes** |

 |

|  |
| --- |
| **Blatt: Anzahl Lappen** |

 |

|  |
| --- |
| **Hoja: número de lóbulos** |

 |  |  |
|  |  | absent or very few | nul ou très petit | fehlend oder sehr wenige | ausente o muy bajo | Declic (S), Polybra (S), Simax (A) | 1 |
|  |  | very few to few | très petit à petit | sehr wenige bis wenige | muy bajo a bajo |  | 2 |
|  |  | few | petit | wenige | bajo | Tokyo Cross (S) | 3 |
|  |  | few to medium | petit à moyen | wenige bis mittel | bajo a medio |  | 4 |
|  |  | medium | moyen | mittel | medio | Blanc globe à collet violet (S), Richelieu (S) | 5 |
|  |  | medium to many | moyen à grand | mittel bis viele | medio a alto |  | 6 |
|  |  | many | grand | viele | alto | Civasto R (S) | 7 |
|  |  | many to very many | grand à très grand | viele bis sehr viele | alto a muy alto |  | 8 |
|  |  | very many | très grand | sehr viele | muy alto |  | 9 |
| **7.** |  | **QN** | **VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Only varieties with Leaf: number of lobes: absent or very few: Leaf: depth of the incisions of margin at basal part** |

 |

|  |
| --- |
| **Uniquement variétés avec feuille : nombre de lobes : nul ou très petit : Feuille : profondeur des incisions du bord de la partie basale** |

 |

|  |
| --- |
| **Nur Sorten mit Blatt: Anzahl Lappen: fehlend oder sehr wenige: Blatt: Tiefe der Randeinschnitte des basalen Teils** |

 |

|  |
| --- |
| **Solo variedades con Hoja: número de lóbulos: nulo o muy bajo: Hoja: profundidad de las incisiones del borde en la parte basal** |

 |  |  |
|  |  | absent or very shallow | absente ou très peu profonde | fehlend oder sehr flach | ausente o muy poco profunda | Declic (S) | 1 |
|  |  | very shallow to shallow | très peu profonde à peu profonde | sehr flach bis flach | muy poco profunda a poco profunda |  | 2 |
|  |  | shallow | peu profonde | flach | poco profunda | Agressa (S), Taronda (S) | 3 |
|  |  | shallow to medium | peu profonde à moyenne | flach bis mittel | poco profunda a media |  | 4 |
|  |  | medium | moyenne | mittel | media | De Nancy à feuille entière (S) | 5 |
|  |  | medium to deep | moyenne à profonde | mittel bis tief | media a profunda |  | 6 |
|  |  | deep | profonde | tief | profunda | Simax (A) | 7 |
|  |  | deep to very deep | profonde à très profonde | tief bis sehr tief | profunda a muy profunda |  | 8 |
|  |  | very deep | très profonde | sehr tief | muy profunda | Polybra (S) | 9 |
| **8.** |  | **QN** | **VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: depth of incisions of margin of upper part of leaf** |

 |

|  |
| --- |
| **Feuille : profondeur des incisions du bord de la partie supérieure de la feuille** |

 |

|  |
| --- |
| **Blatt: Tiefe der Randeinschnitte des oberen Blattteils** |

 |

|  |
| --- |
| **Hoja: profundidad de las incisiones del borde de la parte superior de la hoja** |

 |  |  |
|  |  | absent or very shallow | nulle ou très peu profonde | fehlend oder sehr flach | ausente o muy poco profunda | De Milan à forcer à collet rose (S) | 1 |
|  |  | very shallow to shallow | très peu profonde à peu profonde | sehr flach bis flach | muy poco profunda a poco profunda |  | 2 |
|  |  | shallow | peu profonde | flach | poco profunda | Milan White (S) | 3 |
|  |  | shallow to medium | peu profonde à moyenne | flach bis mittel | poco profunda a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Polybra (S) | 5 |
|  |  | medium to deep | moyenne à profonde | mittel bis tief | media a profunda |  | 6 |
|  |  | deep | profonde | tief | profunda | Greleiro Senhora Conceição (A), Taronda (S) | 7 |
|  |  | deep to very deep | profonde à très profonde | tief bis sehr tief | profunda a muy profunda |  | 8 |
|  |  | very deep | très profonde | sehr tief | muy profunda | Appin (S) | 9 |
| **9.** |  | **QN** | **VG** | **(+)** | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: undulation of margin** |

 |

|  |
| --- |
| **Limbe : ondulation du bord** |

 |

|  |
| --- |
| **Blatt: Randwellung** |

 |

|  |
| --- |
| **Hoja: ondulación del borde** |

 |  |  |
|  |  | absent or very weak | nulle ou très faible | fehlend oder sehr gering | ausente o muy débil | Tokyo Cross (S) | 1 |
|  |  | very weak to weak | très faible à faible | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | faible | gering | débil | Simax (A), Tokyo Top (S) | 3 |
|  |  | weak to medium | faible à moyenne | gering bis mittel | débil a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Rouge plat hâtif à feuille entière (S) | 5 |
|  |  | medium to strong | moyenne à forte | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | forte | stark | fuerte | Falko (S) | 7 |
|  |  | strong to very strong | forte à très forte | stark bis sehr stark | fuerte a muy fuerte |  | 8 |
|  |  | very strong | très forte | sehr stark | muy fuerte | Rondo (S) | 9 |
| **10.** | **(\*)** | **QN** | **MS/VG** |  | **(a), (b)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: length** |

