|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  |  | |  | | --- | | **TG/ZOYSI(proj.7)** | | **ORIGINAL:** English | | **DATE:** 2025-03-20 | | | **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 an expert from Japan* | | *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* | | |  | | --- | | *Zoysia* Willd., *Brousemichea* Balansa, *Matrella* Pers., *Osterdamia* Neck. ex Kuntze, *Zoydia Pers*., orth. var. | | |  | | --- | | Japanese Lawn Grass, Zoysia | | |  | | --- | | 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. |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | TABLE OF CONTENTS | PAGE | |  |  | | |  |  |  | | --- | --- | --- | | 1. | SUBJECT OF THESE TEST GUIDELINES.......................................................................................................... | [3](#Section1) | |  |  |  | | 2. | MATERIAL REQUIRED......................................................................................................................................... | [3](#Section2) | |  |  |  | | 3. | METHOD OF EXAMINATION................................................................................................................................ | [3](#Section3) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 3.1 | Number of Growing Cycles........................................................................................................................ | [3](#Section3-1) | | 3.2 | Testing Place............................................................................................................................................. | [3](#Section3-2) | | 3.3 | Conditions for Conducting the Examination............................................................................................... | [3](#Section3-3) | | 3.4 | Test Design................................................................................................................................................ | [3](#Section3-4) | | 3.5 | Additional Tests......................................................................................................................................... | [3](#Section3-5) | | | |  |  |  | | 4. | ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY................................................................. | [4](#Section4) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 4.1 | Distinctness............................................................................................................................................... | [4](#Section4-1) | | 4.2 | Uniformity.................................................................................................................................................. | [5](#Section4-2) | | 4.3 | Stability...................................................................................................................................................... | [5](#Section4-3) | | | |  |  |  | | 5. | GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL................................................ | [5](#Section5) | |  |  |  | | 6. | INTRODUCTION TO THE TABLE OF CHARACTERISTICS................................................................................ | [6](#Section6) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 6.1 | Categories of Characteristics..................................................................................................................... | [6](#Section6-1) | | 6.2 | States of Expression and Corresponding Notes........................................................................................ | [6](#Section6-2) | | 6.3 | Types of Expression.................................................................................................................................. | [6](#Section6-3) | | 6.4 | Example Varieties...................................................................................................................................... | [6](#Section6-4) | | 6.5 | Legend....................................................................................................................................................... | [7](#Section6-5) | | | |  |  |  | | 7. | TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES...................................................................................................................................................... | [8](#Section7) | |  |  |  | | 8. | EXPLANATIONS ON THE TABLE OF CHARACTERISTICS............................................................................... | [15](#Section8) | |  | |  |  |  | | --- | --- | --- | | 8.1 | Explanations covering several characteristics........................................................................................... | [15](#Section8-1) | | |  | | --- | | 8.2 | | Explanations for individual characteristics................................................................................................. | [15](#Section8-2) | | 8.3 | Growth stages for Zoysia…………………………………………………………………………………………. | [18](#Section9) | | | |  |  |  | | 9. | LITERATURE........................................................................................................................................................ | [19](#Section9) | |  |  |  | | 10. | TECHNICAL QUESTIONNAIRE............................................................................................................................ | [20](#Section10) | |  |  |  | |  | |  | | --- | |  | |  | | | |

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

|  |  |
| --- | --- |
|  |  |
|  |  |
| 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: | |
|  |  |
|  | |  | | --- | | 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. | |

|  |  |
| --- | --- |
|  |  |
|  |  |
| 3. | Method of Examination |
|  |  |
| *3.1* | *Number of Growing Cycles* |
|  |  |
| |  | | --- | | 3.1.1 | | The minimum duration of tests should normally be a single growing cycle. |
|  |  |
| |  | | --- | | 3.1.2 | | The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test. |
|  |  |
| *3.2* | *Testing Place* |
|  |  |
|  | Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”. |
|  |  |
| *3.3* | *Conditions for Conducting the Examination* |
|  |  |
| |  | | --- | | 3.3.1 | | The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. |
|  |  |
| 3.3.2 | 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 15 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 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. |

