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| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  | wordml://75.png | |  | | --- | | **TG/ZOYSI(proj.4)** | | **ORIGINAL:** English | | **DATE:** 2023-04-07 | | | **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** | | | |  | Geneva |  | |  | |  |  |  | | --- | --- | --- | |  |  |  | |  | DRAFT |  | |  |  |  | |  | |  |  |  | |  | |  | | --- | |  | | **ZOYSIA GRASSES** | |  | | |  | | --- | |  | | |  | | --- | | UPOV Code(s): ZOYSI | | |  | | |  | | |  |  | | --- | --- | | |  | | --- | | *Zoysia* Willd. | | |  | | |  | | |  | | --- | | \* | | |  |  |  | | |  | | --- | | **GUIDELINES** | |  | | **FOR THE CONDUCT OF TESTS** | |  | | **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** | | | | |  |  |  | | |  | | --- | | *prepared by experts from Japan* | | *to be considered by the* | | |  | | --- | | *Technical Working Party for Agricultural Crops* | | | *at its fifty-second session, to be held virtually* | | |  | | --- | | *from 2023-05-22 to 2023-05-26* | | | | | | *Disclaimer: this document does not represent UPOV policies or guidance* | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | Alternative names:\* | | | | | | | |  | | --- | |  | | | | | | | *Botanical name* | *English* | *French* | *German* | *Spanish* | | |  | | --- | | *Zoysia* Willd. | | |  | | --- | | Japanese Lawn Grass | | |  | | --- | | Zoysia | | |  | | --- | | Zoysia | | |  | | --- | | Zoysia | | | | | |  |  |  | | The purpose of these guidelines (“Test Guidelines”) is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions. | | | |  | | | | |  | | --- | | **ASSOCIATED DOCUMENTS** | | These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents. | |  | | | | |

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| |  |  | | --- | --- | | TABLE OF CONTENTS | PAGE | |  |  | | |  |  |  | | --- | --- | --- | | 1. | SUBJECT OF THESE TEST GUIDELINES.......................................................................................................... | [3](#Section1) | |  |  |  | | 2. | MATERIAL REQUIRED..................................................................................................................... | [3](#Section2) | |  |  |  | | 3. | METHOD OF EXAMINATION............................................................................................................... | [3](#Section3) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 3.1 | Number of Growing Cycles................................................................................................................. | [3](#Section3-1) | | 3.2 | Testing Place................................................................................................................... | [3](#Section3-2) | | 3.3 | Conditions for Conducting the Examination............................................................................................... | [3](#Section3-3) | | 3.4 | Test Design................................................................................................................. | [4](#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................................................ | [6](#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............................................................................................................ | [7](#Section6-3) | | 6.4 | Example Varieties.............................................................................................................. | [7](#Section6-4) | | 6.5 | Legend................................................................................................................. | [8](#Section6-5) | | | |  |  |  | | 7. | TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.................................................................................................................. | [9](#Section7) | |  |  |  | | 8. | EXPLANATIONS ON THE TABLE OF CHARACTERISTICS............................................................................... | [20](#Section8) | |  | |  |  |  | | --- | --- | --- | | 8.1 | Explanations covering several characteristics........................................................................................... | [20](#Section8-1) | | |  | | --- | | 8.2 | | Explanations for individual characteristics................................................................................................. | [21](#Section8-2) | | | |  |  |  | | 9. | LITERATURE................................................................................................................... | [27](#Section9) | |  |  |  | | 10 | TECHNICAL QUESTIONNAIRE............................................................................................................ | [28](#Section10) | |  |  |  | |  | |  | | --- | |  | |  | | | |

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| --- | --- |
| 1. | Subject of these Test Guidelines |
|  |  |
|  | |  | | --- | | These Test Guidelines apply to all varieties of *Zoysia* Willd. | |

