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| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  | wordml://75.png | |  | | --- | | **TG/16/9** | | **ORIGINAL:** English | | **DATE:** 2020-12-17 | | | **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** | | | |  | Geneva |  | |  |  |  | |  |  |  | |  | |  | | --- | |  | | **RICE** | |  | | |  | | --- | |  | | |  | | --- | | UPOV Code(s): ORYZA\_SAT | | |  | | |  | | |  |  | | --- | --- | | |  | | --- | | *Oryza sativa* L. | | |  | | |  | | |  | | --- | | \* | | |  |  |  | | |  | | --- | | **GUIDELINES** | |  | | **FOR THE CONDUCT OF TESTS** | |  | | **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** | | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | Alternative names:\* | | | | | | | |  | | --- | |  | | | | | | | *Botanical name* | *English* | *French* | *German* | *Spanish* | | |  | | --- | | *Oryza sativa* L. | | |  | | --- | | Rice | | |  | | --- | | Riz | | |  | | --- | | Reis | | |  | | --- | | Arroz | | | | | |  |  |  | | 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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| 1. | Subject of these Test Guidelines |
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|  | |  | | --- | | These Test Guidelines apply to all varieties of *Oryza sativa* L. | |

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| 2. | Material Required |
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| 2.1 | |  | | --- | | The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with. | |
|  |  |
| 2.2 | |  | | --- | | The material is to be supplied in the form of seed and panicles (if requested). | |
|  |  |
| 2.3 | |  | | --- | | The minimum quantity of plant material, to be supplied by the applicant, should be: | |
|  |  |
|  | |  | | --- | | Seed: 2 kg  Panicles (if requested): 120 | |
|  |  |
|  | The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant. |
|  |  |
|  | |  | | --- | | The panicles should be well developed and should contain a sufficient number of viable seeds to establish a satisfactory row of plants for observation. | |
|  |  |
| 2.4 | |  | | --- | | The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. | |
|  |  |
| 2.5 | |  | | --- | | The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given. | |

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| 3. | Method of Examination |
|  |  |
| *3.1* | *Number of Growing Cycles* |
|  |  |
| |  | | --- | | 3.1.1 | | The minimum duration of tests should normally be two independent growing cycles. |
|  |  |
| |  | | --- | | 3.1.2 | | The 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. |
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| 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. |
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| --- | --- |
| *3.4* | *Test Design* |
| |  |  | | --- | --- | |  |  | | |  | | --- | | 3.4.1 | | |  | | --- | | In the case of sown trials, each test should be designed to result in a total of at least 1500 plants which should be divided between at least 2 replicates. | | |  |  | | |  | | --- | | 3.4.2 | | |  | | --- | | In the case of transplanted plants, each test should be designed to result in a total of at least 400 plants which should be divided between at least 2 replicates. | | | |
|  |  |
| |  | | --- | | 3.4.3 | | |  | | --- | | 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. | |
|  |  |
| |  | | --- | | 3.4.4 | | |  | | --- | | If tests on panicle rows are conducted, at least 100 panicle rows should be observed. | |
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| |  | | --- | |  |   *3.5* | *Additional Tests* |
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|  | Additional tests, for examining relevant characteristics, may be established. |

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| 4. | Assessment of Distinctness, Uniformity and Stability |
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| *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. |
|  |  |
|  | |  | | --- | | To assess distinctness of hybrids, the parent lines and the formula may be used according to the following recommendations: | |  | | (i) description of parent lines according to the Test Guidelines; | |  | | (ii) check of the originality of the parent lines in comparison with the variety collection, based on the characteristics in Chapter 7, in order to identify similar parent lines; | |  | | (iii) check of the originality of the hybrid formula in relation to the hybrids in the variety collection, taking into account the most similar lines; and | |  | | (iv) assessment of the distinctness at the hybrid level for varieties with a similar formula. | |  | | Further guidance is provided in documents TGP/9 "Examining Distinctness" and TGP/8 "Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability". | |
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| 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. |
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| 4.1.3 | Clear Differences |
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|  | 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. |
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| 4.1.4 | |  | | --- | | Number of Plants or Parts of Plants to be Examined | |
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|  | |  | | --- | | 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. | |
|  |  |
|  | |  | | --- | | In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 1. | |
|  |  |
| 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 self-pollinated and hybrid 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. | |
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| 4.2.3 | The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction. |
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| 4.2.4 | Where the assessment of a hybrid variety involves the parent lines, the uniformity of the hybrid variety should, in addition to an examination of the hybrid variety itself, also be assessed by examination of the uniformity of its parent lines. |
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| 4.2.5 | |  | | --- | | The recommended sample size for the assessment of uniformity is indicated by the following key in the table of characteristics:              A: sample size of 100 plants/parts of plants/panicle rows              B: sample size of 1500 plants/400 plants | |
|  |  |
| 4.2.6 | |  | | --- | | For the assessment of uniformity of lines, a population standard of 0.1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 1500 plants, 4 off-types are allowed. In the case of a sample size of 400 plants, 2 off-types are allowed. | |
|  |  |
| 4.2.7 | |  | | --- | | For the assessment of uniformity in a sample size of 100 panicle rows, plants or parts, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 100 panicle rows, plants or parts of plants, 3 off-types are allowed. A panicle row is considered to be an off-type if there is more than one off-type plant within that panicle row. | |
|  |  |
| 4.2.8 | For “A” characteristics, the assessment of uniformity can be done in 2 steps. In a first step, 20 panicle rows, plants or parts of plants are observed. If no off-types are observed, the variety is considered to be uniform. If more than 3 off-types are observed, the variety is considered not to be uniform. If 1 to 3 off-types are observed, an additional sample of 80 panicle rows, plants or parts of plants must be observed. |
|  |  |
| 4.2.9 | |  | | --- | | For the assessment of uniformity of hybrid 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 1500 plants, 22 off-types are allowed. In case of sample size of 400 plants, 8 off-types is allowed. | |
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| *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. |
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| 4.3.2 | Where appropriate, or in cases of doubt, stability may be further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied. |
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| 4.3.3 | Where appropriate, or in cases of doubt, the stability of a hybrid variety may, in addition to an examination of the hybrid variety itself, also be assessed by examination of the uniformity and stability of its parent lines. |

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| 5. | Grouping of Varieties and Organization of the Growing Trial |
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| 5.1 | The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics. |
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| 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) | |  | |  | | --- | | Endosperm: type (characteristic 1) | | | |  | | --- | | (b) | |  | |  | | --- | | Leaf blade: anthocyanin coloration (characteristic 8) | | | |  | | --- | | (c) | |  | |  | | --- | | Time of panicle emergence (characteristic 12) | | | |  | | --- | | (d) | |  | |  | | --- | | Stem: length (characteristic 17) | | | |  | | --- | | (e) | |  | |  | | --- | | Lemma: color of tip (characteristic 25) | | | |  | | --- | | (f) | |  | |  | | --- | | Grain: ratio length/width (characteristic 41) | | | |  | | --- | | (g) | |  | |  | | --- | | Grain: color (characteristic 42) | | | |  |  | | --- | --- | | |  | | --- | |  | | | | | |
| 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 |
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| *6.1* | *Categories of Characteristics* |
| 6.1.1 | Standard Test Guidelines Characteristics |
|  | Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances. |
| 6.1.2 | Asterisked Characteristics |
|  | Asterisked characteristics (denoted by \*) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate. |
| *6.2* | *States of Expression and Corresponding Notes* |

|  |  |
| --- | --- |
| 6.2.1 | States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description. |
| 6.2.2 | All relevant states of expression are presented in the characteristic. |
| 6.2.3 | Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”. |
| *6.3* | *Types of Expression* |
|  | An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction. |
| *6.4* | *Example Varieties* |
|  | Where appropriate, example varieties are provided to clarify the states of expression of each characteristic. |

