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.
Other associated UPOV documents: TG/39: Meadow fescue, Tall fescue

* 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), for the latest information.]
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1. **Subject of these Test Guidelines**


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:

1200 grams.

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority.

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.
3.3.1 Stage of development for the assessment

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 at the end of Chapter 8.

3.3.2 Type of observation – visual or measurement

The recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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

3.3.3 Type of plot for observation

The recommended type of plot in which to observe the characteristic is indicated by the following key in the second column of the Table of Characteristics:

A: spaced plants
B: row plot
C: special test

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 60 spaced plants which should be divided between at least 2 replicates. In addition, the test may include 8 meters of row plot which should be divided between at least 2 replicates. The density of the seed should be such that around 200 plants / meter can be expected.

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 or measurements on single plants should be made on 60 plants or parts taken from each of 60 plants and any other observations or measurements should be made on all plants in the test. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 1.

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 The assessment of uniformity should be according to the recommendations for cross-pollinated varieties in the General Introduction.

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 seed 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: ploidy (characteristic 1)
   (b) Plant: development of rhizomes (characteristic 9)
   (c) Plant: time of inflorescence emergence (characteristic 10)

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

6.4.1 Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.4.2 The species of the example varieties are indicated as follows:

(Fo): *Festuca ovina*
(Fr): *Festuca rubra*

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
MG, MS, VG, VS: See Chapter 3.3.2
A, B, C: See Chapter 3.3.3
(a) See Explanations on the Table of Characteristics in Chapter 8.1
(+): See Explanations on the Table of Characteristics in Chapter 8.2
(10) – (68+) See Explanations on the Table of Characteristics in Chapter 8.3
## Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

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<td>10-29 C (*) (+)</td>
<td>diploid</td>
<td>diploïde</td>
<td>diploid</td>
<td>diploïde</td>
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<td>octoploïde</td>
<td>oktoploid</td>
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<tr>
<th>Leaf sheath: anthocyanin coloration</th>
<th>Gaine de la feuille: pigmentation anthocyanique</th>
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<tr>
<td>QN 23–25 VG A</td>
<td>absent or very weak nulle ou très faible fehlend oder sehr gering ausente o muy débil</td>
<td>Olivia (Fr)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>weak</td>
<td>faible</td>
<td>gering</td>
<td>débil</td>
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<td>media</td>
</tr>
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<td></td>
<td>strong</td>
<td>forte</td>
<td>stark</td>
<td>fuerte</td>
</tr>
<tr>
<td></td>
<td>very strong</td>
<td>très forte</td>
<td>sehr stark</td>
<td>muy fuerte</td>
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</tbody>
</table>

