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| |  |  |  | | --- | --- | --- | |  |  | **E** | |  |  |  | |  | wordml://75.png | |  | | --- | | **TG/224/2(proj.1)** | | **ORIGINAL:** English | | **DATE:** 2017-05-05 | | | **INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS** | | | |  | Geneva |  | |  | |  |  |  | | --- | --- | --- | |  |  |  | |  | DRAFT |  | |  |  |  | |  | |  |  |  | |  | |  | | --- | |  | | **GINSENG** | |  | | |  | | --- | |  | | |  | | --- | | UPOV Code(s): PANAX\_GIN | | |  | | |  | | |  |  | | --- | --- | | |  | | --- | | *Panax ginseng* C.A. Mey. | | | |  | | |  | | --- | | \* | | |  |  |  | | |  | | --- | | **GUIDELINES** | |  | | **FOR THE CONDUCT OF TESTS** | |  | | **FOR DISTINCTNESS, UNIFORMITY AND STABILITY** | | | | |  |  |  | | |  | | --- | | *prepared by experts from the Republic of Korea* | | *to be considered by the* | | |  | | --- | | *Technical Working Party for Agricultural Crops* | | | *at its forty-sixth session, to be held in Hanover, Germany,* | | |  | | --- | | *from 2017-06-19 to 2017-06-23* | | | | | |  |  |  | | *Disclaimer: this document does not represent UPOV policies or guidance* | | | |  |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | Alternative names:\* | | | | | | |  | | | | | | *Botanical name* | *English* | *French* | *German* | *Spanish* | | |  | | --- | | *Panax ginseng* C.A. Mey. | | |  | | --- | | Ginseng | | |  | | --- | | Ginseng | | |  | | --- | | Ginseng | | |  | | --- | | Ginseng | | |  |  |  |  |  | | | | |  |  |  | | 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. | | | |  |  |  | |

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| **ASSOCIATED DOCUMENTS** |
|  |
| These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents. |

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| |  |  | | --- | --- | | TABLE OF CONTENTS | PAGE | |  |  | | |  |  |  | | --- | --- | --- | | 1. | SUBJECT OF THESE TEST GUIDELINES.......................................................................................................... | [4](#Section1) | |  |  |  | | 2. | MATERIAL REQUIRED......................................................................................................................................... | [4](#Section2) | |  |  |  | | 3. | METHOD OF EXAMINATION................................................................................................................................ | [5](#Section3) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 3.1 | Number of Growing Cycles........................................................................................................................ | [5](#Section3-1) | | 3.2 | Testing Place............................................................................................................................................. | [5](#Section3-2) | | 3.3 | Conditions for Conducting the Examination............................................................................................... | [5](#Section3-3) | | 3.4 | Test Design................................................................................................................................................ | [5](#Section3-4) | | 3.5 | Additional Tests......................................................................................................................................... | [5](#Section3-5) | | | |  |  |  | | 4. | ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY................................................................. | [6](#Section4) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 4.1 | Distinctness............................................................................................................................................... | [6](#Section4-1) | | 4.2 | Uniformity.................................................................................................................................................. | [7](#Section4-2) | | 4.3 | Stability...................................................................................................................................................... | [7](#Section4-3) | | | |  |  |  | | 5. | GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL................................................ | [8](#Section5) | |  |  |  | | 6. | INTRODUCTION TO THE TABLE OF CHARACTERISTICS................................................................................ | [9](#Section6) | |  |  |  | |  | |  |  |  | | --- | --- | --- | | 6.1 | Categories of Characteristics..................................................................................................................... | [9](#Section6-1) | | 6.2 | States of Expression and Corresponding Notes........................................................................................ | [9](#Section6-2) | | 6.3 | Types of Expression.................................................................................................................................. | [9](#Section6-3) | | 6.4 | Example Varieties...................................................................................................................................... | [10](#Section6-4) | | 6.5 | Legend....................................................................................................................................................... | [11](#Section6-5) | | | |  |  |  | | 7. | TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES...................................................................................................................................................... | [12](#Section7) | |  |  |  | | 8. | EXPLANATIONS ON THE TABLE OF CHARACTERISTICS............................................................................... | [20](#Section8) | |  | |  |  |  | | --- | --- | --- | | 8.1 | Explanations covering several characteristics........................................................................................... | [20](#Section8-1) | | |  | | --- | | 8.2 | | Explanations for individual characteristics................................................................................................. | [20](#Section8-2) | | | |  |  |  | | 9. | LITERATURE......................................................................................................................................................... | [20](#Section8-2) | |  |  |  | | 10. | TECHNICAL QUESTIONNAIRE............................................................................................................................ | [38](#Section10) | |  |  |  | |  | |  | | --- | |  | |  | | | |