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| *6.5* | *Legend* |
|  |  |
| |  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | **1** | | |  | | --- | | **2** | | |  | | --- | | **3** | | |  | | --- | | **4** | | |  | | --- | | **5** | | |  | | --- | | **6** | | |  | | --- | | **7** | | | | | |  |  | |  | | --- | | **Name of characteristics in English** | | | |  | | --- | | **Nom du caractère en français** | | | |  | | --- | | **Name des Merkmals auf Deutsch** | | |  | | --- | | **Nombre del carácter en español** | |  |  | |  |  | |  | | --- | | states of expression | | | |  | | --- | | types d’expression | | | |  | | --- | | Ausprägungsstufen | | |  | | --- | | tipos de expresión | | |  | | --- | |  | |  | |  |  |  |  |  |  |  |  |  |  | | |
| |  |  |  |  | | --- | --- | --- | --- | | 1 | Characteristic number | | | |  |  |  |  | | 2 | (\*) | Asterisked characteristic | – see Chapter 6.1.2 | |  |  |  |  | | 3 | Type of expression | | | |  | QL | Qualitative characteristic | – see Chapter 6.3 | |  | QN | Quantitative characteristic | – see Chapter 6.3 | |  | PQ | Pseudo-qualitative characteristic | – see Chapter 6.3 | |  |  |  |  | | 4 | Method of observation (and type of plot, if applicable) | | | |  | MG, MS, VG, VS | | – see Chapter 4.1.5 | |  |  |  |  | | 5 | |  | | --- | | (+) | | |  |  | | --- | --- | | |  | | --- | | See Explanations on the Table of Characteristics in Chapter 8.2 | | | | |  |  |  |  | | 6 | |  | | --- | | (a)-(b) | | |  |  | | --- | --- | | |  | | --- | | See Explanations on the Table of Characteristics in Chapter 8.1 | | | | |  |  |  |  | | 7  A  B | |  | | --- | | Growth stage key See Explanations on the Table of Characteristics in Chapter 8.3 | |  | | Sample size of 100 plants/parts of plants/panicle rows | | Sample size of 1500 plants/400 plants | | | | | |