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<tr>
<td>29 VS A/ VG B (a)</td>
<td>very short</td>
<td>très basse</td>
<td>sehr niedrig</td>
</tr>
<tr>
<td></td>
<td>short</td>
<td>basse</td>
<td>niedrig</td>
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<tr>
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<td>moyenne</td>
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<td></td>
<td>tall</td>
<td>haute</td>
<td>hoch</td>
</tr>
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<td></td>
<td>very tall</td>
<td>très haute</td>
<td>sehr hoch</td>
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<td>QN (a)</td>
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<td>dressé</td>
<td>aufrecht</td>
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<td></td>
<td>semi erect</td>
<td>demi dressé</td>
<td>halbaufrrecht</td>
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<td></td>
<td>semi prostrate</td>
<td>demi étalé</td>
<td>halbliegend</td>
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<tr>
<td></td>
<td>prostrate</td>
<td>étalé</td>
<td>liegend</td>
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<tr>
<td>5. 29 VS A/ VG B</td>
<td>Leaf: length</td>
<td>Feuille: longueur</td>
<td>Blatt: Länge</td>
</tr>
<tr>
<td>QN (a)</td>
<td>very short</td>
<td>très courte</td>
<td>sehr kurz</td>
</tr>
<tr>
<td></td>
<td>short</td>
<td>courte</td>
<td>kurz</td>
</tr>
<tr>
<td></td>
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<td>moyenne</td>
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<td>longue</td>
<td>lang</td>
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<tr>
<td></td>
<td>very long</td>
<td>très longue</td>
<td>sehr lang</td>
</tr>
<tr>
<td>QN (a)</td>
<td>very narrow</td>
<td>très étroite</td>
<td>sehr schmal</td>
</tr>
<tr>
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<td>narrow</td>
<td>étroite</td>
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<td>mittel</td>
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<td></td>
<td>wide</td>
<td>large</td>
<td>breit</td>
</tr>
<tr>
<td></td>
<td>very wide</td>
<td>très large</td>
<td>sehr breit</td>
</tr>
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</table>
|   | English | français | deutsch | español | Example Varieties/ | Note/ 
|---|---------|----------|---------|---------|-------------------|-----
<p>| 7 | 29      | VS A/VG B| Leaf: intensity of green color | Feuille: intensité de la couleur verte | Blatt: Intensität der Grünfärbung | Hoja: intensidad del color verde |
| QN | (a) very light | très claire | sehr hell | muy claro | 1 Calliope (Fr) |
|    | light | claire | hell | claro | 3 Barcrown (Fr), Cindy (Fr), Quatro (Fo) |
|    | medium | moyenne | mittel | medio | 5 |
|    | dark | foncée | dunkel | oscuro | 7 Diego (Fr), Manoir (Fr), Medal (Fo) |
|    | very dark | très foncée | sehr dunkel | muy oscuro | 9 Darwin (Fr), Hardtop (Fo), Tarnat (Fr) |
| 8 | 29      | VG B | Leaf: glaucosity | Feuille: glaucescence | Blatt: Bereifung | Hoja: glaucescencia |
| QL | (a) absent | absent | fehlend | ausente | Trophy (Fr) | 1 |
|    | present | présente | vorhanden | presente | Merlin (Fr) | 9 |
| QN | (a) absent or weak | nul ou faible | fehlend oder gering | ausente o débil | Trophy (Fr) | 1 |
|    | medium | moyen | mittel | medio | 2 |
|    | strong | fort | stark | fuerte | 3 Barpusta (Fr) |
| 10 | MS A/ MG B | (*) | (+) | Plant: time of inflorescence emergence | Plante: époque d’épiaison | Pflanze: Zeitpunkt der Blütenstände | Planta: época de emergencia de la inflorescencia |
| QN | very early | très précoce | sehr früh | muy temprana | 1 |
|    | early | précoce | früh | temprana | 3 Biljart (Fo), Darwin (Fr) |
|    | medium | moyenne | mittel | media | 5 Clio (Fo), Trophy (Fr) |
|    | late | tardive | spät | tardía | 7 Frida (Fr), Mocassin (Fr) |
|    | very late | très tardive | sehr spät | muy tardía | 9 Kiruna (Fr), Silk (Fr) |</p>
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<th>Note/Nota</th>
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<td><strong>Plante: hauteur naturelle à l'épiaison (limbe de la dernière feuille exclu)</strong></td>
<td><strong>Pflanze: Wuchshöhe zum Erscheinen der Blütenstände (ohne Fahnenblatt spreite)</strong></td>
<td><strong>Planta: altura en la época de emergencia de la inflorescencia (excluido el limbo de la hoja bandera)</strong></td>
<td></td>
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<tr>
<td>QN short</td>
<td>basse</td>
<td>niedrig</td>
<td>baja</td>
<td>Trophy (Fr)</td>
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<td>moyenne</td>
<td>mittel</td>
<td>media</td>
<td>Mocassin (Fr)</td>
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<tr>
<td>long</td>
<td>haute</td>
<td>hoch</td>
<td>alta</td>
<td>Barpusta (Fr), N.F.G. Theodor Roemer (Fr)</td>
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<tr>
<td><strong>12.</strong> (*)(+) 52-56 MS A Flag leaf: length</td>
<td><strong>Dernière feuille: longueur</strong></td>
<td><strong>Fahnenblatt: Länge</strong></td>
<td><strong>Hoja bandera: longitud</strong></td>
