

UPOV

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## INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

BLACKBERRY

UPOV Code: RUBUS\_EUB

*Rubus* subgenus *Eubatus*  
sect. *Moriferi* & *Ursini* and hybrids

NZ: Would prefer Blackberry and Hybrid berry.

## GUIDELINES

## FOR THE CONDUCT OF TESTS

## FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by an expert from Germany**to be considered by the Technical Working Party for Fruit Crops at its thirty-sixth session  
to be held in Kôfu, Japan, from September 5 to 9, 2005*

Alternative Names:\*

| <i>Botanical name</i>   | <i>English</i>                         | <i>French</i>   | <i>German</i> | <i>Spanish</i> |
|---|--|-----------------|---------------|----------------|
| <i>Rubus</i> subgenus <i>Eubatus</i><br>sect. <i>Moriferi</i> & <i>Ursini</i> | Blackberry, Loganberry,<br>Boysenberry | Ronce fruitière | Brombeere     | Mora           |

NZ: under English name to suggest Brambles as well.

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.

\* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website ([www.upov.int](http://www.upov.int)), for the latest information.]

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## 1. Subject of these Test Guidelines

1.1 These Test Guidelines apply to all varieties of *Rubus* subgenus *Eubatus* sect. *Moriferi* & *Ursini* of the family *Rosaceae* and their hybrids as far as they are morphologically similar.

1.2 In the case of hybrids between species within the genus *Rubus* L., the Test Guidelines to be used should be those for which the overall appearance of fruit is most suited. However, if the variety cannot be clearly distinguished from all varieties covered by other Test Guidelines, those other Test Guidelines should also be used to examine the variety. In particular the Test Guidelines for Raspberry (TG/43/7) should be taken into consideration.

1.3 In the case of hybrids between species within the genus *Rubus* L., even where the variety is clearly distinguishable from all other varieties covered by other Test Guidelines, it may still be necessary to use additional characteristics to examine the variety. In these circumstances the characteristics from the Test Guidelines covering the parent species may be particularly useful.

1.4 For all blackberry varieties, their hybrids and closely related varieties, the berry does not detach completely from the plug, whereas for all raspberry varieties and their related types, the berry does completely detach from the plug. These Test Guidelines are suited for varieties which do not completely detach from the plug.

## 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 one-year-old plants propagated from stem or leaf cuttings.

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

5 one-year-old plants.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

## 3. Method of Examination

### 3.1 *Number of Growing Cycles*

The minimum duration of tests should normally be two independent growing cycles.

### 3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”.

### 3.3 *Conditions for Conducting the Examination*

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.”

### 3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 5 plants.

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 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of 5 plants. In the case of parts of plants, the number to be taken from each of the plants should be 3.

### 3.6 *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.

#### 4.2 *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, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 5 plants, no off-type is allowed.

#### 4.3 *Stability*

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

### 5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Plant: growth habit (characteristic 1);
- (b) Dormant canes: spines (characteristic 9);
- (c) Leaf: predominant number of leaflets (characteristic 21)
- (d) Leaf: shape (characteristic 25)
- (e) Time of beginning of flowering on previous year's cane (characteristic 43)

**NZ: To be considered. Char. 15, "Young shoot: number of Glandular hairs", to include as a grouping character.**

- (f) For varieties which flower on the current year's cane: Time of beginning of flowering on current year's cane (characteristic 44)
- (g) Time of beginning of fruit ripening (characteristic 45).

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

## 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*

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.

### 6.3 *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*

(\*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3

QN: Quantitative characteristic – see Chapter 6.3

PQ: Pseudo-qualitative characteristic – see Chapter 6.3

(a)-(d) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.2

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

| MoE°                    | English  | français | deutsch   | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|-------------------------|--|----------|---|---------|---|---------------|
| <b>1.</b><br>(*)<br>(+) | <b>Plant: growth habit</b>                       |          | <b>Pflanze: Wuchsform</b>                             |         |   |               |
| <b>PQ</b>               | <b>(a)</b> upright                               |          | aufrecht  |         | Wilson's Early,<br>Arapaho  | 1             |
|                         | upright to semi-upright                          |          | aufrecht bis<br>halbaufrecht                          |         | Kiowa   | 2             |
|                         | semi-upright                                     |          | halbaufrecht  |         | Jersey Black  | 3             |
|                         | semi-upright to spreading                        |          | halbaufrecht bis<br>breitwüchsig                      |         | Tayberry  | 4             |
|                         | spreading  |          | breitwüchsig  |         | Himalaya, Aurora  | 5             |
| <b>2.</b>               | <b>Plant: number of new canes</b>                |          | <b>Pflanze: Anzahl neuer Ruten</b>                    |         |   |               |
| <b>QN</b>               | <b>(a)</b> very few                              |          | sehr wenig  |         | Himalaya  | 1             |
|                         | few  |          | wenig   |         | Thornfree   | 3             |
|                         | medium   |          | mittel  |         | Jersey Black  | 5             |
|                         | many   |          | viele   |         | Philadelphia  | 7             |
| <b>3.</b>               | <b>Dormant cane: length</b>                      |          | <b>Winterrute: Länge</b>                              |         |   |               |
| <b>QN</b>               | <b>(a)</b> short                                 |          | kurz  |         | Philadelphia  | 3             |
|                         | medium   |          | mittel  |         | Jersey Black  | 5             |
|                         | long   |          | lang  |         | Tayberry  | 7             |
|                         | very long  |          | sehr lang   |         | Ranui, Marahau  | 9             |
| <b>4.</b>               | <b>Dormant cane: diameter (in central third)</b> |          | <b>Winterrute: Durchmesser (im mittleren Drittel)</b> |         |   |               |
| <b>QN</b>               | <b>(a)</b> very small                            |          | sehr klein  |         | Aurora  | 1             |
|                         | small  |          | klein   |         | Philadelphia  | 3             |
|                         | medium   |          | mittel  |         | Tayberry  | 5             |
|                         | large  |          | groß  |         | Himalaya  | 7             |
|                         | very large                                       |          | sehr groß   |         | Jersey Black  | 9             |