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

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | **(\*)** | **PQ** | **VG|A** | **(+)** |  | **00** | | | |
|  |  | |  | | --- | | **Endosperm: type** | | | |  | | --- | | **Endosperme : type** | | | |  | | --- | | **Endosperm: Typ** | | |  | | --- | | **Endospermo: tipo** | |  |  |
|  |  | glutinous | | glutineux | | mit Gluten | glutinoso | Ruriaoba, Sayomurasaki | 1 |
|  |  | intermediate | | intermédiaire | | Zwischentyp | intermedio | Milky Summer | 2 |
|  |  | non-glutinous | | non glutineux | | ohne Gluten | no glutinoso | Koshihikari, Takanari | 3 |
| **2.** | **(\*)** | **QN** | **MG|A** | **(+)** |  | **00** | | | |
|  |  | |  | | --- | | **Endosperm: content of amylose** | | | |  | | --- | | **Endosperme : teneur en amylose** | | | |  | | --- | | **Endosperm: Amylosegehalt** | | |  | | --- | | **Endospermo: contenido de amilosa** | |  |  |
|  |  | very low | | très faible | | sehr gering | muy bajo | Ruriaoba, Sayomurasaki | 1 |
|  |  | very low to low | | très faible à faible | | sehr gering bis gering | muy bajo a bajo |  | 2 |
|  |  | low | | faible | | gering | bajo | Milky Summer | 3 |
|  |  | low to medium | | faible à moyenne | | gering bis mittel | bajo a medio |  | 4 |
|  |  | medium | | moyenne | | mittel | medio | Koshihikari | 5 |
|  |  | medium to high | | moyenne à élevée | | mittel bis hoch | medio a alto |  | 6 |
|  |  | high | | élevée | | hoch | alto | Hoshiyutaka | 7 |
|  |  | high to very high | | élevée à très élevée | | hoch bis sehr hoch | alto a muy alto |  | 8 |
|  |  | very high | | très élevée | | sehr hoch | muy alto | Koshinokaori | 9 |
| **3.** |  | **QN** | **VG|A** | **(+)** |  | **10-11** | | | |
|  |  | |  | | --- | | **Coleoptile: anthocyanin coloration** | | | |  | | --- | | **Coléoptile : pigmentation anthocyanique** | | | |  | | --- | | **Keimscheide: Anthocyanfärbung** | | |  | | --- | | **Coleóptilo: pigmentación antociánica** | |  |  |
|  |  | absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Koshihikari | 1 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Murasakikoboshi | 3 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 4 |
|  |  | strong | | forte | | stark | fuerte | Akaneasobi, Satsumakuromochi | 5 |
| **4.** | **(\*)** | **QN** | **VG|B** | **(+)** |  | **40-49** | | | |
|  |  | |  | | --- | | **Plant: growth habit** | | | |  | | --- | | **Plante : port** | | | |  | | --- | | **Pflanze: Wuchsform** | | |  | | --- | | **Planta: hábito de crecimiento** | |  |  |
|  |  | erect | | dressé | | aufrecht | erecto | Leafstar | 1 |
|  |  | erect to semi-erect | | dressé à demi-dressé | | aufrecht bis halbaufrecht | erecto a semierecto |  | 2 |
|  |  | semi-erect | | demi-dressé | | halbaufrecht | semierecto | Koshihikari, Momiroman | 3 |
|  |  | semi-erect to intermediate | | demi-dressé à intermédiaire | | halbaufrecht bis mittel | semierecto a intermedio |  | 4 |
|  |  | intermediate | | intermédiaire | | mittel | intermedio | Onari | 5 |
|  |  | intermediate to semi‑prostrate | | intermédiaire à demi‑étalé | | mittel bis halbliegend | intermedio a semipostrado |  | 6 |
|  |  | semi-prostrate | | demi-étalé | | halbliegend | semipostrado |  | 7 |
|  |  | semi-prostrate to prostrate | | demi-étalé à étalé | | halbliegend bis liegend | semipostrado a postrado |  | 8 |
|  |  | prostrate | | étalé | | liegend | postrado |  | 9 |
| **5.** |  | **QN** | **VG|B** |  | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Distal leaf sheath: anthocyanin coloration** | | | |  | | --- | | **Gaine de la feuille distale : pigmentation anthocyanique** | | | |  | | --- | | **Distale Blattscheide: Anthocyanfärbung** | | |  | | --- | | **Vaina de la hoja distal: pigmentación antociánica** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Koshihikari | 1 |
|  |  | very weak to weak | | très faible à faible | | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | | faible | | gering | débil | Murasakikoboshi, Sayomurasaki | 3 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Minamiyutaka | 5 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | | forte | | stark | fuerte | Beniasobi, Shikibumochi | 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 |
| **6.** |  | **QN** | **VG|B** |  | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Basal leaf sheath: anthocyanin coloration** | | | |  | | --- | | **Gaine de la feuille basale : pigmentation anthocyanique** | | | |  | | --- | | **Basale Blattscheide: Anthocyanfärbung** | | |  | | --- | | **Vaina de la hoja basal: pigmentación antociánica** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Koshihikari | 1 |
|  |  | very weak to weak | | très faible à faible | | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | | faible | | gering | débil | Murasakikoboshi, Sayomurasaki | 3 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Beniasobi | 5 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | | forte | | stark | fuerte |  | 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 |
| **7.** |  | **QN** | **VG|B** |  | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **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 | Koihonoka | 3 |
|  |  | light to medium | | claire à moyenne | | hell bis mittel | clara a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Hinohikari, Koshihikari | 5 |
|  |  | medium to dark | | moyenne à foncée | | mittel bis dunkel | media a oscura |  | 6 |
|  |  | dark | | foncée | | dunkel | oscura | Hoshiyutaka, Takanari | 7 |
|  |  | dark to very dark | | foncée à très foncée | | dunkel bis sehr dunkel | oscura a muy oscurs |  | 8 |
|  |  | very dark | | très foncée | | sehr dunkel | muy oscura |  | 9 |
| **8.** | **(\*)** | **QN** | **VG|B** |  | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Leaf blade: anthocyanin coloration** | | | |  | | --- | | **Limbe : pigmentation anthocyanique** | | | |  | | --- | | **Blattspreite: Anthocyanfärbung** | | |  | | --- | | **Limbo: pigmentación antociánica** | |  |  |
|  |  | absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Koshihikari | 1 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Akaneasobi | 3 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 4 |
|  |  | strong | | forte | | stark | fuerte |  | 5 |
| **9.** |  | **QN** | **VG|B** | **(+)** | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Leaf blade: pubescence** | | | |  | | --- | | **Limbe : pubescence** | | | |  | | --- | | **Blattspreite: Behaarung** | | |  | | --- | | **Limbo: pubescencia** | |  |  |
|  |  | absent or very sparse | | absente ou très lâche | | fehlend oder sehr locker | ausente o muy laxa | Leafstar | 1 |
|  |  | sparse | | lâche | | locker | laxa |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 3 |
|  |  | dense | | dense | | dicht | densa |  | 4 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 5 |
| **10.** |  | **PQ** | **VG|B** | **(+)** | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Ligule: shape** | | | |  | | --- | | **Ligule : forme** | | | |  | | --- | | **Ligula: Form** | | |  | | --- | | **Lígula: forma** | |  |  |
|  |  | truncate | | tronquée | | stumpf | truncada |  | 1 |
|  |  | acute | | aiguë | | spitz | aguda | Murasakikoboshi | 2 |
|  |  | lobed | | lobée | | gelappt | lobulada | Onari, Salt star | 3 |
| **11.** |  | **PQ** | **VG|B** |  | **(a)** | **40-49** | | | |
|  |  | |  | | --- | | **Ligule: color** | | | |  | | --- | | **Ligule : couleur** | | | |  | | --- | | **Ligula: Farbe** | | |  | | --- | | **Lígula: color** | |  |  |
|  |  | white | | blanc | | weiß | blanco | Koshihikari | 1 |
|  |  | green | | vert | | grün | verde |  | 2 |
|  |  | purple | | violet | | purpurn | púrpura | Beniasobi, Sayomurasaki | 3 |
| **12.** | **(\*)** | **QN** | **MG|B** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of panicle emergence** | | | |  | | --- | | **Époque de l’apparition de la panicule** | | | |  | | --- | | **Zeitpunkt des Rispenschiebens** | | |  | | --- | | **Época de emergencia de las panículas** | |  |  |
|  |  | 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 | Koshihikari | 3 |
|  |  | early to medium | | précoce à moyenne | | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Momiroman | 5 |
|  |  | medium to late | | moyenne à tardive | | mittel bis spät | media a tardía |  | 6 |
|  |  | late | | tardive | | spät | tardía | Leafstar | 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 |
| **13.** |  | **QN** | **MS|B/VG|B** | **(+)** |  | **60-79** | | | |
|  |  | |  | | --- | | **Flag leaf: length of blade** | | | |  | | --- | | **Dernière feuille : longueur du limbe** | | | |  | | --- | | **Fahnenblatt: Länge der Spreite** | | |  | | --- | | **Hoja bandera: longitud del limbo** | |  |  |
|  |  | 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 | Ouukan 383 | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Hinohikari | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Tachiaoba | 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|B/VG|B** | **(+)** |  | **60-79** | | | |
|  |  | |  | | --- | | **Flag leaf: width of blade** | | | |  | | --- | | **Dernière feuille : largeur du limbe** | | | |  | | --- | | **Fahnenblatt: Breite der Spreite** | | |  | | --- | | **Hoja bandera: anchura del limbo** | |  |  |
|  |  | narrow | | étroite | | schmal | estrecha | Ouukan 383 | 1 |
|  |  | narrow to medium | | étroite à moyenne | | schmal bis mittel | estrecha a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Hinohikari | 3 |
|  |  | medium to broad | | moyenne à large | | mittel bis breit | media a ancha |  | 4 |
|  |  | broad | | large | | breit | ancha | Tachiaoba | 5 |
| **15.** |  | **QN** | **VG|B** |  |  | **60-89** | | | |
|  |  | |  | | --- | | **Lemma: pubescence** | | | |  | | --- | | **Glumelle inférieure : pubescence** | | | |  | | --- | | **Deckspelze: Behaarung** | | |  | | --- | | **Lema: pubescencia** | |  |  |
|  |  | absent or very sparse | | absente ou très lâche | | fehlend oder sehr locker | ausente o muy laxa | Leafstar | 1 |
|  |  | sparse | | lâche | | locker | laxa | Murasakikoboshi | 2 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 3 |
|  |  | dense | | dense | | dicht | densa |  | 4 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 5 |
| **16.** | **(\*)** | **PQ** | **VG|B** |  |  | **65** | | | |
|  |  | |  | | --- | | **Stigma: color** | | | |  | | --- | | **Stigmate : couleur** | | | |  | | --- | | **Narbe: Farbe** | | |  | | --- | | **Estigma: color** | |  |  |
|  |  | white | | blanc | | weiß | blanco | Koshihikari | 1 |
|  |  | green | | vert | | grün | verde |  | 2 |
|  |  | yellow | | jaune | | gelb | amarillo |  | 3 |
|  |  | purple | | violet | | purpurn | púrpura | Ouukan 383, Sayomurasaki | 4 |
|  |  | black | | noir | | schwarz | negro | Murasakikoboshi, Shikibumochi | 5 |
| **17.** | **(\*)** | **QN** | **MG|B/MS|B** | **(+)** |  | **70-79** | | | |
|  |  | |  | | --- | | **Stem: length** | | | |  | | --- | | **Tige : longueur** | | | |  | | --- | | **Halm: Länge** | | |  | | --- | | **Tallo: 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 | Takanari | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Hinohikari | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Koshihikari | 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 | Minamiyutaka | 9 |