|  |  |
| --- | --- |
| 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) | |  | |  | | --- | | Plant: number of ears (characteristic 3) | | | |  | | --- | | (b) | |  | |  | | --- | | Culm: length (characteristic 4) | | | |  | | --- | | (c) | |  | |  | | --- | | Ear: anthocyanin coloration of spikelets (characteristic 9) | | | |  | | --- | | (d) | |  | |  | | --- | | Stolon: anthocyanin coloration (characteristic 17) | | | |  | | --- | | (e) | |  | |  | | --- | | Leaf blade: length (characteristic 18) | | | |  | | --- | | (f) | |  | |  | | --- | | Leaf blade: width (characteristic 19) | | | |  |  | | --- | --- | | |  | | --- | |  | | | | | |
| 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 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)-(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 | | | | | |

|  |  |
| --- | --- |
| 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** | **MG** | **(+)** |  | **10** | | | |
|  |  | |  | | --- | | **Time of beginning of vegetative growth after overwintering** | | | |  | | --- | | **Époque du début de la croissance végétative après l'hivernage** | | | |  | | --- | | **Zeitpunkt des Beginns des vegetativen Wachstums nach Überwinterung** | | |  | | --- | | **Época de inicio del crecimiento vegetativo tras la hibernación** | |  |  |
|  |  | very early | | très précoce | | sehr früh | muy temprana |  | 1 |
|  |  | early | | précoce | | früh | temprana | Ryokko | 2 |
|  |  | medium | | moyenne | | mittel | media | Emerald | 3 |
|  |  | late | | tardive | | spät | tardía | Shiba Chukanbohon Nou 1 Go | 4 |
|  |  | very late | | très tardive | | sehr spät | muy tardía |  | 5 |
| **2.** | **(\*)** | **QN** | **MG** |  | **(a)** | **20** | | | |
|  |  | |  | | --- | | **Time of beginning of ear emergence** | | | |  | | --- | | **Époque du début de l'épiaison** | | | |  | | --- | | **Zeitpunkt des Beginns des Ährenschiebens** | | |  | | --- | | **Época de inicio del espigado** | |  |  |
|  |  | 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 |  | 3 |
|  |  | early to medium | | précoce à moyenne | | früh bis mittel | temprana a media | TM9 | 4 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 5 |
|  |  | medium to late | | moyenne à tardive | | mittel bis spät | media a tardía |  | 6 |
|  |  | late | | tardive | | spät | tardía |  | 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 |
| **3.** | **(\*)** | **QN** | **VG** |  | **(a)** | **29** | | | |
|  |  | |  | | --- | | **Plant: number of ears** | | | |  | | --- | | **Plante : nombre d'épis** | | | |  | | --- | | **Pflanze: Anzahl Ähren** | | |  | | --- | | **Planta: número de espigas** | |  |  |
|  |  | none or very few | | absent ou très petit | | keine oder sehr gering | ausente o muy bajo | Emerald | 1 |
|  |  | few | | petit | | gering | bajo |  | 2 |
|  |  | medium | | moyen | | mittel | medio | Tsukuba taro | 3 |
|  |  | many | | élevé | | hoch | alto | Meyer | 4 |
|  |  | very many | | très élevé | | sehr hoch | muy alto |  | 5 |
| **4.** |  | **QN** | **MS/VG** |  | **(a), (b)** | **29** | | | |
|  |  | |  | | --- | | **Culm: length** | | | |  | | --- | | **Tige : longueur** | | | |  | | --- | | **Halm: Länge** | | |  | | --- | | **Culmo: longitud** | |  |  |
|  |  | 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 | Chiba fair green | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Asagake | 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 |
| **5.** |  | **QN** | **VG** |  | **(a), (b)** | **29** | | | |
|  |  | |  | | --- | | **Ear: position relative to foliage** | | | |  | | --- | | **Épi : position par rapport au feuillage** | | | |  | | --- | | **Ähre: Stellung im Verhältnis zum Laub** | | |  | | --- | | **Espiga: posición relativa al follaje** | |  |  |
|  |  | below | | en dessous | | unterhab | debajo | GZ-006 | 1 |
|  |  | same level | | au même niveau | | auf gleicher Höhe | al mismo nivel | G-10 | 2 |
|  |  | above | | au-dessus | | überhalb | por encima | Diamond | 3 |
| **6.** | **(\*)** | **QN** | **MS/VG** |  | **(a)** | **29** | | | |
|  |  | |  | | --- | | **Ear: length** | | | |  | | --- | | **Épi : longueur** | | | |  | | --- | | **Ähre: Länge** | | |  | | --- | | **Espiga: longitud** | |  |  |
|  |  | 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 | Mijoka | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Tsukuba taro | 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 |
| **7.** |  | **QN** | **MS/VG** |  | **(a)** | **29** | | | |