<td></td>
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<tr>
<td>QN very short</td>
<td>très courte</td>
<td>serh kurz</td>
<td>muy corta</td>
<td>Melord (Fo)</td>
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<tr>
<td>short</td>
<td>courte</td>
<td>kurz</td>
<td>corta</td>
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<td>media</td>
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<td>lang</td>
<td>larga</td>
<td>Barpusta (Fr), Condor (Fr)</td>
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<tr>
<td>very long</td>
<td>très longue</td>
<td>sehr lang</td>
<td>muy larga</td>
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<td><strong>13.</strong> (*)(+) 52-56 MS A Only Red Fescue varieties: Flag leaf: width</td>
<td><strong>Seulement les variétés de fétuque rouge: Dernière feuille: largeur</strong></td>
<td><strong>Nur Sorten von Rotschwingel: Fahnenblatt: Breite</strong></td>
<td><strong>Únicamente variedades de festuca roja: Hoja bandera: anchura</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QN narrow</td>
<td>étroite</td>
<td>schmal</td>
<td>estrecha</td>
<td>Frida (Fr)</td>
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<td>moyenne</td>
<td>mittel</td>
<td>media</td>
<td>Cindy (Fr), Koket (Fr)</td>
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</tr>
<tr>
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<td>large</td>
<td>breit</td>
<td>ancha</td>
<td>Barpusta (Fr), Condor (Fr)</td>
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<td>mittel</td>
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<td>groß</td>
<td>grande</td>
<td>Kiruna (Fr) 7</td>
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<td><strong>60-68</strong> MS A (+) Plant: length of longest stem (inflorescence included)</td>
<td>Plante: longueur de la tige la plus longue (inflorescence incluse)</td>
<td>Pflanze: Länge des längsten Halms (einschließlich Blütenstand)</td>
<td>Planta: longitud del tallo más largo (incluida la inflorescencia)</td>
<td></td>
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<tr>
<td>QN</td>
<td>very short</td>
<td>très courte</td>
<td>sehr kurz</td>
<td>muy corta</td>
<td>Liramon (Fo) 1</td>
</tr>
<tr>
<td></td>
<td>short</td>
<td>courte</td>
<td>kurz</td>
<td>corta</td>
<td>Livina (Fo), Waldorf (Fr) 3</td>
</tr>
<tr>
<td></td>
<td>medium</td>
<td>moyenne</td>
<td>mittel</td>
<td>media</td>
<td>Spartan (Fo), Trophy (Fr) 5</td>
</tr>
<tr>
<td></td>
<td>long</td>
<td>longue</td>
<td>lang</td>
<td>larga</td>
<td>Casanova (Fr) 7</td>
</tr>
<tr>
<td></td>
<td>very long</td>
<td>très longue</td>
<td>sehr lang</td>
<td>muy larga</td>
<td>Gondolin (Fr) 9</td>
</tr>
<tr>
<td><strong>16.</strong></td>
<td><strong>60-68</strong> MS A (+) Plant: length of upper internode</td>
<td>Plante: longueur du dernier entre-nœud</td>
<td>Pflanze: Länge des obersten Internodiums</td>
<td>Planta: longitud del entrenudo superior</td>
<td></td>
</tr>
<tr>
<td>QN</td>
<td>very short</td>
<td>très court</td>
<td>sehr kurz</td>
<td>muy corta</td>
<td>Manoir (Fr) 1</td>
</tr>
<tr>
<td></td>
<td>short</td>
<td>court</td>
<td>kurz</td>
<td>corta</td>
<td>Barcrown (Fr), Frida (Fr) 5</td>
</tr>
<tr>
<td></td>
<td>medium</td>
<td>moyen</td>
<td>mittel</td>
<td>media</td>
<td>Casanova (Fr) 7</td>
</tr>
<tr>
<td></td>
<td>long</td>
<td>long</td>
<td>lang</td>
<td>larga</td>
<td>Gondolin (Fr) 9</td>
</tr>
<tr>
<td>Example Varieties/Exemples/Beispielssorten/Variedades ejemplo</td>
<td>Note/Nota</td>
<td>17. 60-68 MS A (*) (+)</td>
<td>Inflorescence: length</td>
<td>Inflorescence: longueur</td>
<td>Blütenstand: Länge</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>QN</td>
<td>very short</td>
<td>très courte</td>
<td>sehr kurz</td>
<td>muy corta</td>
<td>Lifair (Fr), Quatro (Fo)</td>
</tr>
<tr>
<td></td>
<td>short</td>
<td>courte</td>
<td>kurz</td>
<td>corta</td>
<td>Biljart (Fo), Pintor (Fo)</td>
</tr>
<tr>
<td></td>
<td>medium</td>
<td>moyenne</td>
<td>mittel</td>
<td>media</td>
<td>Cindy (Fr), Kiruna (Fr)</td>
</tr>
<tr>
<td></td>
<td>long</td>
<td>longue</td>
<td>lang</td>
<td>larga</td>
<td>Gondolin (Fr)</td>
</tr>
<tr>
<td></td>
<td>very long</td>
<td>très longue</td>
<td>sehr lang</td>
<td>muy larga</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. 60-68 VG B</th>
<th>Inflorescence: anthocyanin coloration of the panicle</th>
<th>Inflorescence: anthocyanique de la panicule</th>
<th>Blütenstand: Anthocyanfärbung der Rispe</th>
<th>Inflorescencia: antociánica de la panícula</th>
</tr>
</thead>
<tbody>
<tr>
<td>QN</td>
<td>absent or weak</td>
<td>nulle ou faible</td>
<td>fehlend oder gering</td>
<td>ausente o débil</td>
</tr>
<tr>
<td></td>
<td>weak</td>
<td>faible</td>
<td>gering</td>
<td>débil</td>
</tr>
<tr>
<td></td>
<td>medium</td>
<td>moyenne</td>
<td>mittel</td>
<td>media</td>
</tr>
<tr>
<td></td>
<td>strong</td>
<td>forte</td>
<td>stark</td>
<td>fuerte</td>
</tr>
<tr>
<td></td>
<td>very strong</td>
<td>très forte</td>
<td>sehr stark</td>
<td>muy fuerte</td>
</tr>
</tbody>
</table>
8. **Explanations on the Table of Characteristics**