 |

|  |
| --- |
| **Feuille : longueur** |

 |

|  |
| --- |
| **Blatt: Länge** |

 |

|  |
| --- |
| **Hoja: longitud** |

 |  |  |
|  |  | very short | très courte | sehr kurz | muy corta | De Milan à forcer à collet rose (S) | 1 |
|  |  | very short to short | très courte à courte | sehr kurz bis kurz | muy corta a corta |  | 2 |
|  |  | short | courte | kurz | corta | Milan White (S),Richelieu (S) | 3 |
|  |  | short to medium | courte à moyenne | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Blanc globe à collet violet (S), Tokyo Cross (S) | 5 |
|  |  | medium to long | moyenne à longue | mittel bis lang | media a larga |  | 6 |
|  |  | long | longue | lang | larga | Greleiro Senhora Conceição (A) | 7 |
|  |  | long to very long | longue à très longue | lang bis sehr lang | larga a muy larga |  | 8 |
|  |  | very long | très longue | sehr lang | muy larga | Simax (A) | 9 |
| **11.** |  | **QN** | **MS/VG** |  | **(a), (b)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: width** |

 |

|  |
| --- |
| **Feuille : largeur** |

 |

|  |
| --- |
| **Blatt: Breite** |

 |

|  |
| --- |
| **Hoja: anchura** |

 |  |  |
|  |  | very narrow | très étroite | sehr schmal | muy estrecha |  | 1 |
|  |  | very narrow to narrow | très étroite à étroite | sehr schmal bis schmal | muy estrecha a estrecha |  | 2 |
|  |  | narrow | étroite | schmal | estrecha | De Milan à forcer à collet rose (S), Milan White Forcing (S) | 3 |
|  |  | narrow to medium | étroite à moyenne | schmal bis mittel | estrecha a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Appin (S), Tokyo Cross (S) | 5 |
|  |  | medium to broad | moyenne à large | mittel bis breit | media a ancha |  | 6 |
|  |  | broad | large | breit | ancha | Simax (A) | 7 |
|  |  | broad to very broad | large à très large | breit bis sehr breit | ancha a muy ancha |  | 8 |
|  |  | very broad | très large | sehr breit | muy ancha | Greleiro Senhora Conceição (A) | 9 |
| **12.** |  | **QN** | **MS/VG** |  | **(a), (b)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: length of terminal lobe** |

 |

|  |
| --- |
| **Feuille : longueur du lobe terminal** |

 |

|  |
| --- |
| **Blatt: Länge des Endlappens** |

 |

|  |
| --- |
| **Hoja: longitud del lóbulo terminal** |

 |  |  |
|  |  | very short | très courte | sehr kurz | muy corta |  | 1 |
|  |  | very short to short | très courte à courte | sehr kurz bis kurz | muy corta a corta |  | 2 |
|  |  | short | courte | kurz | corta | Richelieu (S) | 3 |
|  |  | short to medium | courte à moyenne | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Blanc globe à collet violet (S), Snowball (S) | 5 |
|  |  | medium to long | moyenne à longue | mittel bis lang | media a larga |  | 6 |
|  |  | long | longue | lang | larga | D'Auvergne hâtive (S), Jaune boule d'or (S) | 7 |
|  |  | long to very long | longue à très longue | lang bis sehr lang | larga a muy larga |  | 8 |
|  |  | very long | très longue | sehr lang | muy larga |  | 9 |
| **13.** |  | **QN** | **MS/VG** |  | **(a), (b)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: width of terminal lobe** |

 |

|  |
| --- |
| **Feuille : largeur du lobe terminal** |

 |

|  |
| --- |
| **Blatt: Breite des Endlappens** |

 |

|  |
| --- |
| **Hoja: anchura del lóbulo terminal** |

 |  |  |
|  |  | very narrow | très étroite | sehr schmal | muy estrecha |  | 1 |
|  |  | very narrow to narrow | très étroite à étroite | sehr schmal bis schmal | muy estrecha a estrecha |  | 2 |
|  |  | narrow | étroite | schmal | estrecha | Richelieu (S) | 3 |
|  |  | narrow to medium | étroite à moyenne | schmal bis mittel | estrecha a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Blanc globe à collet violet (S), Jaune boule d'or (S) | 5 |
|  |  | medium to broad | moyenne à large | mittel bis breit | media a ancha |  | 6 |
|  |  | broad | large | breit | ancha | Long d’Alsace (S) | 7 |
|  |  | broad to very broad | large à très large | breit bis sehr breit | ancha a muy ancha |  | 8 |
|  |  | very broad | très large | sehr breit | muy ancha |  | 9 |
| **14.** |  | **QN** | **VG** |  | **(a)** | **100-130** |
|  |  |

|  |
| --- |
| **Leaf: hairiness of upper side** |

 |

|  |
| --- |
| **Feuille : pilosité de la face supérieure** |

 |

|  |
| --- |
| **Blatt: Behaarung der Oberseite** |

 |

|  |
| --- |
| **Hoja: vellosidad del haz** |

 |  |  |
|  |  | absent or very weak | nulle ou très faible | fehlend oder sehr gering | ausente o muy débil | Rondo (S), Appin (S) | 1 |
|  |  | very weak to weak | très faible à faible | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | faible | gering | débil | Tokyo Market (S) | 3 |
|  |  | weak to medium | faible à moyenne | gering bis mittel | débil a media |  | 4 |
|  |  | medium | moyenne | mittel | media | De Milan à forcer à collet rose (S) | 5 |
|  |  | medium to strong | moyenne à forte | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | forte | stark | fuerte | Blanc dur d’hiver (S),Rouge plat hâtif à feuille entière (S) | 7 |
|  |  | strong to very strong | forte à très forte | stark bis sehr stark | fuerte a muy fuerte |  | 8 |
|  |  | very strong | très forte | sehr stark | muy fuerte |  | 9 |
| **15.** | **(\*)** | **QN** | **VG** | **(+)** |  | **240-260** |
|  |  |