|  |  | |  | | --- | | **Ear: number of spikelets** | | | |  | | --- | | **Épi : nombre d'épillets** | | | |  | | --- | | **Ähre: Anzahl Ährchen** | | |  | | --- | | **Espiga: número de espiguillas** | |  |  |
|  |  | very few | | très petit | | sehr gering | muy bajo | Emerald | 1 |
|  |  | few | | petit | | gering | bajo | TM9 | 2 |
|  |  | medium | | moyen | | mittel | medio | Meyer | 3 |
|  |  | many | | élevé | | hoch | alto |  | 4 |
|  |  | very many | | très élevé | | sehr hoch | muy alto |  | 5 |
| **8.** | **(\*)** | **QN** | **MS/VG** |  | **(a)** | **29** | | | |
|  |  | |  | | --- | | **Ear: length of spikelets** | | | |  | | --- | | **Épi : longueur des épillets** | | | |  | | --- | | **Ähre: Länge der Ährchen** | | |  | | --- | | **Espiga: longitud de las espiguillas** | |  |  |
|  |  | short | | courte | | kurz | corta | Mijoka | 1 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 2 |
|  |  | long | | longue | | lang | larga |  | 3 |
| **9.** | **(\*)** | **QN** | **VG** |  | **(a)** | **29** | | | |
|  |  | |  | | --- | | **Ear: anthocyanin coloration of spikelets** | | | |  | | --- | | **Épi : pigmentation anthocyanique des épillets** | | | |  | | --- | | **Ähre: Anthocyanfärbung der Ährchen** | | |  | | --- | | **Espiga: pigmentación antociánica de las espiguillas** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Ryokko | 1 |
|  |  | very weak to weak | | très faible à faible | | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | | faible | | gering | débil | Tsukuba taro | 3 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Enrumu | 5 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | | forte | | stark | fuerte | Meyer | 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 |
| **10.** |  | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Plant: attitude of leaves** | | | |  | | --- | | **Plante : port des feuilles** | | | |  | | --- | | **Pflanze: Haltung der Blätter** | | |  | | --- | | **Planta: porte de las hojas** | |  |  |
|  |  | erect | | dressé | | aufgerichtet | erecto |  | 1 |
|  |  | semi-erect | | demi-dressé | | halbaufgerichtet | semierecto | Tsukuba taro | 2 |
|  |  | intermediate | | intermédiaire | | mittel | intermedio | Emerald | 3 |
|  |  | semi-prostrate | | demi-étalé | | halbliegend | semipostrado | TM9 | 4 |
|  |  | prostrate | | étalé | | liegend | postrado |  | 5 |
| **11.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Plant: height** | | | |  | | --- | | **Plante : hauteur** | | | |  | | --- | | **Pflanze: Höhe** | | |  | | --- | | **Planta: altura** | |  |  |
|  |  | very short | | très basse | | sehr niedrig | muy baja | TM9 | 1 |
|  |  | short | | basse | | niedrig | baja |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 3 |
|  |  | tall | | haute | | hoch | alta |  | 4 |
|  |  | very tall | | très haute | | sehr hoch | muy alta | Asagake | 5 |
| **12.** |  | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Plant: density of stolons** | | | |  | | --- | | **Plante : densité des stolons** | | | |  | | --- | | **Pflanze: Dichte der Ausläufer** | | |  | | --- | | **Planta: densidad de los estolones** | |  |  |
|  |  | sparse | | lâche | | locker | laxa | Ijani | 1 |
|  |  | medium | | moyenne | | mittel | media |  | 2 |
|  |  | dense | | dense | | dicht | densa | TM neo | 3 |
| **13.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Stolon: internode length** | | | |  | | --- | | **Stolon : longueur de l'entre-nœud** | | | |  | | --- | | **Ausläufer: Internodienlänge** | | |  | | --- | | **Estolón: longitud del entrenudo** | |  |  |
|  |  | 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 | Mijoka | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Asagake | 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 |
| **14.** |  | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Stolon: internode width** | | | |  | | --- | | **Stolon : largeur de l'entre-nœud** | | | |  | | --- | | **Ausläufer: Internodienbreite** | | |  | | --- | | **Estolón: anchura del entrenudo** | |  |  |
|  |  | very narrow | | très étroite | | sehr schmal | muy estrecha | Tsukuba hime | 1 |
|  |  | narrow | | étroite | | schmal | estrecha |  | 2 |
|  |  | medium | | moyenne | | mittel | media | TM9 | 3 |
|  |  | broad | | large | | breit | ancha |  | 4 |
|  |  | very broad | | très large | | sehr breit | muy ancha | Ryokko | 5 |
| **15.** | **(\*)** | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Stolon: anthocyanin coloration of leaf sheaths** | | | |  | | --- | | **Stolon : pigmentation anthocyanique des gaines des feuilles** | | | |  | | --- | | **Ausläufer: Anthocyanfärbung der Blattscheiden** | | |  | | --- | | **Estolón: pigmentación antociánica de las vainas de las hojas** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Ryokko | 1 |