8.1 *Explanations covering several characteristics*

(a) The optimal stage to observe these characteristics is at DC 29, which is usually in the year of planting before vernalization. The development of rhizomes can be observed until the beginning of stem elongation (DC 31).

8.2 *Explanations for individual characteristics*

**Ad. 1: Plant: ploidy**

The ploidy of the plant should be determined by standard cytological methods.

**Ad. 4: Plant: growth habit**

The observations should be made visually from the attitude of the leaves of the plant as a whole. The angle formed by the imaginary line through the region of greatest leaf density and the vertical should be used.

---

![Diagram](image-url)
Ad. 5: Leaf length

Total leaf length is the length including the leaf blade and leaf sheath.

Ad. 9: Plant: development of rhizomes

Rhizomes can be observed at the bottom of the stem. Absent or weak development of rhizomes is when there is no rhizome development or rhizome primordia can be observed with a magnifying glass. Medium development of rhizomes is when few and short rhizomes are observed. Strong development of rhizomes is when abundant and long rhizomes are observed.

Ad. 10: Plant: time of inflorescence emergence

Spaced plants or row plots should be observed at least twice a week.

A: Plots with spaced plants

The date of heading of each single plant should be assessed. A single plant is considered to have headed when the tip of three heads (just after DC 50) can be seen protruding from the flag leaf sheath. From the single plant data a mean date per plot and a mean date per variety is obtained.

B: Row plots

The time of inflorescence emergence is the date at which the average plot stage DC 54 has been reached. This date should – if necessary – be obtained by interpolation. At each observation date, the average plot stage should be expressed in one of the following growth stages:

- DC 50 First spikelet of inflorescence just visible
- DC 52 ¼ of the inflorescence emerged (across all stems)
- DC 54 ½ of the inflorescence emerged (across all stems)
- DC 56 ¾ of the inflorescence emerged (across all stems)
- DC 58 Emergence of inflorescence completed

Ad. 12: Flag leaf: length

Ad. 13: Only Red Fescue varieties: Flag leaf: width

Flag leaf is the first leaf below the inflorescence.
Time: within a period of two to three weeks after heading (DC 52-56).
Measurements should be made on the same leaf.
Length should be measured to an accuracy of at least 1mm, from the tip of the leaf blade to the leaf sheath.
Width should be measured to an accuracy of at least 0.5mm, at the widest point of the leaf blade.
Ad. 15: Plant: length of longest stem (inflorescence included)

Length of the longest stem (inflorescence included) is measured from ground level.

Ad. 16: Plant: length of upper internode
Ad. 17: Inflorescence: length

Char. 16: $b = \text{The part of the stem above the upper node up to the beginning of the inflorescence is the upper internode}$

Char. 17: $a = \text{Length of the inflorescence (of the longest stem)}$
8.3 Growth stages for grasses

All characteristics should be recorded at the appropriate time for the plant concerned. Growth stages of grasses are indicated by decimal codes which are derived from the decimal code for the growth stages of cereals (Zadoks, et al., 1974). This decimal code is in close conformity with the BBCH-code (Meier, 1997).