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| 1. | Subject of these Test Guidelines |
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|  |  |
|  | |  | | --- | | These Test Guidelines apply to all varieties of *Panax ginseng* C.A. Mey. | |

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| 2. | Material Required |
|  |  |
|  |  |
| 2.1 | |  | | --- | | The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with. | |
|  |  |
| 2.2 | |  | | --- | | The material is to be supplied in the form of seed. | |
|  |  |
| 2.3 | |  | | --- | | The minimum quantity of plant material, to be supplied by the applicant, should be: | |
|  |  |
|  | |  | | --- | | 200g or 0.4 liters of seed | |
|  |  |
|  | The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant. |
|  |  |
| 2.4 | |  | | --- | | The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. | |
|  |  |
| 2.5 | |  | | --- | | The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given. | |

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| 3. | Method of Examination |
|  |  |
|  |  |
| *3.1* | *Number of Growing Cycles* |
|  |  |
|  | The minimum duration of tests should normally be a single growing cycle. |
|  |  |
| *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 second column of the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8. |
|  |  |
| |  | | --- | | 3.3.4 | | |  | | --- | | Each test should be designed to result in a total of at least 60 plants, which should be divided between three replicates.    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* | *Test Design* |
|  |  |
| 3.4.1 | |  | | --- | | Each test should be designed to result in a total of at least 60, which should be divided between at least 3 replicates. | |
|  |  |
| |  | | --- | | 3.4.2 | | |  | | --- | | The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle. | |
|  |  |
| |  | | --- | |  |   *3.5* | *Additional Tests* |
|  |  |
|  | Additional tests, for examining relevant characteristics, may be established. |

|  |  |
| --- | --- |
| 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 20 plants or parts of plants taken from each of 20 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 second column of 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 | |  | | --- | | For the assessment of uniformity of self-pollinated varieties, a population standard of 3% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 60 plants, 4 off-types are 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 seed or 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) | |  | |  | | --- | | Stem: intensity of anthocyanin coloration (characteristic 4) | | | |  | | --- | | (b) | |  | |  | | --- | | Petiole : intensity of anthocyanin coloration (characteristic 8) | | | |  | | --- | | (c) | |  | |  | | --- | | Berry: time of maturity (characteristic 24) | | | |  | | --- | | (d) | |  | |  | | --- | | Berry: color (at full maturity) (characteristic 25) | | | |  | | --- | | (e) | |  | |  | | --- | | Main root: width (characteristic 27) | | | |  | | --- | | (f) | |  | |  | | --- | | Main root: length (characteristic 28) | | | |  |  | | --- | --- | | |  | | --- | |  | | | | | |
|  |  |
| 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 | In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows: |
|  |  |
|  | |  |  | | --- | --- | | *State* | *Note* | | small | 3 | | medium | 5 | | large | 7 | |
|  |  |
|  | However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate: |
|  |  |
|  | |  |  | | --- | --- | | *State* | *Note* | | very small | 1 | | very small to small | 2 | | small | 3 | | small to medium | 4 | | medium | 5 | | medium to large | 6 | | large | 7 | | large to very large | 8 | | very large | 9 | |
|  |  |
| 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 | | | | | |