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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. | |
|  |  |
| 2.3 | |  | | --- | | The minimum quantity of plant material, to be supplied by the applicant, should be: | |
|  |  |
|  | |  | | --- | | vegetatively propagated varieties: 25 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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| --- | --- |
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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 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* |
|  |  |
| |  | | --- | |  | | 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. |
|  |  |

|  |  |
| --- | --- |
| *3.4* | *Test Design* |
|  |  |
| 3.4.1 | |  | | --- | | Each test should be designed to result in a total of at least 15 plants, which should be divided between at least 3 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. |

|  |  |
| --- | --- |
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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 10 plants or parts of plants taken from each of 10 plants and any other observations made on all plants in the test, disregarding any off-type plants. | |
|  |  |
| 4.1.5 | Method of Observation |
|  |  |
|  | The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”): |
|  |  |
|  | |  | | --- | | MG: single measurement of a group of plants or parts of plants  MS: measurement of a number of individual plants or parts of plants  VG: visual assessment by a single observation of a group of plants or parts of plants  VS: visual assessment by observation of individual plants or parts of plants | |
|  |  |

|  |  |
| --- | --- |
|  | Type of observation: visual (V) or measurement (M) |
|  |  |
|  | “Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc. |
|  |  |
|  | |  | | --- | | Type of record: for a group of plants (G) or for single, individual plants (S) | |
|  |  |
|  | |  | | --- | | For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness. | |
|  |  |
|  | In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2. |
|  |  |

|  |  |
| --- | --- |
| *4.2* | *Uniformity* |
|  |  |
| 4.2.1 | It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines: |
|  |  |
| |  | | --- | | 4.2.2 | | |  | | --- | | These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed. | |
|  |  |
| 4.2.3 | |  | | --- | | For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 15 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) | |  | |  | | --- | | Stolon: anthocyanin coloration (characteristic 9) | | | |  | | --- | | (b) | |  | |  | | --- | | Leaf blade: length (characteristic 12) | | | |  | | --- | | (c) | |  | |  | | --- | | Flower: tendency of flowering in spring (characteristic 15) | | | |  | | --- | | (d) | |  | |  | | --- | | Culm: length (characteristic 17) | | | |  | | --- | | (e) | |  | |  | | --- | | Plant: number of inflorescences (in spring) (characteristic 19) | | | |  | | --- | | (f) | |  | |  | | --- | | Inflorescence: anthocyanin coloration of spikelets (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”. |

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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. |