Seedling growth (seedling: one shoot)

DC 10 First leaf through coleoptile
DC 15 Five leaves unfolded
DC 19 Nine or more leaves unfolded

Tillering

DC 20 Main shoot only (beginning of tillering)
DC 23 Main shoot and 3 tillers
DC 25 Main shoot and 5 tillers
DC 29 Main shoot and 9 or more tillers

Stem elongation

DC 30 Pseudo-stem erection (formed by sheaths of leaves).
DC 31 First node detectable (early stem extension across all stems)
DC 35 Fifth node detectable (50 % extension across all stems)
DC 39 Flag leaf ligula/collar just visible (pre-boot stage)

Booting

DC 41 Flag leaf sheath extending (little enlargement of the inflorescence, early boot-stage)
DC 45 Boots swollen (late-boot stage)
DC 47 First leaf sheath opening
DC 49 first awns visible (in awned forms only)

Inflorescence emergence (mostly non-synchronous)

DC 50 First spikelet of inflorescence just visible
DC 52 25 % of the inflorescence emerged (across all stems)
DC 54 50 % of the inflorescence emerged (across all stems)
DC 56 75 % of the inflorescence emerged (across all stems)
DC 58 Emergence of inflorescence completed

Anthesis (mostly non-synchronous)

DC 60 Beginning of anthesis
DC 64 Anthesis half-way
DC 68 Anthesis complete
9. **Literature**


## 1. Subject of the Technical Questionnaire

<table>
<thead>
<tr>
<th>1.1.1 Botanical Name</th>
<th><em>Festuca rubra</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.2 Common Name</td>
<td>Red fescue, Creeping fescue</td>
</tr>
<tr>
<td>1.2.1 Botanical Name</td>
<td><em>Festuca ovina</em> L.</td>
</tr>
<tr>
<td>1.2.2 Common Name</td>
<td>Sheep’s fescue</td>
</tr>
</tbody>
</table>
| 1.3.1 Botanical Name | *Festuca filiformis* Pourr.  
  (*Festuca ovina* subsp. *tenuifolia* (Sibth.) Celak., *Festuca tenuifolia* Sibth.) |
| 1.3.2 Common Name    | Fine-leaf sheep fescue, Hair fescue, Slender fescue |
| 1.4.1 Botanical Name | *Festuca brevipila* R. Tracey,  
  (*Festuca ovina* L. ssp. *duriuscula*, *Festuca trachyphylla* Hack krajina) |
<p>| 1.4.2 Common Name    | Hard fescue, Reliant hard fescue |
| 1.5.1 Botanical Name | <em>Festuca heterophylla</em> Lam. |
| 1.5.2 Common Name    | Shade fescue |
| 1.6.1 Botanical Name | <em>Festuca pseudovina</em> Hack. ex Wiesb. |
| 1.6.2 Common Name    | Pseudovina |</p>
<table>
<thead>
<tr>
<th>TECHNICAL QUESTIONNAIRE</th>
<th>Reference Number:</th>
</tr>
</thead>
</table>

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**
## 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
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).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Example Varieties</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.1 Plant: ploidy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) diploid</td>
<td>Barok (Fo)</td>
<td>2[ ]</td>
</tr>
<tr>
<td>tetraploid</td>
<td></td>
<td>4[ ]</td>
</tr>
<tr>
<td>hexaploid</td>
<td>Biljart (Fo), Darwin (Fr)</td>
<td>6[ ]</td>
</tr>
<tr>
<td>octoploid</td>
<td>Cindy (Fr)</td>
<td>8[ ]</td>
</tr>
<tr>
<td><strong>5.2 Plant: development of rhizomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9) absent or weak</td>
<td>Trophy (Fr)</td>
<td>1[ ]</td>
</tr>
<tr>
<td>medium</td>
<td></td>
<td>2[ ]</td>
</tr>
<tr>
<td>strong</td>
<td>Barpusta (Fr)</td>
<td>3[ ]</td>
</tr>
<tr>
<td><strong>5.3 Plant: time of inflorescence emergence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(10) very early</td>
<td></td>
<td>1[ ]</td>
</tr>
<tr>
<td>early</td>
<td>Biljart (Fo), Darwin (Fr)</td>
<td>3[ ]</td>
</tr>
<tr>
<td>medium</td>
<td>Clio (Fo), Trophy (Fr)</td>
<td>5[ ]</td>
</tr>
<tr>
<td>late</td>
<td>Frida (Fr), Mocassin (Fr)</td>
<td>7[ ]</td>
</tr>
<tr>
<td>very late</td>
<td>Kiruna (Fr), Silk (Fr)</td>
<td>9[ ]</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Denomination(s) of variety(ies) similar to your candidate variety</th>
<th>Characteristic(s) in which your candidate variety differs from the similar variety(ies)</th>
<th>Describe the expression of the characteristic(s) for the similar variety(ies)</th>
<th>Describe the expression of the characteristic(s) for your candidate variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Plant: time of inflorescence emergence</td>
<td>early (3)</td>
<td>late (7)</td>
</tr>
</tbody>
</table>

Comments:
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

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.
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]