|  |  | weak | | faible | | gering | débil | Emerald | 2 |
|  |  | medium | | moyenne | | mittel | media |  | 3 |
|  |  | strong | | forte | | stark | fuerte | Enrumu | 4 |
|  |  | very strong | | très forte | | sehr stark | muy fuerte |  | 5 |
| **16.** |  | **QN** | **MS** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Stolon: length of leaf sheath** | | | |  | | --- | | **Stolon : longueur de la gaine de la feuille** | | | |  | | --- | | **Ausläufer: Länge der Blattscheide** | | |  | | --- | | **Estolón: longitud de la vaina de la hoja** | |  |  |
|  |  | very short | | très courte | | sehr kurz | muy corta |  | 1 |
|  |  | short | | courte | | kurz | corta | Mijoka | 2 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 3 |
|  |  | long | | longue | | lang | larga | Ijani | 4 |
|  |  | very long | | très longue | | sehr lang | muy larga |  | 5 |
| **17.** | **(\*)** | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Stolon: anthocyanin coloration** | | | |  | | --- | | **Stolon : pigmentation anthocyanique** | | | |  | | --- | | **Ausläufer: Anthocyanfärbung** | | |  | | --- | | **Estolón: pigmentación antociánica** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Ryokko | 1 |
|  |  | weak | | faible | | gering | débil |  | 2 |
|  |  | medium | | moyenne | | mittel | media |  | 3 |
|  |  | strong | | forte | | stark | fuerte | Enrumu | 4 |
|  |  | very strong | | très forte | | sehr stark | muy fuerte |  | 5 |
| **18.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: length** | | | |  | | --- | | **Limbe : longueur** | | | |  | | --- | | **Blattspreite: Länge** | | |  | | --- | | **Limbo: longitud** | |  |  |
|  |  | very short | | très courte | | sehr kurz | muy corta | TM neo | 1 |
|  |  | very short to short | | très courte à courte | | sehr kurz bis kurz | muy corta a corta |  | 2 |
|  |  | short | | courte | | kurz | corta | Emerald | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Tsukuba green | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Asagake | 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 | Tsukuba taro | 9 |
| **19.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: width** | | | |  | | --- | | **Limbe : largeur** | | | |  | | --- | | **Blattspreite: Breite** | | |  | | --- | | **Limbo: anchura** | |  |  |
|  |  | very narrow | | très étroite | | sehr schmal | muy estrecha | Mijoka | 1 |
|  |  | narrow | | étroite | | schmal | estrecha |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Meyer | 3 |
|  |  | broad | | large | | breit | ancha |  | 4 |
|  |  | very broad | | très large | | sehr breit | muy ancha | Asagake | 5 |
| **20.** |  | **QN** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: intensity of green color** | | | |  | | --- | | **Limbe : intensité de la couleur verte** | | | |  | | --- | | **Blattspreite: Intensität der Grünfärbung** | | |  | | --- | | **Limbo: 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 | Ayamidori | 3 |
|  |  | light to medium | | claire à moyenne | | hell bis mittel | clara a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Emerald | 5 |
|  |  | medium to dark | | moyenne à foncée | | mittel bis dunkel | media a oscura |  | 6 |
|  |  | dark | | foncée | | dunkel | oscura | Chiba fair green | 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 |  | 9 |
| **21.** |  | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Leaf blade: density of hairs on upper side** | | | |  | | --- | | **Limbe : densité des poils sur la face supérieure** | | | |  | | --- | | **Blattspreite: Dichte der Haare auf der Oberseite** | | |  | | --- | | **Limbo: densidad de los pelos en el haz** | |  |  |
|  |  | absent or very sparse | | absente ou très lâche | | fehlend oder sehr locker | ausente o muy laxa | Emerald | 1 |
|  |  | sparse | | lâche | | locker | laxa | Meyer | 2 |
|  |  | medium | | moyenne | | mittel | media |  | 3 |
|  |  | dense | | dense | | dicht | densa |  | 4 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 5 |
| **22.** | **(\*)** | **QN** | **MG** | **(+)** |  | **40** | | | |
|  |  | |  | | --- | | **Time of leaf senescence** | | | |  | | --- | | **Époque de sénescence des feuilles** | | | |  | | --- | | **Zeitpunkt der Blattalterung** | | |  | | --- | | **Época de senescencia de las hojas** | |  |  |
|  |  | 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 | TM9 | 3 |