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

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

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** |  | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Plant: growth habit** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | erect | |  | |  |  |  | 1 |
|  |  | semi-erect | |  | |  |  | Tsukuba taro | 2 |
|  |  | intermediate | |  | |  |  | Emerald | 3 |
|  |  | semi-prostrate | |  | |  |  | TM9 | 4 |
|  |  | prostrate | |  | |  |  |  | 5 |
| **2.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(a), (b)** |  | | | |
|  |  | |  | | --- | | **Plant: height** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | TM9 | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to tall | |  | |  |  |  | 6 |
|  |  | tall | |  | |  |  | Asagake | 7 |
|  |  | tall to very tall | |  | |  |  |  | 8 |
|  |  | very tall | |  | |  |  |  | 9 |
| **3.** |  | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: density of stolon** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | sparse | |  | |  |  | Ijani | 1 |
|  |  | medium | |  | |  |  |  | 2 |
|  |  | dense | |  | |  |  | TM neo | 3 |
| **4.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Mijoka | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Emerald | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Asagake | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **5.** | **(\*)** | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: anthocyanin coloration of leaf sheath** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Ryokko | 1 |
|  |  | very weak to weak | |  | |  |  |  | 2 |
|  |  | weak | |  | |  |  | Emerald | 3 |
|  |  | weak to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  |  | 5 |
|  |  | medium to strong | |  | |  |  |  | 6 |
|  |  | strong | |  | |  |  | Enrumu | 7 |
|  |  | strong to very strong | |  | |  |  |  | 8 |
|  |  | very strong | |  | |  |  |  | 9 |
| **6.** |  | **QN** | **MS** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: length of leaf sheath** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Mijoka | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Ijani | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **7.** | **(\*)** | **QN** | **MS** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: internode length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Mijoka | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Asagake | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **8.** |  | **QN** | **MS** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: internode width** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | narrow | |  | |  |  | Tsukuba hime | 1 |
|  |  | narrow to medium | |  | |  |  |  | 2 |
|  |  | medium | |  | |  |  | TM9 | 3 |
|  |  | medium to broad | |  | |  |  |  | 4 |
|  |  | broad | |  | |  |  | Ryokko | 5 |
| **9.** | **(\*)** | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Stolon: anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Ryokko | 1 |
|  |  | very weak to weak | |  | |  |  |  | 2 |
|  |  | weak | |  | |  |  |  | 3 |
|  |  | weak to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Chiba G79 | 5 |
|  |  | medium to strong | |  | |  |  |  | 6 |
|  |  | strong | |  | |  |  | Enrumu | 7 |
|  |  | strong to very strong | |  | |  |  |  | 8 |
|  |  | very strong | |  | |  |  |  | 9 |
| **10.** |  | **QN** | **VG** |  | **(a)** |  | | | |
|  |  | |  | | --- | | **Only varieties with stolon anthocyanin coloration absent: Stolon: intensity of green color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | light | |  | |  |  |  | 1 |
|  |  | medium | |  | |  |  | Ryokko | 2 |
|  |  | dark | |  | |  |  |  | 3 |
| **11.** |  | **QN** | **VG** |  | **(a)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: intensity of green color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very light | |  | |  |  |  | 1 |
|  |  | very light to light | |  | |  |  |  | 2 |
|  |  | light | |  | |  |  | Ayamidori | 3 |
|  |  | light to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Emerald | 5 |
|  |  | medium to dark | |  | |  |  |  | 6 |
|  |  | dark | |  | |  |  | Chiba fair green | 7 |
|  |  | dark to very dark | |  | |  |  |  | 8 |
|  |  | very dark | |  | |  |  |  | 9 |
| **12.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(a), (c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  | TM neo | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Emerald | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Tsukuba green | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Asagake | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  | Tsukuba taro | 9 |
| **13.** | **(\*)** | **QN** | **MS/VG** |  | **(a), (c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: width** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | narrow | |  | |  |  | Mijoka | 1 |
|  |  | narrow to medium | |  | |  |  |  | 2 |
|  |  | medium | |  | |  |  | Meyer | 3 |
|  |  | medium to broad | |  | |  |  |  | 4 |
|  |  | broad | |  | |  |  | Asagake | 5 |
| **14.** |  | **QN** | **VG** |  | **(a)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: density of hairs on upper side** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very sparse | |  | |  |  | Emerald | 1 |
|  |  | sparse | |  | |  |  | Meyer | 2 |
|  |  | medium | |  | |  |  |  | 3 |
|  |  | dense | |  | |  |  |  | 4 |
|  |  | very dense | |  | |  |  |  | 5 |
| **15.** | **(\*)** | **QN** | **MG/VG** | **(+)** | **(d)** | **60-68** | | | |
|  |  | |  | | --- | | **Flower: tendency of flowering in spring** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | low | |  | |  |  | Chiba G79 | 1 |
|  |  | medium | |  | |  |  | Emerald | 2 |
|  |  | high | |  | |  |  | Meyer | 3 |
| **16.** | **(\*)** | **QN** | **MG/VG** |  | **(d)** | **60-68** | | | |
|  |  | |  | | --- | | **Flower: tendency of flowering in autumn** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | low | |  | |  |  | Chiba G79 | 1 |
|  |  | medium | |  | |  |  |  | 2 |
|  |  | high | |  | |  |  | Meyer | 3 |
| **17.** |  | **QN** | **MS/VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Culm: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Chiba fair green | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Asagake | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **18.** | **(\*)** | **QN** | **MS/VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Inflorescence: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very short | |  | |  |  |  | 1 |
|  |  | very short to short | |  | |  |  |  | 2 |
|  |  | short | |  | |  |  | Mijoka | 3 |
|  |  | short to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to long | |  | |  |  |  | 6 |
|  |  | long | |  | |  |  | Tsukuba taro | 7 |
|  |  | long to very long | |  | |  |  |  | 8 |
|  |  | very long | |  | |  |  |  | 9 |
| **19.** | **(\*)** | **QN** | **VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Plant: number of inflorescences (in spring)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | none or very few | |  | |  |  | Emerald | 1 |
|  |  | few | |  | |  |  |  | 2 |
|  |  | medium | |  | |  |  | Tsukuba taro | 3 |
|  |  | many | |  | |  |  | Meyer | 4 |
|  |  | very many | |  | |  |  |  | 5 |
| **20.** |  | **QN** | **VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Plant: number of inflorescences (in autumn)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | none or very few | |  | |  |  | Emerald | 1 |
|  |  | few | |  | |  |  |  | 2 |
|  |  | medium | |  | |  |  | Tsukuba hime | 3 |
|  |  | many | |  | |  |  | Meyer | 4 |
|  |  | very many | |  | |  |  |  | 5 |
| **21.** |  | **QN** | **VG** | **(+)** | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Inflorescence: position relative to foliage** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | below | |  | |  |  | GZ-006 | 1 |
|  |  | same level | |  | |  |  | G-10 | 2 |
|  |  | above | |  | |  |  | Diamond | 3 |
| **22.** | **(\*)** | **QN** | **VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Inflorescence: anthocyanin coloration of spikelets** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Ryokko | 1 |
|  |  | very weak to weak | |  | |  |  |  | 2 |
|  |  | weak | |  | |  |  | Tsukuba taro | 3 |
|  |  | weak to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | TM neo | 5 |
|  |  | medium to strong | |  | |  |  |  | 6 |
|  |  | strong | |  | |  |  | Meyer | 7 |
|  |  | strong to very strong | |  | |  |  |  | 8 |
|  |  | very strong | |  | |  |  |  | 9 |
| **23.** | **(\*)** | **QN** | **MS/VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Inflorescence: length of spikelets** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Mijoka | 1 |
|  |  | medium | |  | |  |  | Meyer | 2 |
|  |  | long | |  | |  |  |  | 3 |
| **24.** |  | **QN** | **MS/VG** |  | **(d)** | **68** | | | |
|  |  | |  | | --- | | **Inflorescence: number of spikelets** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | few | |  | |  |  | Emerald | 1 |
|  |  | few to medium | |  | |  |  | TM9 | 2 |
|  |  | medium | |  | |  |  | Meyer | 3 |
|  |  | medium to many | |  | |  |  |  | 4 |
|  |  | many | |  | |  |  |  | 5 |
| **25.** |  | **QN** | **MG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of vegetative growth after overwintering** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  |  | 2 |
|  |  | early | |  | |  |  | Ryokko | 3 |
|  |  | early to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Emerald | 5 |
|  |  | medium to late | |  | |  |  |  | 6 |
|  |  | late | |  | |  |  | Shiba Chukanbohon Nou 1 Go | 7 |
|  |  | late to very late | |  | |  |  |  | 8 |
|  |  | very late | |  | |  |  |  | 9 |
| **26.** | **(\*)** | **QN** | **MG** | **(+)** |  | **60** | | | |
|  |  | |  | | --- | | **Time of flowering (in spring)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  |  | 2 |
|  |  | early | |  | |  |  |  | 3 |
|  |  | early to medium | |  | |  |  | TM9 | 4 |
|  |  | medium | |  | |  |  | Meyer | 5 |
|  |  | medium to late | |  | |  |  |  | 6 |
|  |  | late | |  | |  |  | Tsukuba taro | 7 |
|  |  | late to very late | |  | |  |  |  | 8 |
|  |  | very late | |  | |  |  |  | 9 |
| **27.** | **(\*)** | **QN** | **MG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of leaf senescence (in autumn)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | very early | |  | |  |  |  | 1 |
|  |  | very early to early | |  | |  |  |  | 2 |
|  |  | early | |  | |  |  | TM9 | 3 |
|  |  | early to medium | |  | |  |  |  | 4 |
|  |  | medium | |  | |  |  | Emerald | 5 |
|  |  | medium to late | |  | |  |  |  | 6 |
|  |  | late | |  | |  |  | Mijoka | 7 |
|  |  | late to very late | |  | |  |  |  | 8 |
|  |  | very late | |  | |  |  |  | 9 |
| **28.** |  | **QN** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Colored leaves: intensity of anthocyanin coloration (in autumn)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  |  | 1 |
|  |  | weak | |  | |  |  | Emerald | 2 |
|  |  | medium | |  | |  |  | Meyer | 3 |
|  |  | strong | |  | |  |  | Chiba fair green | 4 |
|  |  | very strong | |  | |  |  | TM9, Tsukuba taro | 5 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | 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) | | |  | | --- | | The plant, stolon and leaf should be observed after 4 months after overwintering in the second summer. If no flowering occurs, observation should be made at the same time as the example variety (e.g. Meyer). | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | wordml://76.png | | | | |  |  |  |  | | |  | | --- | | (c) | | |  | | --- | | Observations should be made on culms from the middle third of the plant. | | | | |  |  |  |  | | |  | | --- | | (d) | | |  | | --- | | Observations should be made at the time of flowering in the second year. | | | | |  |  |  |  | |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | |  | | | |  | | --- | | Ad. 1: Plant: growth habit  Observations should be made visually from the attitude of the leaves and the development of lateral stolons.  The angle formed by the outer leaves with an imaginary middle axis should be used.  wordml://77.png | | | | |  | | --- | | Ad. 2: Plant: height  wordml://78.png | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Ad. 3: Stolon: density of stolon  Observe the density of the stolon extending to the outside of the leaves.     |  |  | | --- | --- | | wordml://79.png | wordml://80.png | | 1 | 3 | | sparse | dense | | | | |  | | --- | | Ad. 4: Stolon: length  Measure from the center of planted position to the tip of the longest stolon.  wordml://81.png | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | |  | | --- | | Ad. 5: Stolon: anthocyanin coloration of leaf sheath  Observations should be made between the 1st and the 5th node from the tip of the stolon.  wordml://82.png | | | |  | | --- | | Ad. 6: Stolon: length of leaf sheath  Observations should be made between the 4th and the 5th node from the tip of the stolon.  wordml://83.png | | | |  | | --- | | Ad. 7: Stolon: internode length  Observations should be made between the 4th and the 5th node from the tip of the stolon. | | | |  | | --- | | Ad. 8: Stolon: internode width  Observations should be made between the 4th and the 5th node from the tip of the stolon excluding leaf sheath. | | |