|  |
| --- |
| **Root: degree of swelling** |

 |

|  |
| --- |
| **Racine : degré de renflement** |

 |

|  |
| --- |
| **Wurzel: Grad der Schwellung** |

 |

|  |
| --- |
| **Raíz: grado de engrosamiento** |

 |  |  |
|  |  | absent or weak | absent ou faible | fehlend oder gering | ausente o débil | Grelos de Santiago (A),Simax (A) | 1 |
|  |  | medium | moyen | mittel | medio | Globo blanco de Lugo (S) | 2 |
|  |  | strong | fort | stark | fuerte | Polybra (S),Tokyo Market (S) | 3 |
| **16.** | **(\*)** | **PQ** | **VG** |  |  | **240-260** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of skin above soil** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : couleur de l’épiderme de la partie hors du sol** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Farbe der Haut oberhalb des Bodens** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: color de la epidermis por encima de la tierra** |

 |  |  |
|  |  | white | blanc | weiß | blanco | Tokyo Cross (S) | 1 |
|  |  | green | vert | grün | verde | Rondo (S) | 2 |
|  |  | yellow-orange | orange-jaune | gelborange | amarillo-naranja | Jaune boule d'or (S) | 3 |
|  |  | red | rouge | rot | rojo | Scarlet Queen Red Stem (S) | 4 |
|  |  | reddish purple | pourpre rougeâtre | rötlichpurpurn | púrpura rojizo | Falko (S) | 5 |
|  |  | bluish purple | pourpre bleuâtre | bläulichpurpurn | púrpura azulado | Blanc globe à collet violet (S) | 6 |
|  |  | black | noir | schwarz | negro | Noir long (S) | 7 |
| **17.** |  | **QN** | **VG** |  |  | **240-260** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: intensity of color of skin above soil** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort: Racine : intensité de la couleur de l’épiderme de la partie hors du sol** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Intensität der Farbe der Haut oberhalb des Bodens** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: intensidad del color de la epidermis por encima de la tierra** |

 |  |  |
|  |  | light | claire | hell | clara | Blanc globe à collet violet (S), Massif (S) | 1 |
|  |  | medium | moyenne | mittel | media | Declic (S), Jaune boule d'or (S) | 2 |
|  |  | dark | foncée | dunkel | oscura | Clovis (S), Hector (S) | 3 |
| **18.** | **(\*)** | **PQ** | **VG** |  |  | **240-260** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of skin below soil** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : couleur de l’épiderme de la partie enterrée** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Farbe der Haut unterhalb des Bodens** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: color de la epidermis bajo tierra** |

 |  |  |
|  |  | white | blanc | weiß | blanco | Milan White Forcing (S), Natsu Komachi (S), Taronda (S) | 1 |
|  |  | yellow | jaune | gelb | amarillo | Goldana (S),Jaune boule d'or (S) | 2 |
|  |  | red | rouge | rot | rojo | Scarlet Queen Red Stem (S) | 3 |
|  |  | purple | pourpre | purpurn | púrpura |  | 4 |
|  |  | black | noir | schwarz | negro | Noir long (S) | 5 |
| **19.** | **(\*)** | **QL** | **VG** |  |  | **240-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of flesh** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : couleur de la chair** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Farbe des Fleisches** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: color de la pulpa** |

 |  |  |
|  |  | white | blanc | weiß | blanco | Noir long (S), Scarlet Queen Red Stem (S), Taronda (S) | 1 |
|  |  | yellow | jaune | gelb | amarillo | Jaune boule d'or (S), Goldana (S) | 2 |
| **20.** |  | **QL** | **VG** |  |  | **240-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: anthocyanin coloration of flesh** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : pigmentation anthocyanique de la chair** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Anthocyanfärbung des Fleisches** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: pigmentación antociánica de la pulpa** |

 |  |  |
|  |  | absent | absente | fehlend | ausente | Marteau (S) | 1 |
|  |  | present | présente | vorhanden | presente | Scarlet Queen Red Stem (S) | 9 |
| **21.** | **(\*)** | **QN** | **VG** | **(+)** |  | **260-290** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: position in soil** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : position dans le sol** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Sitz im Boden** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: posición en el suelo** |

 |  |  |
|  |  | very shallow | très peu profonde | sehr flach | muy superficial | Declic (S), Milan White Forcing (S) | 1 |
|  |  | very shallow to shallow | très peu profonde à peu profonde | sehr flach bis flach | muy superficial a superficial |  | 2 |
|  |  | shallow | peu profonde | flach | superficial | Oasis (S) | 3 |
|  |  | shallow to medium | peu profonde à moyenne | flach bis mittel | superficial a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Agressa (S) | 5 |
|  |  | medium to deep | moyenne à profonde | mittel bis tief | media a profunda |  | 6 |
|  |  | deep | profonde | tief | profunda | Jaune boule d'or (S), Noir long (S) | 7 |
|  |  | deep to very deep | profonde à très profonde | tief bis sehr tief | profunda a muy profunda |  | 8 |
|  |  | very deep | très profonde | sehr tief | muy profunda | Teltower Kleine (S) | 9 |
| **22.** | **(\*)** | **PQ** | **VG** | **(+)** |  | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: shape in longitudinal section** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : forme en section longitudinale** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Form im Längsschnitt** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: forma en sección longitudinal** |