| **18.** | **(\*)** | **QN** | **VG|B** | **(+)** |  | **70-79** | | | |
|  |  | |  | | --- | | **Stem: thickness** | | | |  | | --- | | **Tige : épaisseur** | | | |  | | --- | | **Halm: Dicke** | | |  | | --- | | **Tallo: grosor** | |  |  |
|  |  | very thin | | très fine | | sehr dünn | muy delgado |  | 1 |
|  |  | very thin to thin | | très fine à fine | | sehr dünn bis dünn | muy delgado a delgado |  | 2 |
|  |  | thin | | fine | | dünn | delgado | Murasakikoboshi | 3 |
|  |  | thin to medium | | fine à moyenne | | dünn bis mittel | delgado a medio |  | 4 |
|  |  | medium | | moyenne | | mittel | medio | Hinohikari, Koshihikari | 5 |
|  |  | medium to thick | | moyenne à épaisse | | mittel bis dick | medio a grueso |  | 6 |
|  |  | thick | | épaisse | | dick | grueso | Hoshiyutaka, Momiroman | 7 |
|  |  | thick to very thick | | épaisse à très épaisse | | dick bis sehr dick | grueso a muy grueso |  | 8 |
|  |  | very thick | | très épaisse | | sehr dick | muy grueso |  | 9 |
| **19.** |  | **QN** | **VG|B** |  |  | **70-79** | | | |
|  |  | |  | | --- | | **Stem: anthocyanin coloration of nodes** | | | |  | | --- | | **Tige : pigmentation anthocyanique des nœuds** | | | |  | | --- | | **Halm: Anthocyanfärbung der Knoten** | | |  | | --- | | **Tallo: pigmentación antociánica de los nudos** | |  |  |
|  |  | absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Koshihikari | 1 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Sayomurasaki | 3 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 4 |
|  |  | strong | | forte | | stark | fuerte | Murasakikoboshi | 5 |
| **20.** |  | **QN** | **VG|B** |  |  | **70-79** | | | |
|  |  | |  | | --- | | **Stem: anthocyanin coloration of internodes** | | | |  | | --- | | **Tige : pigmentation anthocyanique des entrenœuds** | | | |  | | --- | | **Halm: Anthocyanfärbung der Internodien** | | |  | | --- | | **Tallo: pigmentación antociánica de los entrenudos** | |  |  |
|  |  | absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Koshihikari | 1 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media |  | 3 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 4 |
|  |  | strong | | forte | | stark | fuerte | Shikibumochi | 5 |
| **21.** |  | **QN** | **MS|B** |  |  | **70-79** | | | |
|  |  | |  | | --- | | **Plant: number of panicles** | | | |  | | --- | | **Plante : nombre de panicules** | | | |  | | --- | | **Pflanze: Anzahl Rispen** | | |  | | --- | | **Planta: número de panículas** | |  |  |
|  |  | very few | | très petit | | sehr wenige | muy bajo |  | 1 |
|  |  | very few to few | | très petit à petit | | sehr wenige bis wenige | muy bajo a bajo |  | 2 |
|  |  | few | | petit | | wenige | bajo | Momiroman, Takanari | 3 |
|  |  | few to medium | | petit à moyen | | wenige bis mittel | bajo a medio |  | 4 |
|  |  | medium | | moyen | | mittel | medio | Koshihikari | 5 |
|  |  | medium to many | | moyen à grand | | mittel bis viele | medio a alto |  | 6 |
|  |  | many | | grand | | viele | alto | Ouukan 383 | 7 |
|  |  | many to very many | | grand à très grand | | viele bis sehr viele | alto a muy alto |  | 8 |
|  |  | very many | | très grand | | sehr viele | muy alto |  | 9 |
| **22.** | **(\*)** | **QN** | **VG|B** |  |  | **70-89** | | | |
|  |  | |  | | --- | | **Panicle: distribution of awns** | | | |  | | --- | | **Panicule : répartition des arêtes** | | | |  | | --- | | **Rispe: Verteilung der Begrannung** | | |  | | --- | | **Panícula: distribución de las aristas** | |  |  |
|  |  | absent | | absente | | fehlend | ausentes | Momiroman, Onari | 1 |
|  |  | apical quarter | | quart apical | | am apikalen Viertel | en el cuarto apical | Sari queen | 2 |
|  |  | upper half | | moitié supérieure | | in der oberen Hälfte | en la mitad superior |  | 3 |
|  |  | upper three quarters | | trois-quarts supérieurs | | an den oberen drei Vierteln | en los tres cuartos superiores | Beniroman | 4 |
|  |  | whole length | | longueur totale | | auf der ganzen Länge | en toda la longitud | Saikaikan 246 | 5 |
| **23.** |  | **QN** | **VG|B** | **(+)** |  | **70-89** | | | |
|  |  | |  | | --- | | **Awns: length** | | | |  | | --- | | **Arêtes : longueur** | | | |  | | --- | | **Grannen: Länge** | | |  | | --- | | **Arista: longitud** | |  |  |
|  |  | very short | | très courte | | sehr kurz | muy corta | Hinohikari | 1 |
|  |  | short | | courte | | kurz | corta | Koshihikari | 2 |
|  |  | medium | | moyenne | | mittel | media | Benizomemochi, Leafstar | 3 |
|  |  | long | | longue | | lang | larga | Saikaikan 246 | 4 |
|  |  | very long | | très longue | | sehr lang | muy larga |  | 5 |
| **24.** | **(\*)** | **QN** | **MS|B** | **(+)** |  | **72-92** | | | |
|  |  | |  | | --- | | **Panicle: length** | | | |  | | --- | | **Panicule : longueur** | | | |  | | --- | | **Rispe: Länge** | | |  | | --- | | **Panícula: 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 | Shikibumochi | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari, Leafstar | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Momiroman | 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 |
| **25.** | **(\*)** | **PQ** | **VG|B** |  |  | **80-92** | | | |
|  |  | |  | | --- | | **Lemma: color of tip** | | | |  | | --- | | **Glumelle inférieure : couleur du sommet** | | | |  | | --- | | **Deckspelze: Farbe der Spitze** | | |  | | --- | | **Lema: color del ápice** | |  |  |
|  |  | white | | blanc | | weiß | blanco | Koshihikari | 1 |
|  |  | yellowish | | jaunâtre | | gelblich | amarillento |  | 2 |
|  |  | red | | rouge | | rot | rojo | Minamiyutaka | 3 |
|  |  | purple | | violet | | purpurn | púrpura | Murasakikoboshi, Sayomurasaki | 4 |
|  |  | brown | | brun | | braun | marrón | Koshinokaori, Leafstar | 5 |
|  |  | black | | noir | | schwarz | negro |  | 6 |
| **26.** | **(\*)** | **QN** | **VG|B** | **(+)** |  | **80-92** | | | |
|  |  | |  | | --- | | **Flag leaf: attitude of blade** | | | |  | | --- | | **Dernière feuille : port du limbe** | | | |  | | --- | | **Fahnenblatt: Haltung der Spreite** | | |  | | --- | | **Hoja bandera: porte del limbo** | |  |  |
|  |  | erect | | dressé | | aufrecht | erecto | Leafstar, Minamiyutaka | 1 |
|  |  | erect to semi-erect | | dressé à demi-dressé | | aufrecht bis halbaufrecht | erecto a semierecto |  | 2 |
|  |  | semi-erect | | demi-dressé | | halbaufrecht | semierecto | Momiroman, Onari | 3 |
|  |  | semi-erect to horizontal | | demi-dressé à horizontal | | halbaufrecht bis waagerecht | semierecto a horizontal |  | 4 |
|  |  | horizontal | | horizontal | | waagerecht | horizontal | Murasakikoboshi, Ouukan 383 | 5 |
|  |  | horizontal to moderately reflexed | | horizontal à modérément réfléchi | | waagerecht bis mäßig zurückgebogen | horizontal a moderadamente reflejo |  | 6 |
|  |  | moderately reflexed | | modérément réfléchi | | mäßig zurückgebogen | moderadamente reflejo |  | 7 |
|  |  | moderately reflexed to strongly reflexed | | modérément réfléchi à fortement réfléchi | | mäßig zurückgebogen bis stark zurückgebogen | moderadamente reflejo a muy reflejo |  | 8 |
|  |  | strongly reflexed | | fortement réfléchi | | stark zurückgebogen | muy reflejo |  | 9 |
| **27.** |  | **QN** | **VG|B** |  |  | **90-92** | | | |
|  |  | |  | | --- | | **Panicle: density** | | | |  | | --- | | **Panicule : densité** | | | |  | | --- | | **Rispe: Dichte** | | |  | | --- | | **Panícula: densidad** | |  |  |
|  |  | very lax | | très lâche | | sehr locker | muy laxa |  | 1 |
|  |  | very lax to lax | | très lâche à lâche | | sehr locker bis locker | muy laxa a laxa |  | 2 |
|  |  | lax | | lâche | | locker | laxa |  | 3 |
|  |  | lax to medium | | lâche à moyenne | | locker bis mittel | laxa a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 5 |
|  |  | medium to dense | | moyenne à dense | | mittel bis dicht | media a densa |  | 6 |
|  |  | dense | | dense | | dicht | densa | Hoshiyutaka, Takanari | 7 |
|  |  | dense to very dense | | dense à très dense | | dicht bis sehr dicht | densa a muy densa |  | 8 |
|  |  | very dense | | très dense | | sehr dicht | muy densa |  | 9 |
| **28.** | **(\*)** | **QN** | **VG|B** | **(+)** |  | **90-92** | | | |
|  |  | |  | | --- | | **Panicle: attitude** | | | |  | | --- | | **Panicule : port** | | | |  | | --- | | **Rispe: Haltung** | | |  | | --- | | **Panícula: porte** | |  |  |
|  |  | erect | | dressé | | aufrecht | erecto | Akaneasobi | 1 |
|  |  | semi-erect | | demi-dressé | | halbaufrecht | semierecto | Ouukan 383 | 2 |
|  |  | semi-drooping | | demi-retombant | | halbüberhängend | semicolgante | Koshihikari | 3 |
|  |  | drooping | | retombant | | überhängend | colgante |  | 4 |
| **29.** | **(\*)** | **QN** | **VG|B** | **(+)** |  | **90-92** | | | |
|  |  | |  | | --- | | **Panicle: attitude of branches** | | | |  | | --- | | **Panicule : port des ramifications** | | | |  | | --- | | **Rispe: Stellung der Seitenäste** | | |  | | --- | | **Panícula: porte de las ramificaciones** | |  |  |
|  |  | adpressed | | appliqué | | anliegend | adpreso | Habataki | 1 |
|  |  | adpressed to erect | | appliqué à dressé | | anliegend bis aufrecht | adpreso a erecto |  | 2 |
|  |  | erect | | dressé | | aufrecht | erecto | Murasakikoboshi | 3 |
|  |  | erect to semi-erect | | dressé à demi-dressé | | aufrecht bis halbaufrecht | erecto a semierecto |  | 4 |
|  |  | semi-erect | | demi-dressé | | halbaufrecht | semierecto |  | 5 |
| **30.** |  | **QN** | **VG|B** | **(+)** |  | **90-92** | | | |
|  |  | |  | | --- | | **Panicle: number of secondary branches** | | | |  | | --- | | **Panicule : nombre de ramifications secondaires** | | | |  | | --- | | **Rispe: Anzahl sekundäre Seitenäste** | | |  | | --- | | **Panícula: número de ramificaciones secundarias** | |  |  |
|  |  | absent or few | | nul ou très petit | | fehlend oder wenige | ausente o bajo |  | 1 |
|  |  | medium | | moyen | | mittel | medio | Koshihikari | 2 |
|  |  | many | | grand | | viele | alto | Takanari | 3 |
| **31.** |  | **QN** | **VG|B** | **(+)** |  | **90-92** | | | |
|  |  | |  | | --- | | **Panicle: exsertion** | | | |  | | --- | | **Panicule : déploiement** | | | |  | | --- | | **Rispe: Hervorstehen** | | |  | | --- | | **Panícula: exerción** | |  |  |
|  |  | enclosed | | inclus | | eingeschlossen | envuelta |  | 1 |
|  |  | partly exserted | | partiellement saillant | | teilweise hervorstehend | parcialmente exerta | Tachisuzuka | 2 |
|  |  | just exserted | | tout juste saillant | | gerade noch hervorstehend | apenas exerta | Minamiyutaka | 3 |
|  |  | well exserted | | bien saillant | | deutlich hervorstehend | muy exerta | Koshihikari | 4 |
| **32.** | **(\*)** | **QN** | **MG|B** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of maturity** | | | |  | | --- | | **Époque de maturité** | | | |  | | --- | | **Zeitpunkt der Reife** | | |  | | --- | | **Época de madurez** | |  |  |
|  |  | 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 | Koshihikari | 3 |
|  |  | early to medium | | précoce à moyenne | | früh bis mittel | temprana a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Asahinoyume | 5 |
|  |  | medium to late | | moyenne à tardive | | mittel bis spät | media a tardía |  | 6 |