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| --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | |  | | --- | | Ad. 9: Stolon: anthocyanin coloration  Observations should be made exposed part between the 4th and the 5th node from the tip of the stolon.  wordml://84.png | | | |  | | --- | | Ad. 12: Leaf blade: length  Observations should be made the leaves in the middle between the planted position and the tip of the stolon.  wordml://85.png | | | |  | | --- | | Ad. 15: Flower: tendency of flowering in spring  Tendency of flowering assessed by taking the percentage of plants that have bloomed in the second year of growth after planting. (Observe all plants)  1. low: 0-30%  2. medium: 31-60%  3. high: 61-100% | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 21: Inflorescence: position relative to foliage   |  |  |  | | --- | --- | --- | | wordml://86.png | wordml://87.png | wordml://88.png | | 1 | 2 | 3 | | below | same level | above | | | | |  | | --- | | Ad. 25: Time of vegetative growth after overwintering  The time of vegetative growth after overwintering is reached when new leaves can be seen on the stems of about 50% of the plants after vernalization.  wordml://89.png | | | |  | | --- | | Ad. 26: Time of flowering (in spring)  Time of flowering in spring should be observed in the 2nd year after planting. | | | |  | | --- | | Ad. 27: Time of leaf senescence (in autumn)  Time of coloring leaf senescence should be observed when 50% of the leaves have changed color in autumn or early winter. | | |