| MoE°                           | English   | français            | deutsch   | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|--------------------------------|---|---------------------|---|---------|---|---------------|
| <b>5.<br/>(*<br/>)</b>         | <b>Dormant cane:<br/>anthocyanin<br/>coloration</b>           |                     | <b>Winterrute:<br/>Anthocyanfärbung</b>                       |         |   |               |
| <b>QN</b>                      | <b>(a)</b>  | absent or very weak | fehlend oder sehr gering                                      |         | Taylor's Prolific   | 1             |
|                                |   | weak                | gering  |         | Black Satin   | 3             |
|                                |   | medium              | mittel  |         | Alfred  | 5             |
|                                |   | strong              | stark   |         | Wilson's Early  | 7             |
| <b>6.</b>                      | <b>Dormant cane:<br/>number of branches</b>                   |                     | <b>Winterrute: Anzahl<br/>Seitentriebe</b>                    |         |   |               |
| <b>QN</b>                      | <b>(a)</b>  | few                 | wenig   |         | Himalaya  | 3             |
|                                |   | medium              | mittel  |         | Jersey Black  | 5             |
|                                |   | many                | viele   |         | Kittatinny  | 7             |
| <b>7.</b>                      | <b>Dormant cane:<br/>predominant<br/>position of branches</b> |                     | <b>Winterrute:<br/>vorwiegender Sitz<br/>der Seitentriebe</b> |         |   |               |
| <b>PQ</b>                      | <b>(a)</b>  | only on upper third | nur am oberen Drittel   |         | Mammoth   | 1             |
|                                |   | only on upper half  | nur an der oberen Hälfte                                      |         | Taylor's Prolific   | 2             |
|                                |   | over whole length   | auf der gesamten Länge  |         | Himalaya  | 3             |
| <b>8.<br/>(*<br/>)<br/>(+)</b> | <b>Dormant cane: cross<br/>section</b>                        |                     | <b>Winterrute:<br/>Querschnitt</b>                            |         |   |               |
| <b>PQ</b>                      | <b>(a)</b>  | rounded             | abgerundet  |         | Sunberry  | 1             |
|                                |   | rounded to angular  | abgerundet bis winklig  |         | Douglas   | 2             |
|                                |   | angular             | winklig   |         | Wilson's Early  | 3             |
|                                |   | angular to grooved  | winklig bis gerieft   |         | Kiowa   | 4             |
|                                |   | grooved             | gerieft   |         | Mammoth   | 5             |



| MoE°               | English                         | français | deutsch                         | español   | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|--------------------|---------------------------------|----------|---------------------------------|-----------|---|---------------|
| <b>9.<br/>(* )</b> | <b>Dormant cane:<br/>spines</b> |          | <b>Winterrute:<br/>Stacheln</b> |           |   |               |
| QL                 | (a)                             | absent   |                                 | fehlend   | Black Satin   | 1             |
|                    |                                 | present  |                                 | vorhanden | Himalaya  | 9             |

**DE: Black Satin shows tiny little spines in our reference collection; therefore to replace example var. Black Satin by Loch Ness.**

|                     |   |            |  |            |                |   |
|---------------------|---|------------|--|------------|----------------|---|
| <b>10.</b>          | <b>Dormant cane:<br/>number of spines</b> |            | <b>Winterrute: Anzahl<br/>Stacheln</b>     |            |                |   |
| QN                  | (a)                                       | very few   |  | sehr wenig | Philadelphia   | 1 |
|                     |   | few        |  | wenig      | Wilson's Early | 3 |
|                     |   | medium     |  | mittel     | Himalaya       | 5 |
|                     |   | many       |  | viele      | Bedford Giant  | 7 |
|                     |   | very many  |  | sehr viele | Sunberry       | 9 |
| <b>11.<br/>(* )</b> | <b>Spine: size (on<br/>dormant canes)</b> |            | <b>Stachel: Größe (an<br/>Winterruten)</b> |            |                |   |
| QN                  | (a)                                       | small      |  | klein      | Sunberry       | 3 |
|                     |   | medium     |  | mittel     | Bedford Giant  | 5 |
|                     |   | large      |  | groß       | Himalaya       | 7 |
|                     |   | very large |  | sehr groß  | Jersey Black   | 9 |