|  |  | late | | tardive | | spät | tardía | Leafstar | 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 |
| **33.** |  | **QN** | **MG|B** | **(+)** |  | **90** | | | |
|  |  | |  | | --- | | **Time of senescence** | | | |  | | --- | | **Époque de sénescence** | | | |  | | --- | | **Zeitpunkt des Absterbens** | | |  | | --- | | **Época de senescencia** | |  |  |
|  |  | early | | précoce | | früh | temprana | Onari | 1 |
|  |  | medium | | moyenne | | mittel | intermedia | Salt star | 2 |
|  |  | late | | tardive | | spät | tardía | Koshihikari | 3 |
| **34.** | **(\*)** | **PQ** | **VG|B** |  |  | **92** | | | |
|  |  | |  | | --- | | **Lemma: color** | | | |  | | --- | | **Glumelle inférieure : couleur** | | | |  | | --- | | **Deckspelze: Farbe** | | |  | | --- | | **Lema: color** | |  |  |
|  |  | white | | blanc | | weiß | blanca | Koshihikari | 1 |
|  |  | yellowish | | jaunâtre | | gelblich | amarillento | Leafstar | 2 |
|  |  | red | | rouge | | rot | rojo |  | 3 |
|  |  | purple | | violet | | purpurn | púrpura | Ouukan 383, Satsumakuromochi | 4 |
|  |  | brown | | brun | | braun | marrón | Beniasobi | 5 |
|  |  | black | | noir | | schwarz | negro |  | 6 |
| **35.** |  | **QN** | **VG|A** | **(+)** |  | **92** | | | |
|  |  | |  | | --- | | **Lemma: coloration with phenol** | | | |  | | --- | | **Glumelle inférieure : coloration au phénol** | | | |  | | --- | | **Deckspelze: Phenolfärbung** | | |  | | --- | | **Lema: coloración con fenol** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Koshihikari, Momiroman | 1 |
|  |  | very weak to weak | | très faible à faible | | sehr gering bis gering | muy débil a débil |  | 2 |
|  |  | weak | | faible | | gering | débil |  | 3 |
|  |  | weak to medium | | faible à moyenne | | gering bis mittel | débil a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Onari, Salt star | 5 |
|  |  | medium to strong | | moyenne à forte | | mittel bis stark | media a fuerte |  | 6 |
|  |  | strong | | forte | | stark | fuerte | Ruriaoba | 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 |
| **36.** |  | **QN** | **VG|B** | **(+)** |  | **92** | | | |
|  |  | |  | | --- | | **Glume: length** | | | |  | | --- | | **Glume : longueur** | | | |  | | --- | | **Hüllspelze: Länge** | | |  | | --- | | **Gluma: longitud** | |  |  |
|  |  | short | | courte | | kurz | corta | Ruriaoba | 1 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 2 |
|  |  | long | | longue | | lang | larga |  | 3 |
| **37.** |  | **PQ** | **VG|B** |  |  | **92** | | | |
|  |  | |  | | --- | | **Glume: color** | | | |  | | --- | | **Glume : couleur** | | | |  | | --- | | **Hüllspelze: Farbe** | | |  | | --- | | **Gluma: color** | |  |  |
|  |  | white | | blanc | | weiß | blanco | Koshihikari | 1 |
|  |  | yellowish | | jaunâtre | | gelblich | amarillento |  | 2 |
|  |  | red | | rouge | | rot | rojo |  | 3 |
|  |  | purple | | violet | | purpurn | púrpura | Beniasobi, Ouukan 383 | 4 |
|  |  | brown | | brun | | braun | marrón |  | 5 |
|  |  | black | | noir | | schwarz | negro |  | 6 |
| **38.** | **(\*)** | **QN** | **MG|A** | **(+)** | **(b)** | **92** | | | |
|  |  | |  | | --- | | **1000 seed weight** | | | |  | | --- | | **Poids de 1000 grains** | | | |  | | --- | | **Tausendkorngewicht** | | |  | | --- | | **Peso de 1000 semillas** | |  |  |
|  |  | very low | | très petit | | sehr niedrig | muy bajo |  | 1 |
|  |  | very low to low | | très petit à petit | | sehr niedrig bis niedrig | muy bajo a bajo |  | 2 |
|  |  | low | | petit | | niedrig | bajo | Beniasobi, Sari queen | 3 |
|  |  | low to medium | | petit à moyen | | niedrig bis mittel | bajo a medio |  | 4 |
|  |  | medium | | moyen | | mittel | medio | Koshihikari, Takanari | 5 |
|  |  | medium to high | | moyen à grand | | mittel bis hoch | medio a alto |  | 6 |
|  |  | high | | grand | | hoch | alto | Momiroman | 7 |
|  |  | high to very high | | grand à très grand | | hoch bis sehr hoch | alto a muy alto |  | 8 |
|  |  | very high | | très grand | | sehr hoch | muy alto |  | 9 |
| **39.** | **(\*)** | **QN** | **MS|A** |  | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: length** | | | |  | | --- | | **Grain : longueur** | | | |  | | --- | | **Korn: Länge** | | |  | | --- | | **Grano: 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 | Murasakikoboshi | 3 |
|  |  | short to medium | | courte à moyenne | | kurz bis mittel | corta a media |  | 4 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 5 |
|  |  | medium to long | | moyenne à longue | | mittel bis lang | media a larga |  | 6 |
|  |  | long | | longue | | lang | larga | Hoshiyutaka, Leafstar | 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 |
| **40.** | **(\*)** | **QN** | **MS|A** |  | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: width** | | | |  | | --- | | **Grain : largeur** | | | |  | | --- | | **Korn: Breite** | | |  | | --- | | **Grano: anchura** | |  |  |
|  |  | narrow | | étroite | | schmal | estrecha | Hoshiyutaka, Leafstar | 1 |
|  |  | narrow to medium | | étroite à moyenne | | schmal bis mittel | estrecha a media |  | 2 |
|  |  | medium | | moyenne | | mittel | media | Koshihikari | 3 |
|  |  | medium to broad | | moyenne à large | | mittel bis breit | media a ancha |  | 4 |
|  |  | broad | | large | | breit | ancha |  | 5 |
| **41.** | **(\*)** | **QN** | **MS|A** | **(+)** | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: ratio length/width** | | | |  | | --- | | **Grain : rapport longueur/largeur** | | | |  | | --- | | **Korn: Verhältnis Länge/Breite** | | |  | | --- | | **Grano: relación longitud/anchura** | |  |  |
|  |  | low | | bas | | klein | baja | Akaneasobi | 1 |
|  |  | low to medium | | bas à moyen | | klein bis mittel | baja a media | Koshihikari | 2 |
|  |  | medium | | moyen | | mittel | media | Hoshiyutaka, Leafstar | 3 |
|  |  | medium to high | | moyen à élevé | | mittel bis groß | media a alta |  | 4 |
|  |  | high | | élevé | | groß | alta |  | 5 |
| **42.** | **(\*)** | **PQ** | **VG|A** |  | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: color** | | | |  | | --- | | **Grain : couleur** | | | |  | | --- | | **Korn: Farbe** | | |  | | --- | | **Grano: color** | |  |  |
|  |  | white | | blanc | | weiß | blanco | Ruriaoba | 1 |
|  |  | red | | rouge | | rot | rojo | Benizomemochi | 2 |
|  |  | brown red | | rouge-brun | | braunrot | rojo amarronado | Beniroman | 3 |
|  |  | purple | | violet | | purpurn | púrpura |  | 4 |
|  |  | light brown | | brun clair | | hellbraun | marrón claro | Koshihikari, Takanari | 5 |
|  |  | dark brown | | brun foncé | | dunkelbraun | marrón oscuro | Leafstar | 6 |
|  |  | black | | noir | | schwarz | negro | Murasakikoboshi, Sayomurasaki | 7 |
| **43.** |  | **QN** | **MG|A** | **(+)** | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: alkali digestion** | | | |  | | --- | | **Grain : digestion par des alcalins** | | | |  | | --- | | **Korn: Zersetzung durch Alkali** | | |  | | --- | | **Grano: digestión alcalina** | |  |  |
|  |  | absent or very weak | | absente ou très faible | | fehlend oder sehr gering | ausente o muy débil | Koshinokaori | 1 |
|  |  | weak | | faible | | gering | débil | Murasakikoboshi, Ouukan 383 | 2 |
|  |  | moderate | | modérée | | mäßig | moderada | Salt star | 3 |
|  |  | strong | | forte | | stark | fuerte | Koshihikari | 4 |
| **44.** | **(\*)** | **QN** | **VG|A** | **(+)** | **(b)** | **92** | | | |
|  |  | |  | | --- | | **Grain: aroma** | | | |  | | --- | | **Grain : arôme** | | | |  | | --- | | **Korn: Aroma** | | |  | | --- | | **Grano: aroma** | |  |  |
|  |  | absent or weak | | absent ou faible | | fehlend oder gering | ausente o débil | Koshihikari | 1 |
|  |  | medium | | moyen | | mittel | medio | Sari queen | 2 |
|  |  | strong | | fort | | stark | fuerte |  | 3 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | 8. | Explanations on the Table of Characteristics | | | |  | | | | | *8.1* | *Explanations covering several characteristics* | | | |  | |  | | --- | |  | | | | |  |  |  |  | |  | Characteristics containing the following key in the Table of Characteristics should be examined as indicated below: | | | |  | | | | | |  | | --- | | (a) | | |  | | --- | | Observations should be made on the penultimate leaf. | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | Observations should be made after removal of husks. | | | | |  |  |  |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | |  | | | |  | | --- | | Ad. 1: Endosperm: type  The three states of expression can be simply defined by reaction to KI-I solution which is prepared by mixing 0.1% I2 solution and 0.2% KI solution.  1 - glutinous: endosperm is stained reddish purple.  2 - intermediate: endosperm is stained reddish blue purple.  3 - non-glutinous: endosperm is stained dark blue purple. | | | | |  | | --- | | Ad. 2: Endosperm: content of amylose  The amylose content of endosperm should be determined using the iodine color reaction according to ISO 6647.  The absorbance of the amylose-iodine complex of endosperm starch formed by the iodine color reaction should be measured using a spectrophotometer.  The amylose mass fraction of the sample should be read from a calibration graph, which is prepared using mixtures of potato amylose and amylopectin to allow for the effect of amylopectin on the color of the amylose-iodine complex. | | | | |  | | --- | | Ad. 3: Coleoptile: anthocyanin coloration  Non-dormant grains are placed on moistened filter paper and covered with a petri-dish lid during germination. After the coleoptiles have reached a length of about 5mm in darkness they are placed in artificial light (daylight equivalent) at 750-1250 lux continuously for 3 to 4 days, at a temperature of 25 to 30 degrees. The color of the coleoptiles is observed when they are fully developed at stage 09-11 (about 6 to 7 days). | | | | |  |  |  | | --- | --- | --- | | Ad. 4: Plant: growth habit   |  |  | | --- | --- | | wordml://76.png | 1 = erect    3 = semi-erect    5 = intermediate    7 = semi-prostrate    9 = prostrate | | | | | |  | | --- | | Ad. 9: Leaf blade: pubescence  Observations should be made on the upper side of the blade. | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 10: Ligule: shape     |  |  |  | | --- | --- | --- | | wordml://77.png | wordml://78.png | wordml://79.png | | 1 | 2 | 3 | | truncate | acute | lobed | | | | |  | | --- | | Ad. 12: Time of panicle emergence  Time of panicle emergence is reached when the first spikelet is visible on 50% of panicles. | | | |  | | --- | | Ad. 13: Flag leaf: length of blade  Length and width should be assessed on the same leaf blade. Length should be measured from the tip to the base. Width should be measured at the widest part. | | | |  | | --- | | Ad. 14: Flag leaf: width of blade  See Ad. 13 | | | |  | | --- | | Ad. 17: Stem: length  Measurements should be made from the base of the plant to the base of the panicle on the longest stem, excluding deep water rice. | | | |  | | --- | | Ad. 18: Stem: thickness  Observations should be made at the basal internode of the longest stem. | | | |  | | --- | | Ad. 23: Awns: length  Observations should be made on the longest awn in the panicle. | | |