|  |  |
| --- | --- |
| 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** | **MS/VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Plant: lenght of main stem** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Yunpoong | 3 |
|  |  | medium | |  | |  |  | Gumpoong | 5 |
|  |  | long | |  | |  |  | Chunpoong | 7 |
| **2.** |  | **QN** | **MS/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Plant : diameter of stem** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | thin | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | K-1, Chungsun | 5 |
|  |  | thick | |  | |  |  | Sunpoong, Gopoong | 7 |
| **3.** |  | **QN** | **VS** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Stem: rate of plant have more than two stems** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | few | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | Kowon | 5 |
|  |  | many | |  | |  |  | Yunpoong | 7 |
| **4.** | **(\*)** | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Stem: intensity of anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Gumpoong, Chungsun | 1 |
|  |  | weak | |  | |  |  | Yunpoong, Chunpoong, Kowon, Cheonryang | 3 |
|  |  | medium | |  | |  |  | Sunpoong, Sunun | 5 |
|  |  | strong | |  | |  |  | K-1, Gopoong | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **5.** |  | **PQ** | **VG** |  |  |  | | | |
|  |  | |  | | --- | | **Stem: distribution of anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | on lower and upper part | |  | |  |  | Chunpoong | 1 |
|  |  | on upper part only | |  | |  |  |  | 2 |
|  |  | along the whole stem | |  | |  |  |  | 3 |
|  |  | on lower part only | |  | |  |  | Gopoong | 4 |
| **6.** |  | **QN** | **MS/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Stem: number of leaflet per stem** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | few | |  | |  |  |  | 3 |
|  |  | medium | |  | |  |  | Chunpoong | 5 |
|  |  | many | |  | |  |  | Yunpoong, Suwon | 7 |
| **7.** |  | **QN** | **MS** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Petiole: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Cheonryang | 3 |
|  |  | medium | |  | |  |  | Gumpoong | 5 |
|  |  | long | |  | |  |  | Kowon | 7 |
| **8.** |  | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Petiole : intensity of anthocyanin coloration** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very weak | |  | |  |  | Gumpoong, Chungsun | 1 |
|  |  | weak | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | Cheonryang | 5 |
|  |  | strong | |  | |  |  | K-1, Gopoong | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **9.** |  | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Petiole: attitude in relation to peduncle** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | erect | |  | |  |  | Chunpoong | 1 |
|  |  | semi erect | |  | |  |  | Yunpoong | 3 |
|  |  | spreading | |  | |  |  |  | 5 |
| **10.** |  | **QN** | **MS/VG** |  |  |  | | | |
|  |  | |  | | --- | | **Petiolule: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Yunpoong, Chunpoong, Sunhyang | 3 |
|  |  | medium | |  | |  |  | Gumpoong, Cheonryang | 5 |
|  |  | many | |  | |  |  | Sunpoong | 7 |
| **11.** |  | **QN** | **VG** | **(+)** | **(a)** |  | | | |
|  |  | |  | | --- | | **Leaf: number of stipules** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent or very few | |  | |  |  | Chunpoong | 1 |
|  |  | medium | |  | |  |  | Suwon | 3 |
|  |  | many | |  | |  |  | Yunpoong | 5 |
| **12.** |  | **QN** | **VG** |  | **(a)** |  | | | |
|  |  | |  | | --- | | **Leaf: blistering of surface** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | weak | |  | |  |  | K-1 | 3 |
|  |  | medium | |  | |  |  | Gumpoong | 5 |
|  |  | strong | |  | |  |  | Sunun | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **13.** |  | **QN** | **VG** |  | **(a)** |  | | | |
|  |  | |  | | --- | | **Leaf: intensity of green color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | light | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | Yunpoong | 5 |
|  |  | dark | |  | |  |  | Suwon | 7 |
| **14.** |  | **QN** | **MS/VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Leaflet: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Yunpoong | 3 |
|  |  | medium | |  | |  |  | Chunpoong, Kowon | 5 |
|  |  | long | |  | |  |  | Gumpoong | 7 |
| **15.** |  | **QN** | **VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Leaflet: width** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | narrow | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | Gopoong | 5 |
|  |  | broad | |  | |  |  | Gumpoong, Sunhyang | 7 |
| **16.** |  | **PQ** | **VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Leaflet: shape** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | narrow elliptic | |  | |  |  | Chunpoong | 1 |
|  |  | elliptic | |  | |  |  | Gopoong, Sunhyang | 2 |
|  |  | oblong | |  | |  |  | Gumpoong | 3 |
|  |  | spatulate | |  | |  |  |  | 4 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **17.** |  | **QN** | **VG** | **(+)** | **(b)** |  | | | |
|  |  | |  | | --- | | **Leaflet: shape in**  **cross section** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | concave | |  | |  |  | Chunpoong | 1 |
|  |  | plane | |  | |  |  | Kowon | 2 |
|  |  | convex | |  | |  |  | K-1, Cheonryang | 3 |
| **18.** |  | **QN** | **VG** |  | **(b)** |  | | | |
|  |  | |  | | --- | | **Leaflet: serration of margin** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | weak | |  | |  |  | Chunpoong | 3 |
|  |  | medium | |  | |  |  | Yunpoong | 5 |
|  |  | strong | |  | |  |  | Sunun | 7 |
| **19.** | **(\*)** | **QN** | **MG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of sprout** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | early | |  | |  |  | Chungsun, Sunpoong, Geumsun | 3 |
|  |  | medium | |  | |  |  | Yunpoong | 5 |
|  |  | late | |  | |  |  | K-1, Chunpoong, Kowon, Sunun | 7 |
| **20.** | **(\*)** | **QN** | **MG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Time of flowering** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | early | |  | |  |  | Sunpoong | 3 |
|  |  | medium | |  | |  |  | Yunpoong, K-1 | 5 |
|  |  | late | |  | |  |  | Chunpoong | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **21.** | **(\*)** | **QN** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Peduncle: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Yunpoong | 3 |
|  |  | medium | |  | |  |  | Gumpoong | 5 |
|  |  | long | |  | |  |  | Sunpoong | 7 |
| **22.** | **(\*)** | **QL** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Inflorescence: type** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | simple | |  | |  |  | Yunpoong | 1 |
|  |  | intermediate | |  | |  |  | Gumpoong | 2 |
|  |  | compound | |  | |  |  |  | 3 |
| **23.** | **(\*)** | **QN** | **VS** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Umbel: attitude of lower florets(at berry maturity stage)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | semi erect | |  | |  |  | K-1, Gopoong | 1 |
|  |  | horizontal | |  | |  |  | Gumpoong, Chunpoong | 2 |
|  |  | semi recurved | |  | |  |  | Yunpoong | 3 |
| **24.** | **(\*)** | **QN** | **MG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Berry: time of maturity** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | early | |  | |  |  | Gumpoong | 3 |
|  |  | medium | |  | |  |  | Yunpoong | 5 |
|  |  | late | |  | |  |  | Chunpoong | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **25.** | **(\*)** | **PQ** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Berry: color (at full maturity)** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | yellow | |  | |  |  | Gumpoong | 1 |
|  |  | pink | |  | |  |  | Cheonmyeong | 2 |
|  |  | orange | |  | |  |  | Chunpoong | 3 |
|  |  | red | |  | |  |  | Yunpoong, K-1, Sunpoong, Kowon | 4 |
| **26.** |  | **PQ** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Leaf: color at senescence** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | yellow | |  | |  |  | Gumpoong | 1 |
|  |  | brown | |  | |  |  | Chunpoong | 2 |
|  |  | red | |  | |  |  | Yunpoong, K-1, Gopoong | 3 |
| **27.** | **(\*)** | **QN** | **MS/VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Main root: width** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | thin | |  | |  |  |  | 3 |
|  |  | medium | |  | |  |  | Chunpoong | 5 |
|  |  | thick | |  | |  |  | Yunpoong | 7 |
| **28.** | **(\*)** | **QN** | **MS/VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Main root: length** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | short | |  | |  |  | Yunpoong | 3 |
|  |  | medium | |  | |  |  | Gopoong | 5 |
|  |  | long | |  | |  |  | Gumpoong, Chunpoong | 7 |