 |  |  |
|  |  | ovate | ovale | eiförmig | oval | Marteau (S) | 1 |
|  |  | narrow oblate | arrondie-aplatie étroite | schmal breitrund | achatada estrecha | Platte Witte Mei (S) | 2 |
|  |  | broad oblate | arrondie-aplatie large | breit breitrund | achatada ancha | Milan White (S) | 3 |
|  |  | circular | circulaire | kreisrund | circular | Rondo (S) | 4 |
|  |  | broad oblong | oblongue large | breit rechteckig | oblonga ancha | Delilah (S) | 5 |
|  |  | narrow oblong | oblongue étroite | schmal rechteckig | oblonga estrecha | Long d’Alsace (S) | 6 |
|  |  | broad obovate | obovale large | breit verkehrt eiförmig | oboval ancha | Aberdeen Green Top Yellow (S) | 7 |
|  |  | narrow obovate | obovale étroite | schmal verkehrt eiförmig | oboval estrecha |  | 8 |
|  |  | triangular | triangulaire | dreieckig | triangular | De Montesson (S) | 9 |
| **23.** | **(\*)** | **QN** | **MS/VG** |  |  | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: length** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : longueur** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Länge** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: longitud** |

 |  |  |
|  |  | very short | très courte | sehr kurz | muy corta | Milan White (S) | 1 |
|  |  | very short to short | très courte à courte | sehr kurz bis kurz | muy corta a corta |  | 2 |
|  |  | short | courte | kurz | corta | Clovis (S), Declic (S) | 3 |
|  |  | short to medium | courte à moyenne | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Dynamo (S) | 5 |
|  |  | medium to long | moyenne à longue | mittel bis lang | media a larga |  | 6 |
|  |  | long | longue | lang | larga | Taronda (S) | 7 |
|  |  | long to very long | longue à très longue | lang bis sehr lang | larga a muy larga |  | 8 |
|  |  | very long | très longue | sehr lang | muy larga | Kranjska Podolgovata (S) | 9 |
| **24.** |  | **QL** | **VG** | **(+)** |  | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: curvature of vertical axis** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : courbure de l’axe vertical** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Biegung der vertikalen Achse** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: curvatura del eje vertical** |

 |  |  |
|  |  | absent | absente | fehlend | ausente | Taronda (S) | 1 |
|  |  | present | présente | vorhanden | presente | De Croissy (S) | 9 |
| **25.** | **(\*)** | **QN** | **VG** |  |  | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: position of broadest part** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : position de la partie la plus large** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Position des breitesten Teils** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: posición de la parte más ancha** |

 |  |  |
|  |  | above middle | au-dessus du milieu | oberhalb der Mitte | en la mitad superior | Marteau (S) | 1 |
|  |  | at middle | au milieu | in der Mitte | en el medio | Jaune boule d'or (S) | 2 |
|  |  | below middle | en dessous du milieu | unterhalb der Mitte | en la mitad inferior | Blanc dur d’hiver (S) | 3 |
| **26.** | **(\*)** | **QN** | **MS/VG** |  |  | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: diameter at broadest part** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : diamètre de la partie la plus large** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Durchmesser am breitesten Teil** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: diámetro en la parte más ancha** |

 |  |  |
|  |  | very small | très petit | sehr klein | muy pequeño |  | 1 |
|  |  | very small to small | très petit à petit | sehr klein bis klein | muy pequeño a pequeño |  | 2 |
|  |  | small | petit | klein | pequeño | Hakutaka (S) | 3 |
|  |  | small to medium | petit à moyen | klein bis mittel | pequeño a medio |  | 4 |
|  |  | medium | moyen | mittel | medio | Rondo (S) | 5 |
|  |  | medium to large | moyen à grand | mittel bis groß | medio a grande |  | 6 |
|  |  | large | grand | groß | grande | Massif (S) | 7 |
|  |  | large to very large | grand à très grand | groß bis sehr groß | grande a muy grande |  | 8 |
|  |  | very large | très grand | sehr groß | muy grande |  | 9 |
| **27.** | **(\*)** | **QN** | **VG** | **(+)** | **(c)** | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: shape of collar** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : forme du collet** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Form des Kragens** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: forma del cuello** |

 |  |  |
|  |  | strongly depressed | fortement déprimée | stark eingesenkt | muy deprimida | De Milan à forcer à collet rose (S) | 1 |
|  |  | strongly depressed to moderately depressed | fortement déprimée à modérément déprimée | stark eingesenkt bis mäßig eingesenkt | muy deprimida a medianamente deprimida |  | 2 |
|  |  | moderately depressed | modérément déprimée | mäßig eingesenkt | medianamente deprimida | Milan White Forcing (S) | 3 |
|  |  | moderately depressed to flat | modérément déprimée à plate | mäßig eingesenkt bis flach | medianamente deprimida a plana |  | 4 |
|  |  | flat | plate | flach | plana | Milan White (S) | 5 |
|  |  | flat to moderately raised | plate à modérément protubérante | flach bis mäßig vorgewölbt | plana a medianamente prominente |  | 6 |
|  |  | moderately raised | modérément protubérante | mäßig vorgewölbt | medianamente prominente | Taronda (S) | 7 |
|  |  | moderately raised to strongly raised | modérément protubérante à fortement protubérante  | mäßig vorgewölbt bis stark vorgewölbt | medianamente prominente a muy prominente |  | 8 |
|  |  | strongly raised | fortement protubérante | stark vorgewölbt | muy prominente | Agressa (S) | 9 |
| **28.** | **(\*)** | **PQ** | **VG** | **(+)** | **(c)** | **260-280** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: shape of apex** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Racine : forme de l’apex** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Rübe: Form des Apex** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Raíz: forma del ápice** |

 |  |  |
|  |  | narrow acute | aigue étroite | schmal spitz | aguda estrecha | Noir long (S) | 1 |
|  |  | broad acute | aigue large | breit spitz | aguda ancha | Kranjska Podolgovata (S) | 2 |
|  |  | rounded | arrondie | abgerundet | redondeada | Civasto R (S) | 3 |
|  |  | truncate | tronquée | gerade | truncada | Milan White (S) | 4 |
|  |  | depressed | déprimée | eingesenkt | deprimida | Milan White Forcing (S) | 5 |
| **29.** |  | **QN** | **MG/VG** |  |  | **260** |
|  |  |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Time of harvest maturity** |