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| |  |  | | --- | --- | |  | | | |  | | --- | | 8.3 | | |  | | --- | | The culm and inflorescence characteristics are observed only for varieties with a tendency of flowering with a note of medium and high.  Ad. 17: Culm: length  Ad. 18: Inflorescence: length  Ad. 19: Plant: number of inflorescences (in spring)  Ad. 20: Plant: number of inflorescences (in autumn)  Ad. 21: Inflorescence: position relative to foliage  Ad. 22: Inflorescence: anthocyanin coloration of spikelets  Ad. 23: Inflorescence: length of spikelets  Ad. 24: Inflorescence: number of spikelets  Ad. 26: Time of flowering (in spring)  Growth stages for grasses  All characteristics should be recorded at the appropriate time for the plant concerned. Growth stages of grasses are indicated by decimal codes which are derived from the decimal code for the growth stages of cereals (Zadoks, et al., 1974). This decimal code is in close conformity with the BBCH-code (Meier, 1997).            Seedling growth (seedling: one shoot)  DC 10 First leaf through coleoptile  DC 15 Five leaves unfolded  DC 19 Nine or more leaves unfolded            Tillering  DC 20 Main shoot only (beginning of tillering)  DC 23 Main shoot and 3 tillers  DC 25 Main shoot and 5 tillers  DC 29 Main shoot and 9 or more tillers            Stem elongation  DC 30 Pseudo-stem erection (formed by sheaths of leaves).  DC 31 First node detectable (early stem extension across all stems)  DC 35 Fifth node detectable (50% extension across all stems)  DC 39 Flag leaf ligula/collar just visible (pre-boot stage)            Booting  DC 41 Flag leaf sheath extending (little enlargement of the inflorescence, early boot-stage)  DC 45 Boots swollen (late-boot stage)  DC 47 First leaf sheath opening  DC 49 First awns visible (in awned forms only)            Inflorescence emergence (mostly non-synchronous)  DC 50 First spikelet of inflorescence just visible  DC 52 25% of the inflorescence emerged (across all stems)  DC 54 50% of the inflorescence emerged (across all stems)  DC 56 75% of the inflorescence emerged (across all stems)  DC 58 Emergence of inflorescence completed            Anthesis (mostly non-synchronous)  DC 60 Beginning of anthesis  DC 64 Anthesis half-way  DC 68 Anthesis complete | | |