**NZ: Suggest very small Karaka Black 1.**

**DE: we do not agree.**

**NZ: we agree that Karaka Black is not very small 1, and suggest medium 5.**

|                    |   |           |  |           |              |   |
|--------------------|---|-----------|--|-----------|--------------|---|
| <b>12.<br/>(+)</b> | <b>Spine: attitude of tip<br/>in relation to cane</b> |           | <b>Stachel: Stellung der<br/>Spitze im Verhältnis<br/>zur Rute</b> |           |              |   |
| QN                 | (a)   | upwards   |  | aufwärts  | Kittatinny   | 1 |
|                    |   | outwards  |  | abstehend | Jersey Black | 2 |
|                    |   | downwards |  | abwärts   | Mammoth      | 3 |

| MoE°  | English  | français | deutsch   | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|---|--|----------|---|---------|---|---------------|
| <b>13.</b>  | <b>Young shoot:<br/>anthocyanin<br/>coloration (during<br/>rapid growth)</b> |          | <b>Junger Trieb:<br/>Anthocyanfärbung<br/>(während des<br/>schnellen<br/>Wachstums)</b> |         |   |               |
| <b>QN</b>   | <b>(b)</b> absent or very weak   |          | fehlend oder sehr gering  |         | Philadelphia  | 1             |
|   | weak   |          | gering  |         | Black Satin   | 3             |
|   | medium   |          | mittel  |         | Bedford Giant   | 5             |
|   | strong   |          | stark   |         | Tayberry  | 7             |
| <b>14.</b>  | <b>Young shoot:<br/>intensity of green<br/>color</b>                         |          | <b>Junger Trieb:<br/>Intensität der<br/>Grünfärbung</b>                                 |         |   |               |
| <b>QN</b>   | <b>(b)</b> light   |          | hell  |         | Philadelphia  | 3             |
|   | medium   |          | mittel  |         | Ashton Cross  | 5             |
|   | dark   |          | dunkel  |         | Thornless Evergreen   | 7             |
| <b>15.</b>  | <b>Young shoot:<br/>number of glandular<br/>hairs</b>                        |          | <b>Junger Trieb:<br/>Anzahl der<br/>Drüsenhaare</b>                                     |         |   |               |
| <b>QN</b>   | <b>(b)</b> absent or very few  |          | fehlend oder sehr wenig   |         | Lincoln   | 1             |
|   | few  |          | wenig   |         | Marionberry, Silvan,<br>Tayberry  | 3             |
|   | medium   |          | mittel  |         | Navaho  | 5             |
|   | many   |          | viele   |         | Wilson's Early  | 7             |
|   | very many  |          | sehr viele  |         | Karaka Black  | 9             |
| <b>DE/HU: Char. 15: to have a condensed range of expressions: absent or very few (1), few (2) and many (3).<br/>         NZ to provide information.</b> |  |          |   |         |   |               |
| <b>16.</b>  | <b>Terminal leaflet:<br/>length</b>  |          | <b>Endfieder: Länge</b>   |         |   |               |
| <b>QN</b>   | <b>(c)</b> short   |          | kurz  |         | Ashton Cross  | 3             |
|   | medium   |          | mittel  |         | Loch Ness   | 5             |
|   | long   |          | lang  |         | Taylor's Prolific   | 7             |

| MoE°   | English  | français | deutsch  | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|--|--|----------|--|---------|---|---------------|
| <b>17.</b>   | <b>Terminal leaflet:<br/>width</b>                       |          | <b>Endfieder: Breite</b>                           |         |   |               |
| QN (c)   | narrow   |          | schmal   |         | Alfred  | 3             |
|  | medium   |          | mittel   |         | Navaho  | 5             |
|  | broad  |          | breit  |         | Douglas   | 7             |
| <b>18.</b>   | <b>Terminal leaflet:<br/>form</b>                        |          | <b>Endfieder: Form</b>                             |         |   |               |
| QL (c)   | entire   |          | ungeteilt  |         | Wilson's Early  | 1             |
|  | lacerate   |          | geschlitzt   |         | Thornless Evergreen   | 2             |
| <b>IPGRI: Suggest rewording the name of this characteristic according to its different states of expressions. They refer more to margin and incision than to the 'form' itself. - State of expression 'Entire' is not referring to 'form' but to 'margin of the leaflet'; - State of expression 'Lacerate' is referring to 'incision' (in the margin).</b> |  |          |  |         |   |               |
| <b>19.</b>   | <b>Terminal leaflet:<br/>shape in cross-<br/>section</b> |          | <b>Endfieder: Form im<br/>Querschnitt</b>          |         |   |               |
| QL (c)   | u-shaped   |          | u-förmig   |         | Bedford Giant   | 1             |
|  | v-shaped   |          | v-förmig   |         | Mammoth   | 2             |
| <b>20.</b>   | <b>Terminal leaflet:<br/>undulation of<br/>margin</b>    |          | <b>Endfieder: Wölbung<br/>des Randes</b>           |         |   |               |
| QN (c)   | absent or very weak                                      |          | fehlend oder sehr<br>gering                        |         |   | 1             |
|  | weak   |          | gering   |         | Black Satin   | 2             |
|  | strong   |          | stark  |         | Navaho  | 3             |
| <b>DE: to add example var. Hull Thornless for state 1; and to replace the existing example variety for state 2, Black Satin, by Loch Ness and Thornfree.</b>   |  |          |  |         |   |               |
| <b>21.</b>   | <b>Leaf: predominant<br/>number of leaflets</b>          |          | <b>Blatt: vorwiegende<br/>Anzahl Fiederblätter</b> |         |   |               |
| PQ (c)   | three  |          | drei   |         | Marionberry   | 1             |
|  | five   |          | fünf   |         | Himalaya, Jumbo   | 2             |
|  | seven  |          | sieben   |         | Karaka Black  | 3             |