 |

|  |
| --- |
| **Uniquement variétés avec racine : degré de renflement : moyen ou fort : Époque de maturité de récolte** |

 |

|  |
| --- |
| **Nur Sorten mit Wurzel: Grad der Schwellung: mittel oder stark: Zeitpunkt der Erntereife** |

 |

|  |
| --- |
| **Solo variedades con Raíz: grado de engrosamiento: medio o fuerte: Época de madurez para la cosecha** |

 |  |  |
|  |  | very early | très précoce | sehr früh | muy temprana |  | 1 |
|  |  | very early to early | très précoce à précoce | sehr früh bis früh | muy temprana a temprana |  | 2 |
|  |  | early | précoce | früh | temprana | Oasis (S) | 3 |
|  |  | early to medium | précoce à moyenne | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Civasto R (S) | 5 |
|  |  | medium to late | moyenne à tardive | mittel bis spät | media a tardía |  | 6 |
|  |  | late | tardive | spät | tardía | Aberdeen Green Top Yellow (S) | 7 |
|  |  | late to very late | tardive à très tardive | spät bis sehr spät | tardía a muy tardía |  | 8 |
|  |  | very late | très tardive | sehr spät | muy tardía |  | 9 |
| **30.** |  | **QN** | **VG** | **(+)** |  | **310** |
|  |  |

|  |
| --- |
| **Plant: number of sprouts** |

 |

|  |
| --- |
| **Plante : nombre de pousses** |

 |

|  |
| --- |
| **Pflanze: Anzahl Triebe** |

 |

|  |
| --- |
| **Planta: número de brotes** |

 |  |  |
|  |  | very few | très petit | sehr wenige | muy bajo | Taronda (S) | 1 |
|  |  | very few to few | très petit à petit | sehr wenige bis wenige | muy bajo a bajo |  | 2 |
|  |  | few | petit | wenige | bajo | Largo de Alsacia (S) | 3 |
|  |  | few to medium | petit à moyen | wenige bis mittel | bajo a medio |  | 4 |
|  |  | medium | moyen | mittel | medio | São Cosme (S) | 5 |
|  |  | medium to many | moyen à grand | mittel bis viele | medio a alto |  | 6 |
|  |  | many | grand | viele | alto | Globo blanco de Lugo (S) | 7 |
|  |  | many to very many | grand à très grand | viele bis sehr viele | alto a muy alto |  | 8 |
|  |  | very many | très grand | sehr viele | muy alto | Grelos de Santiago (A) | 9 |
| **31.** |  | **QN** | **MG/VG** |  |  | **370** |
|  |  |

|  |
| --- |
| **Time of flowering** |

 |

|  |
| --- |
| **Époque de floraison** |

 |

|  |
| --- |
| **Zeitpunkt der Blüte** |

 |

|  |
| --- |
| **Época de floración** |

 |  |  |
|  |  | very early | très précoce | sehr früh | muy temprana | Greleiro Temporão (A) | 1 |
|  |  | very early to early | très précoce à précoce | sehr früh bis früh | muy temprana a temprana |  | 2 |
|  |  | early | précoce | früh | temprana | Grelos de Santiago (A), Tyfon (S) | 3 |
|  |  | early to medium | précoce à moyenne | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | moyenne | mittel | media | Globo blanco de Lugo (S), Marteau (S) | 5 |
|  |  | medium to late | moyenne à tardive | mittel bis spät | media a tardía |  | 6 |
|  |  | late | tardive | spät | tardía | Bola de nieve (S),Jaune boule d'or (S) | 7 |
|  |  | late to very late | tardive à très tardive | spät bis sehr spät | tardía a muy tardía |  | 8 |
|  |  | very late | très tardive | sehr spät | muy tardía | Platte Witte Mei (S) | 9 |
| **32.** |  | **QN** | **VG** |  |  | **370-400** |
|  |  |

|  |
| --- |
| **Petal: intensity of yellow color** |

 |

|  |
| --- |
| **Pétale : intensité de la couleur jaune** |

 |

|  |
| --- |
| **Blütenblatt: Intensität der Gelbfärbung** |

 |

|  |
| --- |
| **Pétalo: intensidad del color amarillo** |

 |  |  |
|  |  | light | claire | hell | claro | Taronda (S) | 1 |
|  |  | medium | moyenne | mittel | medio |  | 2 |
|  |  | dark | foncée | dunkel | oscuro | Jaune boule d'or (S) | 3 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| 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 on the largest fully developed leaf. |

 |
|   |  |  |  |
|

|  |
| --- |
| (b) |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|  11 10 12 13 |  10.  Leaf: length 11.  Leaf: width 12.  Leaf: length of terminal lobe 13.  Leaf: width of terminal lobe |

 |

 |
|   |  |  |  |
|

|  |
| --- |
| (c) |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
| wordml://79.png |  a = Collar b = Apex |

 |

 |
|   |  |  |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
|   |
|

|  |
| --- |
| *8.2* |

 | *Explanations for individual characteristics* |
|   |
|

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 1: PloidyThe ploidy status of the plant can be checked by different methods:

|  |  |
| --- | --- |
| • | determination of the number of chromosomes of the non-thickened root meristem (which is the most reliable method), |
| • | examination of the stomata on the lower side of the cotyledon (tetraploid varieties have more and longer stomata than diploid varieties), |
| • | examination of the chloroplasts of the guard cells on the lower side of the cotyledon (the guard cells of tetraploid varieties are bigger and contain more chloroplasts (> 20) than those of diploid varieties (> 10). |
| • | Flow cytometry (DNA quantification method). |