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| |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | Ad. 24: Panicle: length  Length of panicle should be observed from panicle base to the top excluding awns.   |  |  | | --- | --- | | wordml://80.png | wordml://81.png |    a = Length   b = Panicle base | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 26: Flag leaf: attitude of blade     |  |  |  |  |  | | --- | --- | --- | --- | --- | | wordml://82.png | wordml://83.png | wordml://84.png | wordml://85.png | wordml://86.png | | 1 | 3 | 5 | 7 | 9 | | erect | semi-erect | horizontal | moderately reflexed | strongly reflexed | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ad. 28: Panicle: attitude   |  |  |  |  | | --- | --- | --- | --- | | Ad | Ad | Ad | Ad | | 1 | 2 | 3 | 4 | | erect | semi-erect | semi-drooping | drooping |   a = Panicle base | | |

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| |  |  | | --- | --- | | |  | | --- | | Ad. 43: Grain: alkali digestion  Observations should be made on unbroken grains. Place grains in a petri dish with 1.5% solution of KOH, keep still and at a temperature of around 25°C for approximately 24 hours.  1 - absent or very weak: Rice grains are not affected.  2 - weak: Only the margins of the grains are dissolved.  3 - moderate: Shape of grains become unclear, but incompletely dissolved.  4 - strong: No margin is identified between the core part and the outer skirt. | | | |  | | --- | | Ad. 44: Grain: aroma  The main component of the aroma in rice is the 2-acetyl-1-pirroline (AcPy). To vaporize this chemical, 10ml of a 1.7% solution of KOH should be added to 2g of decorticated grains. The aroma, which is similar to that in popcorn, is released within 10 minutes. The level of expression is determined by reference to the example varieties. | | |