| MoE°  | English   | français | deutsch  | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|---|---|----------|--|---------|---|---------------|
| <b>22.</b>  | <b>Terminal leaflet:<br/>blistering between<br/>veins</b> |          | <b>Endfieder: Faltung<br/>zwischen den<br/>Nebenadern</b>  |         |   |               |
| <b>QN</b>   | <b>(c)</b>  |          |  |         |   |               |
|   | very weak   |          | sehr gering  |         | Himalaya  | 1             |
|   | weak  |          | gering   |         | Jersey Black  | 3             |
|   | medium  |          | mittel   |         | Thornfree   | 5             |
|   | strong  |          | stark  |         | Philadelphia  | 7             |
|   | very strong   |          | sehr stark   |         | Tayberry  | 9             |
| <b>23.</b>  | <b>Petiole: presence of<br/>stipules</b>                  |          | <b>Blattstiel:<br/>Vorhandensein von<br/>Nebenblättern</b> |         |   |               |
|   | <b>(c)</b>  |          |  |         |   |               |
|   | absent  |          | fehlend  |         | Silvan  | 1             |
|   | present   |          | vorhanden  |         |   | 9             |
| <p><b>DE: as in our reference collection Silvan shows very small but proper stipules, we do not know any suitable example var. for state 1; but would suggest to add Loch Ness for state 9.</b></p> <p><b>NZ: Loch Ness would be OK. Marahau also has large stipules.</b></p> |   |          |  |         |   |               |
| <b>24.</b>  | <b>Petiole: size of<br/>stipules</b>                      |          | <b>Blattstiel: Größe der<br/>Nebenblätter</b>              |         |   |               |
| <b>QN</b>   | <b>(c)</b>  |          |  |         |   |               |
|   | small   |          | klein  |         | Wilson's Early  | 3             |
|   | medium  |          | mittel   |         | Thornless Hull  | 5             |
|   | large   |          | groß   |         | Loch Ness   | 7             |
| <b>25.</b>  | <b>Leaf: form</b>   |          | <b>Blatt: Form</b>   |         |   |               |
| <b>(*)</b>  |   |          |  |         |   |               |
| <b>(+)</b>  |   |          |  |         |   |               |
| <b>PQ</b>   | <b>(c)</b>  |          |  |         |   |               |
|   | odd-pinnate   |          | unpaarig gefiedert   |         | Philadelphia  | 1             |
|   | intermediate  |          | intermediär  |         | Karaka Black  | 2             |
|   | palmate   |          | fingerförmig gefiedert                                     |         | Thornless Evergreen   | 3             |
| <p><b>IPGRI: The states of expression do not refer to 'form' because 'odd-pinnate' (or imparipinnate) refers to "Leaf division" while 'palmate' relates to 'leaf incision'. Hence, I suggest rewording the name of this characteristic accordingly.</b></p>                   |   |          |  |         |   |               |

| MoE°  | English   | français | deutsch  | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|---|---|----------|--|---------|---|---------------|
| <b>26.</b>  | <b>Leaf: intensity of green color of upper side</b> |          | <b>Blatt: Intensität der Grünfärbung der Oberseite</b> |         |   |               |
| <b>QN</b>   | <b>(c)</b> light                                    |          | hell   |         | Philadelphia  | 3             |
|   | medium  |          | mittel   |         | Kittatinny  | 5             |
|   | dark  |          | dunkel   |         | Thornless Evergreen   | 7             |
| <b>IPGRI: Usually the intensity is recorded as 'low' and 'high' and not as 'light' and 'dark'.</b>                                      |   |          |  |         |   |               |
| <b>27.</b>  | <b>Leaf: glossiness of upper side</b>               |          | <b>Blatt: Glanz der Oberseite</b>                      |         |   |               |
| <b>QN</b>   | <b>(c)</b> weak                                     |          | gering   |         | Thornless Evergreen   | 3             |
|   | medium  |          | mittel   |         | Mammoth   | 5             |
|   | strong  |          | stark  |         | Kittatinny  | 7             |
| <b>28.</b>  | <b>Leaflet: incisions of margin</b>                 |          | <b>Fiederblatt: Randeinschnitte (geändert)</b>         |         |   |               |
| <b>(+)</b>  |   |          |  |         |   |               |
| <b>QL</b>   | <b>(c)</b> serrate                                  |          | gesägt   |         | Himalaya  | 1             |
|   | bi-serrate  |          | doppelt gesägt   |         | Thornless Evergreen   | 2             |
| <b>DE: we consider this characteristic as purely being QL. - IPGRI: 'Serrate' and 'Bi-serrate' should be called 'Types of margins'.</b> |   |          |  |         |   |               |
| <b>29.</b>  | <b>Leaflet: depth of incisions</b>                  |          | <b>Fiederblatt: Tiefe der Randeinschnitte</b>          |         |   |               |
| <b>QN</b>   | <b>(c)</b> shallow                                  |          | flach  |         | Philadelphia  | 3             |
|   | medium  |          | mittel   |         | Himalaya  | 5             |
|   | deep  |          | tief   |         | Loch Ness   | 7             |
|   | very deep   |          | sehr tief  |         | Thornless Evergreen   | 9             |
| <b>30.</b>  | <b>Flower: diameter</b>                             |          | <b>Blüte: Durchmesser</b>                              |         |   |               |
| <b>QN</b>   | very small  |          | sehr klein   |         | Dyke  | 1             |
|   | small   |          | klein  |         | Tayberry  | 3             |
|   | medium  |          | mittel   |         | Thornfree   | 5             |
|   | large   |          | groß   |         | Himalaya  | 7             |
|   | very large  |          | sehr groß  |         | Silvan, Marionberry   | 9             |