Observations should be made on at least 5 plants. |

 |
|

|  |
| --- |
| Ad. 2: Petiole: intensity of anthocyanin colorationObservations should be made on the basal part of the lower side of the leaf. |

 |
|

|  |  |  |
| --- | --- | --- |
| Ad. 3: Leaf: attitude

|  |  |
| --- | --- |
| wordml://80.png |  1 = erect 3 = semi-erect 5 = horizontal |

 |

 |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 4: Leaf: degree of recurving of the apexThe profile of the whole leaf should be observed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Alternative text | Alternative text | Alternative text | Alternative text | Alternative text |
| 1 | 3 | 5 | 7 | 9 |
| absent or very weak | weak | medium | strong | very strong |

 |

 |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 6: Leaf: number of lobesParts of the leaf blade are considered to be lobes if:1.    They have a minimum length of 1 cm and2.    When folded back to the midrib as shown in Figs 1 and 2, the folded tissue meets the midrib

|  |  |
| --- | --- |
| wordml://84.pngLeaf bladeLeaf petiole | wordml://85.png |
| Figure 1 | Figure 2 |

A    is not a lobe as it does not meet the midrib when foldedB    is a lobe as it meets the midrib when foldedC    is too small to be a lobe as it is less than 1 cm in length and does not meet the midrib when folded

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 7: Only varieties with Leaf: number of lobes: absent or very few: Leaf: depth of the incisions of margin at basal part

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| wordml://86.png | wordml://87.png | wordml://88.png | wordml://89.png | wordml://90.png |
| 1 | 3 | 5 | 7 | 9 |
| absent or very shallow | shallow | medium | deep | very deep |

Ad. 8: Leaf: depth of incisions of margin of upper part of the leaf

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| wordml://96.png | wordml://97.png | wordml://98.png | wordml://99.png | wordml://100.png |
| 1 | 3 | 5 | 7 | 9 |
| absent or very shallow | shallow | medium | deep | very deep |

 |

 |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 9: Leaf: undulation of margin

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| wordml://91.png | wordml://92.png | wordml://93.png | wordml://94.png | wordml://95.png |
| 1 | 3 | 5 | 7 | 9 |
| absent or very weak | weak | medium | strong | very strong |

 |

 |
|

|  |
| --- |
| Ad. 15: Root: degree of swellingThe ratio weight of leaves / weight of root should be observed.absent or weak >10medium 2 to10strong <2  |

 |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 21: Only varieties with Root: degree of swelling: medium or strong: Root: position in soil

|  |
| --- |
| wordml://92.png |
| 1 | 3 | 5 | 7 | 9 |
| very shallow | shallow | medium | deep | very deep |

 |

 |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 22: Only varieties with Root: degree of swelling: medium or strong: Root: shape in longitudinal section

|  |  |  |
| --- | --- | --- |
|  |  |  🡨 broadest part 🡪  |
|  |  | below middle | at middle | above middle |
|  |  |  |  |  |  |  |
| broad 🡨 relative width 🡪 narrow  |  |  | 6 narrow oblong |  |  |  |
|  |  | 5broadoblong |  |  |  |
|  | 1 ovate | 4circular | 7broad obovate | 8 narrow obovate  | 9triangular |
|  |  | 3broadoblate |  |  |  |
|  |  | 2narrow oblate  |  |  |  |

 |

 |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ad. 24: Only varieties with Root: degree of swelling: medium or strong: Root: curvature of vertical axis

|  |  |
| --- | --- |
| wordml://107.png | wordml://108.png |
| 1 | 9 |
| absent | present |

 |

 |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 27: Only varieties with Root: degree of swelling: medium or strong: Root: shape of collar

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| wordml://96.png | wordml://97.png | wordml://98.png | wordml://99.png | wordml://100.png |
| 1 | 3 | 5 | 7 | 9 |
| strongly depressed | moderately depressed | flat | moderately raised | strongly raised |

 |

 |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ad. 28: Only varieties with Root: degree of swelling: medium or strong: Root: shape of apex

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| wordml://101.png | wordml://102.png | wordml://103.png | wordml://104.png | wordml://105.png |
| 1 | 2 | 3 | 4 | 5 |
| narrow acute | broad acute | rounded | truncate | depressed |

 |

 |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ad. 30: Plant: number of sprouts

|  |  |
| --- | --- |
|  |  |
| 1 | 9 |
| very few | very many |

 |

 |

 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |
| --- |
| *8.3* |

 |

|  |
| --- |
| *Key to Growth Stages* 00               Dry seed1-10            Germination and emergence through soil                    Seedling growth12               Elongation of emerging shoot15               Elongation and opening of cotyledons20               Cotyledons fully opened30               Cotyledons fully opened and full development of first true leaf40               Second leaf fully developed50               Third leaf fully developed and initial senescence of cotyledons60               Fourth leaf fully developed and partial senescence of cotyledons70               Fifth leaf fully developed and advanced senescence/drop of cotyledons                    Leaf development80               Sixth leaf fully developed90               Seventh leaf fully developed; initial senescence of first true leaf in early cultivars100             Eighth leaf fully developed; 30 % senescence of first true leaf110             Ninth leaf fully developed; 60% senescence of first true leaf120             Tenth leaf fully developed; complete senescence and drop of first true leaf130             Eleventh leaf fully developed.                    Root development200             Slight swelling of the root at ground level220             Development of a small swollen root above ground level240             Swollen root increasing in size but not fully developed260             Root fully developed with no cork on skin270             Root fully developed with 40% cork development on skin280             Root fully developed with 80 - 100% cork development290             Root flesh becoming pithy and fibrous300             Root flesh pithy and fibrous                    Flowering and seed production on main stem310             Initial formation and elongation of the flowering stem330             Elongation of the flowering stem with clear space between leaves350             First bud formation and further elongation of stem360             Terminal inflorescence in bud370             Terminal inflorescence with first open flower380             Terminal inflorescence partially flowering400             Terminal inflorescence fully flowering420             Development of siliqua with elongation of flowering stem430             Lowest fully developed siliqua green450             Lowest fully developed siliqua senescing and going brown475             Lowest fully developed siliqua dry with seed beginning to dry500             Lowest fully developed siliqua dry with mature dry seed |