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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 | | Botanical name | |  | | --- | | *Zoysia* Willd. | | |  | | --- | |  | | |  |  |  |  |  | |  | |  | | --- | | 1.2 | | Common name | |  | | --- | | Japanese Lawn Grass | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 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) | | |  | | --- | | Division | | [ ] | | |  | | --- | | (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** |  |  | | --- | | **(9)** | | |  | | --- | | **Stolon: anthocyanin coloration** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Ryokko | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very weak to weak | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | weak to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Chiba G79 | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to strong | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Enrumu | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | strong to very strong | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very strong | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
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| |  | | --- | | **5.2** |  |  | | --- | | **(12)** | | |  | | --- | | **Leaf blade: length** | |  |  |
|  | |  | | --- | | very short | | |  | | --- | | TM neo | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very short to short | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | short | | |  | | --- | | Emerald | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | short to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Tsukuba green | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to long | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | long | | |  | | --- | | Asagake | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | long to very long | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very long | | |  | | --- | | Tsukuba taro | | |  | | --- | | 9 [   ] | |
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| |  | | --- | | **5.3** |  |  | | --- | | **(15)** | | |  | | --- | | **Flower: tendency of flowering in spring** | |  |  |
|  | |  | | --- | | low | | |  | | --- | | Chiba G79 | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Emerald | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | high | | |  | | --- | | Meyer | | |  | | --- | | 3 [   ] | |
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|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
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| |  | | --- | | **5.4** |  |  | | --- | | **(22)** | | |  | | --- | | **Inflorescence: anthocyanin coloration of spikelets** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Ryokko | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very weak to weak | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | | Tsukuba taro | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | weak to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | TM neo | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to strong | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Meyer | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | strong to very strong | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very strong | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  | |  | | --- | | not applicable | | |  | | --- | |  | | |  | | --- | | 10 [   ] | |
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| |  | | --- | | **5.5** |  |  | | --- | | **(26)** | | |  | | --- | | **Time of flowering (in spring)** | |  |  |
|  | |  | | --- | | very early | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very early to early | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | early | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | early to medium | | |  | | --- | | TM9 | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Meyer | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to late | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | late | | |  | | --- | | Tsukuba taro | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | late to very late | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very late | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  | |  | | --- | | not applicable | | |  | | --- | |  | | |  | | --- | | 10 [   ] | |
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|  |  |  |  |
| |  | | --- | | **5.6** |  |  | | --- | | **(27)** | | |  | | --- | | **Time of leaf senescence (in autumn)** | |  |  |
|  | |  | | --- | | very early | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very early to early | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | early | | |  | | --- | | TM9 | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | early to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Emerald | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to late | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | late | | |  | | --- | | Mijoka | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | late to very late | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very late | | |  | | --- | |  | | |  | | --- | | 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* | |  | | --- | | *Stolon: anthocyanin coloration* | | |  | | --- | | *medium* | | |  | | --- | | *strong* | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | 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 | | | | |  |  |  |  |  | |

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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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