|  |  | early to medium | | précoce à moyenne | | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Emerald | 5 |
|  |  | medium to late | | moyenne à tardive | | mittel bis spät | media a tardía |  | 6 |
|  |  | late | | tardive | | spät | tardía | Mijoka | 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 |
| **23.** |  | **PQ** | **VG** |  |  | **45** | | | |
|  |  | |  | | --- | | **Leaf: color before dormancy** | | | |  | | --- | | **Feuille : couleur avant la dormance** | | | |  | | --- | | **Blätter: Farbe vor der Winterruhe** | | |  | | --- | | **Hoja: color antes de la latencia** | |  |  |
|  |  | yellow | | jaune | | gelb | amarillo | Ryokko | 1 |
|  |  | purple | | pourpre | | purpurn | púrpura | Tsukuba taro | 2 |
|  |  | brown | | brun | | braun | marrón | TM9 | 3 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | 8. | Explanations on the Table of Characteristics | | | |  | | | | | *8.1* | *Explanations covering several characteristics* | | | |  | |  | | --- | |  | | | | |  |  |  |  | |  | |  | | --- | | ダイアグラム, 設計図  自動的に生成された説明  Leaf sheath  Stolon  Leaf blade  Ear  Spikelet  Characteristics containing the following key in the Table of Characteristics should be examined as indicated below: | | | | |  | | | | | |  | | --- | | (a) | | |  | | --- | | Observations should be made at the time of first ear emergence after overwintering, in spring or autumn dependent on variety. | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | Observations should be made on culms from the middle third of the plant. | | | | |  |  |  |  | | |  | | --- | | (c) | | |  | | --- | | Observations should be made 4 months after the time of beginning of vegetative growth after overwintering. | | | | |  |  |  |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | |  | | | |  | | --- | | Ad. 1: Time of beginning of vegetative growth after overwintering  The time of vegetative growth after overwintering is reached when new leaves have developed on the stolons of about 50% of the plants after overwintering. | | | | |  | | --- | | Ad. 10: Plant: attitude of leaves  Observations should be made on the attitude of the outer leaves relative to the lateral stolons.  1 erect    9 prostrate  5 intermediate  7 semi-prostrate  3 semi-erect | | | | |  | | --- | | Ad. 11: Plant: height    Plant: height | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Ad. 12: Plant: density of stolons     |  |  | | --- | --- | |  |  | | 1 | 3 | | sparse | dense | | | | |  | | --- | | Ad. 13: Stolon: internode length  Observations should be made between the 4th and the 5th node from the tip of the stolons. | | | |  | | --- | | Ad. 14: Stolon: internode width  Observations should be made between the 4th and the 5th node from the tip of the stolons excluding leaf sheaths. | | | |  | | --- | | Ad. 15: Stolon: anthocyanin coloration of leaf sheaths  Observations should be made between the 1st and the 5th node from the tip of the stolons. | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | |  | | --- | | Ad. 16: Stolon: length of leaf sheath  Observations should be made between the 4th and the 5th node from the tip of the stolons. | | | |  | | --- | | Ad. 17: Stolon: anthocyanin coloration  Observations should be made on stolons which are not covered by a leaf sheath, between the 4th and the 5th node from the tip of the stolons. | | | |  | | --- | | Ad. 18: Leaf blade: length  Observations should be made on leaves in the middle portion of the plant, between the planted position and the tip of the stolons.    Observe the leaves in this part.  Planted position | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | |  | | --- | | Ad. 19: Leaf blade: width  See Ad. 18  Ad. 21: Leaf blade: density of hairs on upper side  Observations should be made on black background using magnification. | | | |  | | --- | | Ad. 22: Time of leaf senescence  Time of leaf senescence is reached when 50% of leaves have changed color. | | |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.3* | | |  | | --- | | *Growth stages for Zoysia*  10: Beginning of vegetative growth  20: Beginning of ear emergence  29: Ear emergence completed  40: Beginning of leaf color change  45: Leaf color change completed | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | 9. | Literature | | |  |  |  | | --- | | Japanese Society of Turfgrass Science., 2001: Handbook: management of turf and turfgrass research. Soft science Co., Tokyo, JP  Asano, T., Aoki, K., 1998: Turfgrasses and the cultivars., Soft science Co., Tokyo, JP | | |