| MoE°   | English                               | français | deutsch                                  | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|--|---------------------------------------|----------|--|---------|---|---------------|
| <b>31.</b>   | <b>Flower: color of<br/>petal</b>     |          | <b>Blüte: Farbe des<br/>Blütenblatts</b> |         |   |               |
| <b>PQ</b>  | white                                 |          | weiß                                     |         | Philadelphia  | 1             |
|  | white with violet<br>tinge            |          | weiß mit violetter<br>Anflug             |         | Black Satin   | 2             |
|  | pinkish                               |          | rosafarben                               |         | Dirksen Thornless,<br>Theodor Reimers                                     | 3             |
| <b>32.<br/>(new)</b>   | <b>Fruiting lateral:<br/>presence</b> |          | <b>Fruchtrieb:<br/>Vorhandensein</b>     |         |   |               |
| <b>PQ</b>  | absent or very rarely<br>present      |          | fehlend oder sehr<br>selten vorhanden    |         |   | 1             |
|  | rarely present                        |          | selten vorhanden                         |         |   | 2             |
|  | usually present                       |          | meistens vorhanden                       |         |   | 3             |
| <b>33.</b>   | <b>Fruiting lateral:<br/>length</b>   |          | <b>Fruchtrieb: Länge</b>                 |         |   |               |
| <b>QN</b>  | short                                 |          | kurz                                     |         | Mammoth   | 3             |
|  | medium                                |          | mittel                                   |         | Jersey Black  | 5             |
|  | long                                  |          | lang                                     |         | Thornless Evergreen   | 7             |
| <b>34.</b>   | <b>Fruit: length</b>                  |          | <b>Frucht: Länge</b>                     |         |   |               |
| <b>QN (d)</b>  | short                                 |          | kurz                                     |         |   | 3             |
|  | medium                                |          | mittel                                   |         |   | 5             |
|  | long                                  |          | lang                                     |         |   | 7             |
| <b>DE: we would suggest to add Himalaya as example variety for state 3; Taylor's Prolific for state 5; and Tayberry for state 9.</b> |                                       |          |  |         |   |               |
| <b>35.</b>   | <b>Fruit: width</b>                   |          | <b>Frucht: Breite</b>                    |         |   |               |
| <b>QN (d)</b>  | narrow                                |          | schmal                                   |         |   |               |
|  | medium                                |          | mittel                                   |         |   |               |
|  | broad                                 |          | breit                                    |         |   |               |
| <b>DE: we would suggest to add Tayberry as example variety for state 3; Loch Ness for state 5; and Douglas for state 9.</b>          |                                       |          |  |         |   |               |

| MoE°       | English                                     | français     | deutsch                                      | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|------------|---|--------------|--|---------|---|---------------|
| <b>36.</b> | <b>Fruit: ratio length/width</b>            |              | <b>Frucht: Verhältnis Länge/Breite</b>       |         |   |               |
| <b>QN</b>  | <b>(d)</b>                                  | small        | klein  |         | Himalaya  | 3             |
|            |   | medium       | mittel                                       |         | Taylor's Prolific   | 5             |
|            |   | large        | groß   |         | Tayberry  | 7             |
|            |   | very large   | sehr groß                                    |         | Karaka Black  | 9             |
| <b>37.</b> | <b>Fruit: number of drupelets</b>           |              | <b>Frucht: Anzahl der Einzelsteinfrüchte</b> |         |   |               |
| <b>QN</b>  | <b>(d)</b>                                  | very few     | sehr wenig                                   |         |   | 1             |
|            |   | few          | wenig  |         | Marionberry   | 3             |
|            |   | medium       | mittel                                       |         | Himalaya  | 5             |
|            |   | many         | viele  |         | Tayberry  | 7             |
|            |   | very many    | sehr viele                                   |         | Karaka Black  | 9             |
| <b>38.</b> | <b>Fruit: size of drupelet</b>              |              | <b>Frucht: Größe der Einzelsteinfrucht</b>   |         |   |               |
| <b>QN</b>  | <b>(d)</b>                                  | very small   | sehr klein                                   |         | Waldo, Siskiyou   | 1             |
|            |   | small        | klein  |         | Wilson's Early, Siskiyou  | 3             |
|            |   | medium       | mittel                                       |         | Navaho  | 5             |
|            |   | large        | groß   |         | Douglas   | 7             |
| <b>39.</b> | <b>Fruit: shape in longitudinal section</b> |              | <b>Frucht: Form im Längsschnitt</b>          |         |   |               |
| <b>(*)</b> |   |              |  |         |   |               |
| <b>(+)</b> |   |              |  |         |   |               |
| <b>PQ</b>  | <b>(d)</b>                                  | circular     | rund   |         | Himalaya  | 1             |
|            |   | elliptic     | elliptisch                                   |         | Taylor's Prolific   | 2             |
|            |   | narrow ovate | schmal eiförmig                              |         |   | 3             |
|            |   | ovate        | eiförmig                                     |         | Wilson's Early  | 4             |
|            |   | long conical | lang konisch                                 |         | Tayberry  | 5             |
|            |   | oblong       | länglich                                     |         |   | 6             |