 |

 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
| 9. | Literature |

 |
|   |

|  |
| --- |
| Aoba, T., 1970: Inheritance of Seed Coat Color in Turnip, Jap. Journ. Breeding 20 (3): pp. 173-197. Baltjes, H. J., Klein Geltink, D. J. A., Nienhuis, K. H. and Luesink, B., 1985: Linking Distinctness and Description of Varieties, Journal National Institute Agricultural Botany. 17. GB, pp. 9-19. Green, F. N. and Winfield, P. J., 1984: The Development of Distinctness, Uniformity and Stability tests for Turnip, Turnip Rape and Swede in the United Kingdom. Procedures of Better Brassicas ’84 Conference. St. Andrews. Eds. W. H. Macfarlane Smith, T. Hodgkin and A. B. Wills. GB, pp. 96-107. Klein Geltink, D. J. A., 1983: Inheritance of Leaf Shape in Turnip (Brassica rapa L. partim) and Rape (Brassica napus L.). Euphytica 32 (2): pp. 361-365. McMaster Davey, V., 1931: Color Inheritance in Swedes and Turnips and its Bearing on the Identification of Commercial Stocks. Nat. Journ. Agric. XIV (3). GB, pp. 1-13. Padilla, G., Cartea, M.E., Rodríguez, V., Ordás, A. 2005: Genetic diversity in a germplasm collection of *Brassica rapa* subsp. *rapa* L. from northwestern Spain. Euphytica 145. pp. 171-180Scottish Crop Research Institute, Dundee. Kajanus, B., 1913: Über die Vererbungsweise gewisser Merkmale der Beta- und Brassica-Rüben. II Brassica. Zeitschrift für Pflanzenzüchtung, Band I (4). pp. 419-466. |

 |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
| 10. | Technical Questionnaire |

 |
|   |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |
| --- | --- |
|  | Application date:(not to be filled in by the applicant) |
| TECHNICAL QUESTIONNAIREto be completed in connection with an application for plant breeders' rights |

 |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |   |  |  |
| 1. | Subject of the Technical Questionnaire |
|  |  |  |   |  |
|  |

|  |
| --- |
| 1.1 |

 | Botanical name |

|  |
| --- |
| *Brassica rapa* L. var. *rapa*  |

 |

|  |
| --- |
|  |

 |
|  |   |  |   |  |
|  |

|  |
| --- |
| 1.2 |

 | Common name |

|  |
| --- |
| Turnip |

 |  |
|  |   |   |

|  |
| --- |
|  |

 |  |
|  |   |  |   |  |

 |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |   |  |  |
| 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 |  |  |
|  |  |  |   |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| 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  |

 | [ ] |
|

|  |
| --- |
| (b) |

 |

|  |
| --- |
| partially known cross  |

 | [ ] |
|

|  |
| --- |
| (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) | [ ] |
|  |      |
|  |   |

 |

 |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |  |
| --- | --- | --- |
|  |  |   |
|  | 4.2 | Method of propagating the variety |
|  |

|  |  |  |
| --- | --- | --- |
|

|  |
| --- |
| 4.2.1 |

 |

|  |
| --- |
| Seed-propagated varieties |

 |  |
|

|  |
| --- |
| (a) |

 |

|  |
| --- |
| Cross-pollination |

 | [ ] |
|

|  |
| --- |
| (b) |

 |

|  |
| --- |
| Hybrid |

 | [ ] |
|

|  |
| --- |
| (c) |

 |

|  |
| --- |
| Other (please provide details) |

 | [ ] |
|  |   |  |
|  |  |  |
|  |   |  |
|

|  |
| --- |
| 4.2.2 |

 | Other(Please provide details) | [ ] |
|  |   |  |
|  |  |  |
|  |   |  |

  |
|  |

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

 |

 |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |
| --- | --- |
| 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 |
| --- | --- | --- | --- |
|  |  |  |  |
|

|  |
| --- |
| **5.1** |

|  |
| --- |
| **(1)** |

 |

|  |
| --- |
| **Ploidy** |

 |  |  |
|  |

|  |
| --- |
| diploid |

 |

|  |
| --- |
| Milan White (S) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| tetraploid |

 |

|  |
| --- |
| Taronda (S) |

 |

|  |
| --- |
| 4 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.2** |

|  |
| --- |
| **(2)** |

 |

|  |
| --- |
| **Petiole: intensity of anthocyanin coloration** |

 |  |  |
|  |

|  |
| --- |
| absent or very weak |

 |

|  |
| --- |
| Delilah (S), Long d’Alsace (S) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| weak |

 |

|  |
| --- |
| Kranjska Podolgovata (S), Simax (A) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| medium |

 |

|  |
| --- |
| Samson (S) |

 |

|  |
| --- |
| 3 [   ] |

 |
|  |

|  |
| --- |
| strong |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 4 [   ] |

 |
|  |

|  |
| --- |
| very strong |

 |

|  |
| --- |
| Scarlet Queen Red Stem (S) |

 |

|  |
| --- |
| 5 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.3** |

|  |
| --- |
| **(6)** |

 |

|  |
| --- |
| **Leaf: number of lobes** |

 |  |  |
|  |

|  |
| --- |
| absent or very few |

 |

|  |
| --- |
| Declic (S), Polybra (S), Simax (A) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| very few to few |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| few |