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | | 10. | Technical Questionnaire | |
|  |
| |  |  |  | | --- | --- | --- | | TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
|  |
| |  |  | | --- | --- | |  | 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 | |  | |  |  |  | |  | | --- | |  | |  | |  | |  | | --- | | 1.3 | | |  | | --- | | Species (please indicate): | |  |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 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 | | [ ] | |  | |  | | --- | | (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) | [ ] | |  |  | | |  |  | | | | | | |

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

|  |  |  |  |
| --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | 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** |  |  | | --- | | **(2)** | | |  | | --- | | **Time of beginning of ear emergence** | |  |  |
|  | |  | | --- | | very early | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very early to early | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | early | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | early to medium | | |  | | --- | | TM9 | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Meyer | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to late | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | late | | |  | | --- | |  | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | late to very late | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very late | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.2** |  |  | | --- | | **(3)** | | |  | | --- | | **Plant: number of ears** | |  |  |
|  | |  | | --- | | none or very few | | |  | | --- | | Emerald | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | few | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Tsukuba taro | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | many | | |  | | --- | | Meyer | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | very many | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.3** |  |  | | --- | | **(4)** | | |  | | --- | | **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 [   ] | |
|  |  |  |  |

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

|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
|  |  |  |  |
| |  | | --- | | **5.4** |  |  | | --- | | **(9)** | | |  | | --- | | **Ear: anthocyanin coloration of spikelets** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Ryokko | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very weak to weak | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | | Tsukuba taro | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | weak to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Enrumu | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to strong | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Meyer | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | strong to very strong | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very strong | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.5** |  |  | | --- | | **(17)** | | |  | | --- | | **Stolon: anthocyanin coloration** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Ryokko | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Enrumu | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | very strong | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.6** |  |  | | --- | | **(18)** | | |  | | --- | | **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 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.7** |  |  | | --- | | **(19)** | | |  | | --- | | **Leaf blade: width** | |  |  |
|  | |  | | --- | | very narrow | | |  | | --- | | Mijoka | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | narrow | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Meyer | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | broad | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | very broad | | |  | | --- | | Asagake | | |  | | --- | | 5 [   ] | |
|  |  |  |  |

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

|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
|  |  |  |  |
| |  | | --- | | **5.8** |  |  | | --- | | **(22)** | | |  | | --- | | **Time of leaf senescence** | |  |  |
|  | |  | | --- | | 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 [   ] | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | 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* | |  | | --- | | *Stolon: anthocyanin coloration* | | |  | | --- | | *medium* | | |  | | --- | | *strong* | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | 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 | | | | |  |  |  |  |  | |

|  |  |  |  |
| --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | 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]