**DE: we would suggest to add the example var. Karaka Black for state 6.**

| MoE°          | English             | français | deutsch              | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|---------------|---------------------|----------|----------------------|---------|---|---------------|
| <b>40.</b>    | <b>Fruit: color</b> |          | <b>Frucht: Farbe</b> |         |   |               |
| <b>PQ (d)</b> | red                 |          | rot                  |         | Sunberry  | 1             |
|               | reddish purple      |          | rötlichpurpurn       |         | Tayberry  | 2             |
|               | reddish black       |          | rötlichschwarz       |         | Alfred  | 3             |
|               | bluish black        |          | bläulichschwarz      |         | Himalaya  | 4             |
|               | black               |          | schwarz              |         | Black Satin   | 5             |

|            |                               |  |  |  |                |   |
|------------|-------------------------------|--|--|--|----------------|---|
| <b>41.</b> | <b>Time of leaf bud burst</b> |  | <b>Zeitpunkt des Öffnens der Blattknospe</b> |  |                |   |
| <b>QN</b>  | very early                    |  | sehr früh                                    |  | Ranui          | 1 |
|            | early                         |  | früh   |  | Wilson's Early | 3 |
|            | medium                        |  | mittel                                       |  | Black Satin    | 5 |
|            | late                          |  | spät   |  | Jumbo          | 7 |

**IPGRI: If there are not 'intermediate' states between 'very early', 'early', and 'medium' and 'late' suggest using Notes 1, 2, 3 and 4 instead. Respond (DE): This is a "classical" QN-characteristic with a complete range of expressions, as there are definitely intermediate states existing, even if not printed, and there should not be seen any need for considering a condensed range of expressions.**

|            |  |  |   |  |                   |   |
|------------|--|--|---|--|-------------------|---|
| <b>42.</b> | <b>Flowering: type of bearing</b>                    |  | <b>Blüte: Typ</b>   |  |                   |   |
| <b>QL</b>  | on previous year's cane only                         |  | nur an der Vorjahresrute                                      |  | Navaho            | 1 |
|            | both on previous year's cane and current year's cane |  | sowohl an der Vorjahresrute als auch an der diesjährigen Rute |  | Taylor's Prolific | 2 |

**UPOV: To consider rewording to read "Flower: bearing on current year's cane" with the states: absent (1); present (9) and move after Char. 43. That would make it possible for the wording of Char. 44 to be clearer as it would not need the first part ("For varieties which flower on current year's cane").**



| MoE°                              | English   | français | deutsch   | español | Example Varieties/<br>Exemples/<br>Beispielssorten/<br>Variedades ejemplo | Note/<br>Nota |
|-----------------------------------|---|----------|---|---------|---|---------------|
| <b>43.<br/>(*<br/>(*)</b>         | <b>Time of beginning of<br/>flowering on<br/>previous year's cane</b>   |          | <b>Zeitpunkt des<br/>Blühbeginns an der<br/>Vorjahresrute</b>   |         |   |               |
| QN                                | very early  |          | sehr früh   |         | Wilson's Early  | 1             |
|                                   | early   |          | früh  |         | Taylor's Prolific   | 3             |
|                                   | medium  |          | mittel  |         | Himalaya  | 5             |
|                                   | late  |          | spät  |         | Thornfree   | 7             |
|                                   | very late   |          | sehr spät   |         | Thornless Evergreen   | 9             |
| <b>44.<br/>(+<br/>(+)</b>         | <b><u>Only varieties which<br/>flower on current<br/>year's cane:</u> Time of<br/>beginning of<br/>flowering on current<br/>year's cane</b> |          | <b><u>Nur Sorten, die an<br/>der diesjährigen<br/>Rute blühen:</u><br/>Zeitpunkt des<br/>Blühbeginns an der<br/>diesjährigen Rute</b> |         |   |               |
| QN                                | very early  |          | sehr früh   |         |   | 1             |
|                                   | early   |          | früh  |         |   | 3             |
|                                   | medium  |          | mittel  |         |   | 5             |
|                                   | late  |          | spät  |         |   | 7             |
|                                   | very late   |          | sehr spät   |         |   | 9             |
| <b>45.<br/>(*<br/>(*)<br/>(+)</b> | <b>Time of beginning of<br/>fruit ripening</b>  |          | <b>Zeitpunkt des<br/>Beginns der<br/>Fruchtreife</b>  |         |   |               |
| QN                                | very early  |          | sehr früh   |         | Wilson's Early,<br>Tayberry, Ranui  | 1             |
|                                   | early   |          | früh  |         | Taylor's Prolific,<br>Karaka Black, Sunberry                              | 3             |
|                                   | medium  |          | mittel  |         | Himalaya, Marionberry   | 5             |
|                                   | late  |          | spät  |         | Thornfree   | 7             |
|                                   | very late   |          | sehr spät   |         | Thornless Evergreen   | 9             |

**DE:** we would suggest to replace the existing example varieties for state 1 by Loch Tay, which is much earlier than at least 'Wilson's Early and Tayberry (we do not know Ranui).