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             Germination

00          Dry seed

01          Start of imbibition

02          -

03          Imbibition complete

04          -

05          Radicle emerged from caryopsis

06          -

07          Coleoptile emerged from caryopsis

08          -

09          Leaf just at coleoptile tip

              Seedling growth

10          First leaf through coleoptile

11          First leaf unfolded

12          2 leaves unfolded

13          3 leaves unfolded

14          4 leaves unfolded

15          5 leaves unfolded

16          6 leaves unfolded

17          7 leaves unfolded

18          8 leaves unfolded

19          9 or more leaves unfolded

              Germination

20          Main shoot only

21          Main shoot and 1 tiller

22          Main shoot and 2 tillers

23          Main shoot and 3 tillers

24          Main shoot and 4 tillers

25          Main shoot and 5 tillers

26          Main shoot and 6 tillers

27          Main shoot and 7 tillers

28          Main shoot and 8 tillers

29          Main shoot and 9 or more tillers

              Stem elongation

30          Pseudo stem erection(1)

31          1st node detectable

32          2nd node detectable

33          3rd node detectable

34          4th node detectable

35          5th node detectable

36          6th node detectable

37          Flag leaf just visible

38          -

39          Flag leaf ligule/collar just visible

              Booting

40          -

41          Flag leaf sheath extending

42          -

43          Boots just visibly swollen

44          -

45          Boots swollen

46          -

47          Flag leaf sheath opening

48          -

49          First awns visible

             Inflorescence emergence

50          -

51          First spikelet of inflorescence just visible

52          20% of inflorescence emerged

53          30% of inflorescence emerged

54          40% of inflorescence emerged

55          50% of inflorescence emerged

56          60% of inflorescence emerged

57          70% of inflorescence emerged

58          80% of inflorescence emerged

59          Emergence of inflorescence completed

             Anthesis

60          -

61          Beginning of anthesis

62          -

63          -

64          -

65          Anthesis half-way

66          -

67          -

68          -

69          Anthesis complete

             Milk development

70          -

71          Caryopsis watery ripe

72          -

73          Early milk

74          -

75          Medium milk

76          -

77          Late milk

78          -

79          -

             Dough development

80          -

81          -

82          -

83          Early dough

84          -

85          Soft dough

86          -

87          Hard dough

88          -

89          -

              Ripening

90          -

91          Caryopsis hard (difficult to divide by thumbnail) (2)

92          Caryopsis hard (can no longer be dented by thumbnail) (3) (4)

93          Caryopsis loosening in daytime

94          Over-ripe, straw dead and collapsing

             Ripening (continued)

95          Seed dormant

96          Viable seed giving 50% germination

97          Seed not dormant

98          Secondary dormancy induced

99          Secondary dormancy lost

Notes on the table

(1) Only applicable to cereals with a prostrate or semi-prostrate early growth habit.