 |

|  |
| --- |
| Tokyo Cross (S) |

 |

|  |
| --- |
| 3 [   ] |

 |
|  |

|  |
| --- |
| few to medium |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 4 [   ] |

 |
|  |

|  |
| --- |
| medium |

 |

|  |
| --- |
| Blanc globe à collet violet (S), Richelieu (S) |

 |

|  |
| --- |
| 5 [   ] |

 |
|  |

|  |
| --- |
| medium to many |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 6 [   ] |

 |
|  |

|  |
| --- |
| many |

 |

|  |
| --- |
| Civasto R (S) |

 |

|  |
| --- |
| 7 [   ] |

 |
|  |

|  |
| --- |
| many to very many |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 8 [   ] |

 |
|  |

|  |
| --- |
| very many |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 9 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.4** |

|  |
| --- |
| **(15)** |

 |

|  |
| --- |
| **Root: degree of swelling** |

 |  |  |
|  |

|  |
| --- |
| absent or weak |

 |

|  |
| --- |
| Grelos de Santiago (A), Simax (A) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| medium |

 |

|  |
| --- |
| Globo blanco de Lugo (S) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| strong |

 |

|  |
| --- |
| Polybra (S), Tokyo Market (S) |

 |

|  |
| --- |
| 3 [   ] |

 |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |

|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
|  |  |  |  |
|

|  |
| --- |
| **5.5** |

|  |
| --- |
| **(16)** |

 |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of skin above soil** |

 |  |  |
|  |

|  |
| --- |
| white |

 |

|  |
| --- |
| Tokyo Cross (S) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| green |

 |

|  |
| --- |
| Rondo (S) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| yellow-orange |

 |

|  |
| --- |
| Jaune boule d'or (S) |

 |

|  |
| --- |
| 3 [   ] |

 |
|  |

|  |
| --- |
| red |

 |

|  |
| --- |
| Scarlet Queen Red Stem (S) |

 |

|  |
| --- |
| 4 [   ] |

 |
|  |

|  |
| --- |
| reddish purple |

 |

|  |
| --- |
| Falko (S) |

 |

|  |
| --- |
| 5 [   ] |

 |
|  |

|  |
| --- |
| bluish purple |

 |

|  |
| --- |
| Blanc globe à collet violet (S) |

 |

|  |
| --- |
| 6 [   ] |

 |
|  |

|  |
| --- |
| black |

 |

|  |
| --- |
| Noir long (S) |

 |

|  |
| --- |
| 7 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.6** |

|  |
| --- |
| **(18)** |

 |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of skin below soil** |

 |  |  |
|  |

|  |
| --- |
| white |

 |

|  |
| --- |
| Milan White Forcing (S), Natsu Komachi (S), Taronda (S) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| yellow |

 |

|  |
| --- |
| Goldana (S), Jaune boule d'or (S) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |

|  |
| --- |
| red |

 |

|  |
| --- |
| Scarlet Queen Red Stem (S) |

 |

|  |
| --- |
| 3 [   ] |

 |
|  |

|  |
| --- |
| purple |

 |

|  |
| --- |
|  |

 |

|  |
| --- |
| 4 [   ] |

 |
|  |

|  |
| --- |
| black |

 |

|  |
| --- |
| Noir long (S) |

 |

|  |
| --- |
| 5 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.7** |

|  |
| --- |
| **(19)** |

 |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: color of flesh** |

 |  |  |
|  |

|  |
| --- |
| white |

 |

|  |
| --- |
| Noir long (S), Scarlet Queen Red Stem (S), Taronda (S) |

 |

|  |
| --- |
| 1 [   ] |

 |
|  |

|  |
| --- |
| yellow |

 |

|  |
| --- |
| Goldana (S), Jaune boule d'or (S) |

 |

|  |
| --- |
| 2 [   ] |

 |
|  |  |  |  |
|  |  |  |  |
|

|  |
| --- |
| **5.8** |

|  |
| --- |
| **(22)** |

 |

|  |
| --- |
| **Only varieties with Root: degree of swelling: medium or strong: Root: shape in longitudinal section** |

 |  |  |
|  | ovate | Marteau (S) |

|  |
| --- |
| 1 [   ] |

 |
|  | narrow oblate | Platte Witte Mei (S) |

|  |
| --- |
| 2 [   ] |

 |
|  | broad oblate | Milan White (S) |

|  |
| --- |
| 3 [   ] |

 |
|  | circular | Rondo (S) |

|  |
| --- |
| 4 [   ] |

 |
|  | broad oblong | Delilah (S) |

|  |
| --- |
| 5 [   ] |

 |
|  | narrow oblong | Long d’Alsace (S) |

|  |
| --- |
| 6 [   ] |

 |
|  | broad obovate | Aberdeen Green Top Yellow (S) |

|  |
| --- |
| 7 [   ] |

 |
|  | narrow obovate |  |

|  |
| --- |
| 8 [   ] |

 |
|  | triangular | De Montesson (S) |

|  |
| --- |
| 9 [   ] |

 |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |
| --- | --- |
| 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: attitude* |

 |

|  |
| --- |
| *erect* |

 |

|  |
| --- |
| *semi-erect* |

 |
|     |   |   |   |
|   |   |   |   |
|   |   |   |   |

 |
|  | Comments:    |

 |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |  |
| --- | --- | --- |
|

|  |
| --- |
| #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 |
|

|  |
| --- |
| Main use:- Root vegetable [ ]- Leaf and stem consumption [ ]- Stubble or Forage Turnip [ ]Time of sowing: - Spring sown [ ]- Summer sown [ ]- Autumn sown [ ] |

 |
|  |  |   |  |  |

 |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |

 |
|   |
|

|  |  |
| --- | --- |
| 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 |  |  |
|  |  |  |
|  |  |
|  |  |   |  |  |  |

 |
| [End of document] |