**NZ:** Agree with proposal. Ranui is before Karaka Black.

8. Explanations on the Table of Characteristics

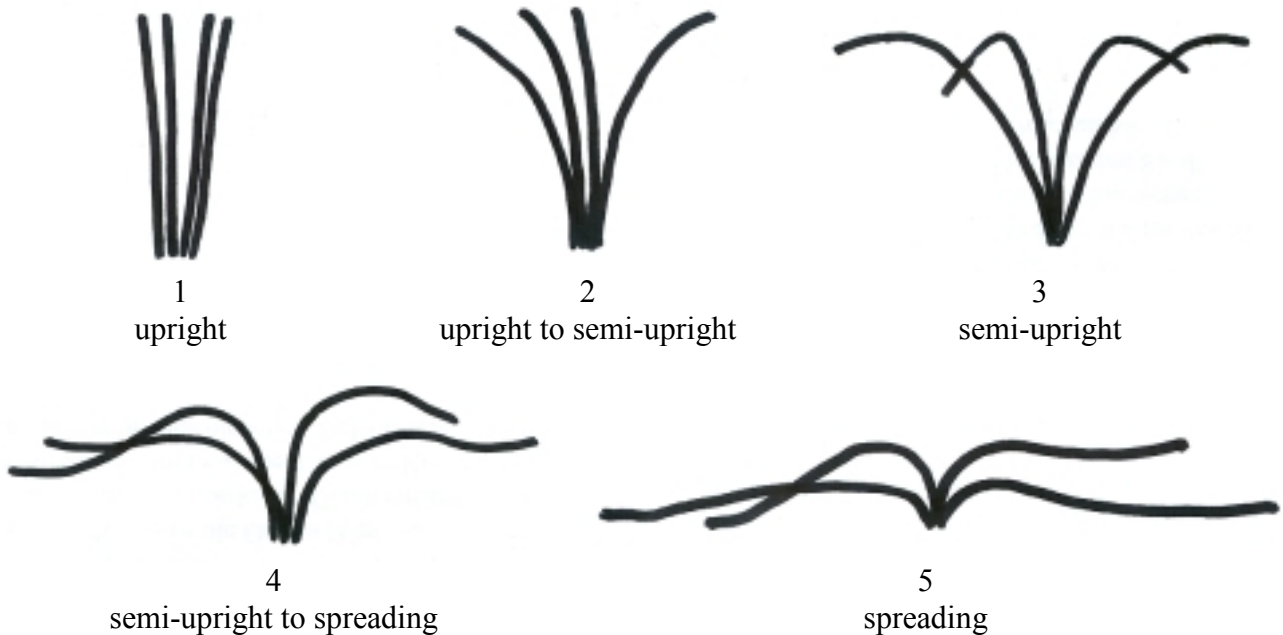
8.1 *Explanations covering several characteristics*

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

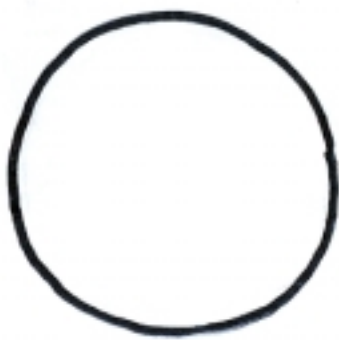
- (a) Observations on the plant and the dormant cane which should be made during winter dormancy.
- (b) Observations on the young shoot which should be made during rapid growth and before flowering.
- (c) Observations on the new cane and the leaf which should be made during flowering.
- (d) Observations on the fruit which should be made on fruits collected during the 2<sup>nd</sup>, 3<sup>rd</sup> and/or 4<sup>th</sup> picking.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: growth habit



Ad. 8: Dormant cane: cross section



1  
rounded



2  
rounded to angular



3  
angular



4  
angular to grooved



5  
grooved

Ad. 12: Spine: attitude of tip in relation to cane



1  
upwards



2  
outwards



3  
downwards

Ad. 25: Leaf: form



1  
odd-pinnate



2  
intermediate



3  
palmate

Ad. 28: Leaflet: incisions of margin



1  
serrate



2  
bi-serrate

Ad. 39: Fruit: shape in longitudinal section



1  
circular



2  
elliptic



3  
narrow ovate



4  
ovate



5  
long conical



6  
oblong

Ad. 43: Time of beginning of flowering on previous year's cane

Ad. 44: Only varieties which flower on current year's cane: Time of beginning of flowering on current year's cane

The time of beginning of flowering is reached when 10% of the flower buds are open.

Ad. 45: Time of beginning of fruit ripening

The time of beginning of fruit ripening is when the fruit is most easily removed from the plant.

9. Literature

Bordeianu, T.; Constantinescu, N.; Stefan, N., 1968: “Pomologia, Vol.. VII”, Editura Academiei Republicii Socialiste Romania, Bukarest, Romania.