|  |  | English | | français | | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **29.** |  | **PQ** | **VG** |  | **(c)** |  | | | |
|  |  | |  | | --- | | **Main root: skin color** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | white | |  | |  |  | Chunpoong | 1 |
|  |  | cream | |  | |  |  | Yunpoong | 2 |
|  |  | yellow | |  | |  |  |  | 3 |
| **30.** |  | **QN** | **VG** | **(+)** | **(c)** |  | | | |
|  |  | |  | | --- | | **Main root: rate of rootlet** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | few | |  | |  |  | Chunpoong | 1 |
|  |  | medium | |  | |  |  | Sunpoong | 2 |
|  |  | many | |  | |  |  | K-1, Gopoong | 3 |
| **31.** |  | **QL** | **VG** | **(+)** |  |  | | | |
|  |  | |  | | --- | | **Rhizome: presence of stolons** | | | |  | | --- | |  | | | |  | | --- | |  | | |  | | --- | |  | |  |  |
|  |  | absent | |  | |  |  |  | 1 |
|  |  | present | |  | |  |  |  | 9 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | 8. | Explanations on the Table of Characteristics | | |  |  |  |  | | --- | --- | --- | --- | |  | | | | |  | | | | | *8.1* | *Explanations covering several characteristics* | | | |  | | | | |  | Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below: | | | |  | | | | | |  | | --- | | (a) | | |  | | --- | | Leaf:  All observations on the leaf should be made on fully developed leaf | | | | |  |  |  |  | | |  | | --- | | (b) | | |  | | --- | | Leaflet:  All observations on the leaflet should be made on the central leaflet | | | | |  |  |  |  | | |  | | --- | | (c) | | |  | | --- | | Main root:  All observations on the main root should be made after harvest | | | | |  |  |  |  | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | |  | | | | | |  | | --- | | *8.2* | | *Explanations for individual characteristics* | | | |  |  |  |  | | |  | | --- | | Ad. 1: Plant: lenght of main stem | | | | | |  | | | | | |  | | --- | | wordml://76.png | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 3: Stem: rate of plant have more than two stems | | | | | |  | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | wordml://77.png | | 3 | | few | | |  | | --- | | wordml://78.png | | 5 | | medium | | |  | | --- | | N:\OrgUPOV\Shared\Untitled.png | | 7 | | many | | | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 4: Stem: intensity of anthocyanin coloration | | | | | |  | | | | | |