(2) Ripeness for binder (ca. 16% water content). Chlorophyll of inflorescence largely lost.

(3) Ripeness for combine harvester (<16% water content).

(4) Optimum harvest time.

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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | 9. | Literature | | |  |  |  | | --- | | Matsuo, T. (edit.), 1993-97: Science of the Rice Plant. Nosan Gyoson Bunka Kyokai. Tokyo, JP  Vol. 1   Morphology (1993)  Vol. 2   Physiology (1995)  Vol. 3   Genetics (1997)  Zadoks, J.C., Chang, T.T., Konzak, C.F., 1974: A Decimal code for the Growth Stages of Cereals. Weed Research. NL, 14: pp. 415 – 421. | | |

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| |  |  | | --- | --- | | 10. | Technical Questionnaire | |
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| |  |  |  | | --- | --- | --- | | TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
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| |  |  | | --- | --- | |  | Application date: (not to be filled in by the applicant) | | TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights | | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 1. | Subject of the Technical Questionnaire | | | | |  |  |  |  |  | |  | |  | | --- | | 1.1 | | Botanical name | |  | | --- | | *Oryza sativa* L. | | |  | | --- | |  | | |  |  |  |  |  | |  | |  | | --- | | 1.2 | | Common name | |  | | --- | | Rice | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 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 | | |  | | --- | | Seed-propagated varieties | |  | | |  | | --- | | (a) | | |  | | --- | | Self-pollination | | [ ] | | |  | | --- | | (b) | | |  | | --- | | Hybrid | | [ ] | | |  | | --- | | (c) | | |  | | --- | | Other (please provide details) | | [ ] | |  |  |  | |  |  |  | |  |  |  | | |  | | --- | | 4.2.2 | | Other (Please provide details) | [ ] | |  |  |  | |  |  |  | |  |  |  | | | |

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| |  |  |  |  | | --- | --- | --- | --- | | 5. | Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds). | | | |  |  |  |  | |

|  | Characteristics | Example Varieties | Note |
| --- | --- | --- | --- |
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| |  | | --- | | **5.1** |  |  | | --- | | **(1)** | | |  | | --- | | **Endosperm: type** | |  |  |
|  | |  | | --- | | glutinous | | |  | | --- | | Ruriaoba, Sayomurasaki | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | intermediate | | |  | | --- | | Milky Summer | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | non-glutinous | | |  | | --- | | Koshihikari, Takanari | | |  | | --- | | 3 [   ] | |
|  |  |  |  |
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| |  | | --- | | **5.2** |  |  | | --- | | **(8)** | | |  | | --- | | **Leaf blade: anthocyanin coloration** | |  |  |
|  | |  | | --- | | absent or weak | | |  | | --- | | Koshihikari | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | weak to medium | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Akaneasobi | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium to strong | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
|  |  |  |  |
|  |  |  |  |
| |  | | --- | | **5.3** |  |  | | --- | | **(12)** | | |  | | --- | | **Time of panicle emergence** | |  |  |
|  | |  | | --- | | very early | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very early to early | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | early | | |  | | --- | | Koshihikari | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | early to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Momiroman | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to late | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | late | | |  | | --- | | Leafstar | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | late to very late | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very late | | |  | | --- | |  | | |  | | --- | | 9 [   ] | |
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| |  | | --- | | **5.4** |  |  | | --- | | **(17)** | | |  | | --- | | **Stem: length** | |  |  |
|  | |  | | --- | | very short | | |  | | --- | |  | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | very short to short | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | short | | |  | | --- | | Takanari | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | short to medium | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Hinohikari | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | medium to long | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
|  | |  | | --- | | long | | |  | | --- | | Koshihikari | | |  | | --- | | 7 [   ] | |
|  | |  | | --- | | long to very long | | |  | | --- | |  | | |  | | --- | | 8 [   ] | |
|  | |  | | --- | | very long | | |  | | --- | | Minamiyutaka | | |  | | --- | | 9 [   ] | |
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| |  |  |  | | --- | --- | --- | | TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | | | | | |
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|  | | Characteristics | Example Varieties | Note |
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| |  | | --- | | **5.5** |  |  | | --- | | **(25)** | | | |  | | --- | | **Lemma: color of tip** | |  |  |
|  | | |  | | --- | | white | | |  | | --- | | Koshihikari | | |  | | --- | | 1 [   ] | |
|  | | |  | | --- | | yellowish | | |  | | --- | |  | | |  | | --- | | 2 [   ] | |
|  | | |  | | --- | | red | | |  | | --- | | Minamiyutaka | | |  | | --- | | 3 [   ] | |
|  | | |  | | --- | | purple | | |  | | --- | | Murasakikoboshi, Sayomurasaki | | |  | | --- | | 4 [   ] | |
|  | | |  | | --- | | brown | | |  | | --- | | Koshinokaori, Leafstar | | |  | | --- | | 5 [   ] | |
|  | | |  | | --- | | black | | |  | | --- | |  | | |  | | --- | | 6 [   ] | |
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| |  | | --- | | **5.6** |  |  | | --- | | **(41)** | | | |  | | --- | | **Grain: ratio length/width** | |  |  |
|  | | |  | | --- | | low | | |  | | --- | | Akaneasobi | | |  | | --- | | 1 [   ] | |
|  | | |  | | --- | | low to medium | | |  | | --- | | Koshihikari | | |  | | --- | | 2 [   ] | |
|  | | |  | | --- | | medium | | |  | | --- | | Hoshiyutaka, Leafstar | | |  | | --- | | 3 [   ] | |
|  | | |  | | --- | | medium to high | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | | |  | | --- | | high | | |  | | --- | |  | | |  | | --- | | 5 [   ] | |
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| |  | | --- | | **5.7** |  |  | | --- | | **(42)** | | | |  | | --- | | **Grain: color** | |  |  |
|  | | |  | | --- | | white | | |  | | --- | | Ruriaoba | | |  | | --- | | 1 [   ] | |
|  | | |  | | --- | | red | | |  | | --- | | Benizomemochi | | |  | | --- | | 2 [   ] | |
|  | | |  | | --- | | brown red | | |  | | --- | | Beniroman | | |  | | --- | | 3 [   ] | |
|  | | |  | | --- | | purple | | |  | | --- | |  | | |  | | --- | | 4 [   ] | |
|  | | |  | | --- | | light brown | | |  | | --- | | Koshihikari, Takanari | | |  | | --- | | 5 [   ] | |
|  | | |  | | --- | | dark brown | | |  | | --- | | Leafstar | | |  | | --- | | 6 [   ] | |
|  | | |  | | --- | | black | | |  | | --- | | Murasakikoboshi, Sayomurasaki | | |  | | --- | | 7 [   ] | |
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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* | |  | | --- | | *Panicle: length* | | |  | | --- | | *long* | | |  | | --- | | *short to medium* | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | 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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