Bundessortenamt, 1995: Beschreibende Sortenliste Beerenobst – Erdbeere, Himbeere, Brombeere, Stachelbeere, Landbuch Verlagsgesellschaft, Hannover, Germany.

Hedrick, U.P., 1925: The small fruits of New York, Stae of New York – Department of Farms and Markets, Thirty-third Annual Report, Part II, Albany, J.B. Lyon Company.

“Internordic Index of Ribes and Rubus Cultivars”, AVD för Fruktoch Bärodling, Alnarp, Sweden.

Jennings, D.L. 1988: Raspberries and Blackberries: Their breeding, diseases and growth Academic Press.

**DE: To add the publication place.**

Sorge, P., 1984: “Beerenobstsorten”, Verlag J. Neumann-Neudamm, Melsungen, Germany.

10. Technical Questionnaire

|   |   |   |
|---|---|---|
| TECHNICAL QUESTIONNAIRE   | Page {x} of {y}                         | Reference Number:   |
|   |   | Application date:<br>(not to be filled in by the applicant) |
| TECHNICAL QUESTIONNAIRE<br>to be completed in connection with an application for plant breeders' rights |   |   |
| 1. Subject of the Technical Questionnaire   |   |   |
| 1.1 Botanical Name  | <input type="text" value="Rubus L."/>   |   |
| 1.2 Common Name   | <input type="text" value="BLACKBERRY"/> |   |
| 2. Applicant  |   |   |
| Name  | <input type="text"/>                    |   |
| Address   | <input type="text"/>                    |   |
| Telephone No.   | <input type="text"/>                    |   |
| Fax No.   | <input type="text"/>                    |   |
| E-mail address  | <input type="text"/>                    |   |
| Breeder (if different from applicant)   | <input type="text"/>                    |   |
| 3. Proposed denomination and breeder's reference  |   |   |
| Proposed denomination<br>(if available)   | <input type="text"/>                    |   |
| Breeder's reference   | <input type="text"/>                    |   |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
| 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 varieties)
- (b) partially known cross  [ ]  
(please state known parent variety(ies))
- (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)

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

- (a) cuttings  [ ]
- (b) other (state method)  [ ]

4.2.2 Other  [ ]  
(please provide details)

# Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.



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

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

| Characteristics  | Example Varieties       | Note |
|--|-------------------------|------|
| <b>5.1 Plant: growth habit<br/>(1)</b>                                     |                         |      |
| upright  | Wilson's Early, Arapaho | 1    |
| upright to semi-upright  | Kiowa                   | 2    |
| semi-upright   | Jersey Black            | 3    |
| semi-upright to spreading  | Tayberry                | 4    |
| spreading  | Himalaya, Aurora        | 5    |
| <b>5.2 Dormant cane: spines<br/>(9)</b>                                    |                         |      |
| absent   | Black Satin             | 1    |
| present  | Himalaya                | 9    |
| <b>5.3 Leaf: predominant number of leaflets<br/>(21)</b>                   |                         |      |
| three  | Marionberry             | 1    |
| five   | Himalaya, Jumbo         | 2    |
| seven  | Karaka Black            | 3    |
| <b>5.4 Leaf: form<br/>(25)</b>   |                         |      |
| odd-pinnate  | Philadelphia            | 1    |
| intermediate   | Karaka Black            | 2    |
| palmate  | Thornless Evergreen     | 3    |
| <b>5.5 Time of beginning of flowering on previous year's cane<br/>(43)</b> |                         |      |
| very early   | Wilson's Early          | 1    |
| early  | Taylor's Prolific       | 3    |
| medium   | Himalaya                | 5    |
| late   | Thornfree               | 7    |
| very late  | Thornless Evergreen     | 9    |

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

| Characteristics   | Example Varieties                         | Note |
|---|---|------|
| <b>5.6 Only varieties which flower on current year's cane: Time of beginning of flowering on current year's cane (44)</b> |   |      |
| very early  |   | 1    |
| early   |   | 3    |
| medium  |   | 5    |
| late  |   | 7    |
| very late   |   | 9    |
| <b>5.7 Time of beginning of fruit ripening (45)</b>   |   |      |
| very early  | Wilson's Early, Tayberry, Ranui           | 1    |
| early   | Taylor's Prolific, Karaka Black, Sunberry | 3    |
| medium  | Himalaya, Marionberry                     | 5    |
| late  | Thornfree                                 | 7    |
| very late   | Thornless Evergreen                       | 9    |

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 <b>similar</b> variety(ies) | Describe the expression of the characteristic(s) for <b>your</b> candidate variety |
|---|---|--|--|
|---|---|--|--|

|                |                                |              |               |
|----------------|--------------------------------|--------------|---------------|
| <i>Example</i> | <i>Fruit: size of drupelet</i> | <i>small</i> | <i>medium</i> |
|----------------|--------------------------------|--------------|---------------|

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

Comments:

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

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

#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [ ] No [ ]

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety should accompany the Technical Questionnaire.

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.

---

# Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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

9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- |   |         |        |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma)    | Yes [ ] | No [ ] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [ ] | No [ ] |
| (c) Tissue culture  | Yes [ ] | No [ ] |
| (d) Other factors   | Yes [ ] | No [ ] |

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]