|  |  |  |
| --- | --- | --- |
| wordml://80.png | wordml://81.png | wordml://82.png |
| 3 | 5 | 7 |
| weak | medium | strong |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | |  | | --- | | Ad. 7: Petiole: length | | |  | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | | wordml://83.png | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 8: Petiole : intensity of anthocyanin coloration | | | | | |  | | | | | |

|  |  |  |
| --- | --- | --- |
| wordml://84.png | wordml://85.png | wordml://86.png |
| 3 | 5 | 7 |
| weak | medium | strong |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | |  | | --- | | Ad. 9: Petiole: attitude in relation to peduncle | | |  | | |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | wordml://87.png | | 1 | | erect | | |  | | --- | | wordml://88.png | | 3 | | semi erect | | |  | | --- | | wordml://89.png | | 5 | | spreading | | | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 11: Leaf: number of stipules | | | | | |  | | | | | |  | | --- | | wordml://90.png | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 14: Leaflet: length | | | | | |  | | | | | |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | | wordml://91.png | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 15: Leaflet: width | | | | | |  | | | | | |  | | --- | | wordml://92.png | | | | | |  |  |  |  | |  |  |  |  | | |  | | --- | | Ad. 16: Leaflet: shape | | | | | | |

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| |  | | --- | | wordml://93.png | | 1 | | narrow elliptic | | |  | | --- | | wordml://94.png | | 2 | | elliptic | | |  | | --- | | wordml://95.png | | 3 | | oblong | | |  | | --- | | wordml://96.png | | 4 | | spatulate | |

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| |  | | --- | | wordml://101.png | | 1 | | simple | | |  | | --- | | wordml://102.png | | 2 | | intermediate | | |  | | --- | | wordml://103.png | | 3 | | compound | |

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| |  | | --- | | wordml://104.png | | 1 | | semi erect | | |  | | --- | | wordml://105.png | | 2 | | horizontal | | |  | | --- | | wordml://106.png | | 3 | | semi recurved | |

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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | 9. | Literature | | |  | |  |  |  | | --- | | Chun, S. K., Mook, S. K., Lee, S. S., Shin, D. Y., 1991:  “The effect of light quantity and quality on the ginseng growth and quality” 5(1) p. 21    Han C.Y. 1977:  “Study on the Ginseng Breeding for High Quality Variety,” Report on the Contract Study of Ginseng, KT & G. 1-36    Korea Ginseng Corp.:  “A Humanoid for a Human Being,” p. 25, Korea Ginseng Corp.    Kyunggi Provincial RDA, 2002:  “Cultural Techniques for High Quality Ginseng,” Kyunggi Provincial RDA    Lee, J. H., Lee, J. C., Chun, S. K., Kim, Y. T., Ahn, S. B., 1982:  “The effect of light intensity on the growth of ginseng” Korean Journal of Ginseng Science. 6(1) p. 18.    National Seed Management Office:  “Test guideline of Ginseng for DUS Test,” National Seed Management Office, Ministry of Agriculture and Forestry (MAF), Republic of Korea    Seeds and Seedlings Division:  “Standard Description of Characteristics for the Identification of New Varieties of Ginseng and its Related Species,” Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan    W. Scott Persons:  “American Ginseng Green Gold,” Bright Mountain Books, Inc. | | |

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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 | |  | | --- | | *Panax ginseng* C.A. Mey. | | |  | | --- | |  | | |  |  |  |  |  | |  | |  | | --- | | 1.2 | | Common name | |  | | --- | | Ginseng | |  | |  |  |  | |  | | --- | |  | |  | |  |  |  |  |  | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | 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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| |  |  |  | | --- | --- | --- | |  |  |  | |  | 4.2 | Method of propagating the variety | |  | |  |  |  | | --- | --- | --- | | |  | | --- | | 4.2.1 | | 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 |
| --- | --- | --- | --- |
| |  | | --- | | **5.1** |  |  | | --- | | **(4)** | | |  | | --- | | **Stem: intensity of anthocyanin coloration** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Chungsun, Gumpoong | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | | Cheonryang, Chunpoong, Kowon, Yunpoong | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Sunpoong, Sunun | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Gopoong, K-1 | | |  | | --- | | 7 [   ] | |
| |  | | --- | | **5.2** |  |  | | --- | | **(8)** | | |  | | --- | | **Petiole : intensity of anthocyanin coloration** | |  |  |
|  | |  | | --- | | absent or very weak | | |  | | --- | | Chungsun, Gumpoong | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | weak | | |  | | --- | | Chunpoong | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Cheonryang | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | strong | | |  | | --- | | Gopoong, K-1 | | |  | | --- | | 7 [   ] | |
| |  | | --- | | **5.3** |  |  | | --- | | **(24)** | | |  | | --- | | **Berry: time of maturity** | |  |  |
|  | |  | | --- | | early | | |  | | --- | | Gumpoong | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Yunpoong | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | late | | |  | | --- | | Chunpoong | | |  | | --- | | 7 [   ] | |
| |  | | --- | | **5.4** |  |  | | --- | | **(25)** | | |  | | --- | | **Berry: color (at full maturity)** | |  |  |
|  | |  | | --- | | yellow | | |  | | --- | | Gumpoong | | |  | | --- | | 1 [   ] | |
|  | |  | | --- | | pink | | |  | | --- | | Cheonmyeong | | |  | | --- | | 2 [   ] | |
|  | |  | | --- | | orange | | |  | | --- | | Chunpoong | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | red | | |  | | --- | | K-1, Kowon, Sunpoong, Yunpoong | | |  | | --- | | 4 [   ] | |
| |  | | --- | | **5.5** |  |  | | --- | | **(27)** | | |  | | --- | | **Main root: width** | |  |  |
|  | |  | | --- | | thin | | |  | | --- | |  | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Chunpoong | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | thick | | |  | | --- | | Yunpoong | | |  | | --- | | 7 [   ] | |
| |  | | --- | | **5.6** |  |  | | --- | | **(28)** | | |  | | --- | | **Main root: length** | |  |  |
|  | |  | | --- | | short | | |  | | --- | | Yunpoong | | |  | | --- | | 3 [   ] | |
|  | |  | | --- | | medium | | |  | | --- | | Gopoong | | |  | | --- | | 5 [   ] | |
|  | |  | | --- | | long | | |  | | --- | | Chunpoong, Gumpoong | | |  | | --- | | 7 [   ] | |

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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* | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |  | 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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