



TG/LEUCA(proj.2)

ORIGINAL: English

DATE: 2024-03-13

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

Geneva

DRAFT

## LEUCANTHEMUM

UPOV Code(s): LEUCA

*Leucanthemum* Mill.

## GUIDELINES

## FOR THE CONDUCT OF TESTS

## FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from the United Kingdom  
to be considered by the  
Technical Working Party for Ornamental Plants and Forest Trees  
at its fifty-sixth session, to be held virtually  
from 2024-04-29 to 2024-05-02*

*Disclaimer: this document does not represent UPOV policies or guidance*

Alternative names:\*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Leucanthemum</i> Mill.	Leucanthemum	Marguerite	Margerite	Margarita

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

These Test Guidelines apply to all varieties of *Leucanthemum* Mill.

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 vegetatively propagated young plants.

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

10 plants

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

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

3. Method of Examination

3.1 *Number of Growing Cycles*

3.1.1 The minimum duration of tests should normally be a single growing cycle.

3.1.2 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 10 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 *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 9 plants or parts of plants taken from each of 9 plants and any other observations made on all plants in the test, disregarding any off-type plants.

#### 4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

## 4.2 *Uniformity*

- 4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:
- 4.2.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.
- 4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed.

## 4.3 *Stability*

- 4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.
- 4.3.2 Where appropriate, or in cases of doubt, stability may be further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.

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

- 5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.
- 5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.
- 5.3 The following have been agreed as useful grouping characteristics:
- (a) Plant: height (characteristic 1)
  - (b) Flower head: type (characteristic 12)
  - (c) Only varieties with flower head: type: single or semi-double: Flower head: disc type (characteristic 13)
  - (d) Ray floret: type (characteristic 20)
  - (e) Ray floret: color (characteristic 24) With the following groups:
    - Gr. 1: white
    - Gr. 2: light yellow
    - Gr. 3: medium yellow
- 5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".

## 6. Introduction to the Table of Characteristics

### 6.1 *Categories of Characteristics*

#### 6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

## 6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by \*) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

## 6.2 States of Expression and Corresponding Notes

6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.2.2 All relevant states of expression are presented in the characteristic.

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".

## 6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

## 6.4 Example Varieties

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

## 6.5 Legend

English		français		deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1	2	3	4	5	6	7	
Name of characteristics in English		Nom du caractère en français		Name des Merkmals auf Deutsch		Nombre del carácter en español	
states of expression		types d'expression		Ausprägungsstufen		tipos de expresión	

1 Characteristic number

2 (\*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression  
 QL Qualitative characteristic – see Chapter 6.3  
 QN Quantitative characteristic – see Chapter 6.3  
 PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)  
 MG, MS, VG, VS – see Chapter 4.1.5

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

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

7 Not applicable

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>1. (*)</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(+)</b>			
	<b>Plant: height</b>					
	very short					1
	very short to short				Luna	2
	short				Sunrimaiapy	3
	short to medium					4
	medium				REGLO	5
	medium to tall					6
	tall				Becky	7
	tall to very tall					8
	very tall					9
<b>2.</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>			
	<b>Plant: density</b>					
	very sparse					1
	sparse				REGLO	2
	medium				Real Sunbeam	3
	dense				LEUZ0001	4
	very dense					5
<b>3.</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>			
	<b>Stem: pubescence</b>					
	absent or very sparse				Lacrosse	1
	sparse				Seiryu	2
	medium					3
	dense				Ginga	4
	very dense				LEUZ0001	5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>4.</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(a)</b>			
	<b>Leaf: length</b>					
	very short					1
	very short to short					2
	short					3
	short to medium				Angel, Macaroon	4
	medium					5
	medium to long				Luna	6
	long					7
	long to very long					8
	very long				Goldfinch, Real Galaxy	9
<b>5.</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(a)</b>			
	<b>Leaf: width</b>					
	very narrow				Angel	1
	very narrow to narrow				Macaroon	2
	narrow					3
	narrow to medium				Goldfinch, Luna	4
	medium					5
	medium to broad				Real Galaxy	6
	broad					7
	broad to very broad					8
	very broad					9
<b>6. (*)</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(a)</b>			
	<b>Leaf: length/width ratio</b>					
	very low					1
	very low to low					2
	low					3
	low to medium				Macaroon	4
	medium				Luna, Real Galaxy	5
	medium to high					6
	high				Angel	7
	high to very high					8
	very high				Goldfinch	9



	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>7.</b>	<b>QN</b> <b>VG</b>	<b>(a)</b>				
	<b>Leaf: intensity of green color</b>					
	light				Luna	1
	medium				Real Sunbeam	2
	dark				LEUZ0003	3
<b>8.</b>	<b>QN</b> <b>VG</b>	<b>(+)</b>	<b>(a)</b>			
	<b>Leaf: indentations of margin</b>					
	very few					1
	few				Luna	2
	medium				REGLO	3
	many				Macaroon, Sunrimaiapy	4
	very many				Real Sunbeam	5
<b>9.</b>	<b>QN</b> <b>VG</b>	<b>(+)</b>	<b>(a)</b>			
	<b>Leaf: depth of indentations of margin</b>					
	very shallow				Luna	1
	shallow					2
	medium				Macaroon, Real Sunbeam	3
	deep				Sunrimaiapy	4
	very deep				REGLO	5
<b>10</b>	<b>QN</b> <b>MG/MS/VG</b>	<b>(+)</b>				
	<b>Peduncle: length</b>					
	very short					1
	very short to short					2
	short				LEUZ0003	3
	short to medium					4
	medium				Real Dream	5
	medium to long					6
	long				Osiris Neige	7
	long to very long					8
	very long					9
<b>11 (*)</b>	<b>PQ</b> <b>VG</b>	<b>(+)</b>				
	<b>Flower bud: color</b>					
	RHS colour chart (indicate reference number)					

	English		français		deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>12 (*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b)</b>				
	<b>Flower head: type</b>							
	single						Angel	1
	semi-double						Real Sunbeam, REGLO	2
	double						Luna	3
<b>13 (*)</b>	<b>QL</b>	<b>VG</b>	<b>(+)</b>	<b>(b)</b>				
	<b>Only varieties with flower head: type: single or semi- double: Flower head: disc type</b>							
	daisy						Real Sunbeam	1
	anemone						REGLO	2
<b>14 (*)</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(+)</b>	<b>(b)</b>				
	<b>Flower head: diameter</b>							
	very small							1
	very small to small							2
	small						Little Miss Muffet	3
	small to medium							4
	medium						Macaroon	5
	medium to large							6
	large						Real Sunbeam	7
	large to very large							8
	very large						REGLO	9
<b>15</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(+)</b>	<b>(b)</b>				
	<b>Flower head: height</b>							
	very short						Little Miss Muffet	1
	very short to short							2
	short						Real Dream	3
	short to medium							4
	medium						Real Sunbeam	5
	medium to tall							6
	tall						Macaroon	7
	tall to very tall							8
	very tall							9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>16</b> (*)	<b>QN</b>	<b>MG/MS/VG</b>	<b>(+)</b>	<b>(b)</b>		
	<b>Only varieties with flower head: type: single or semi-double: Flower head: disc diameter relative to flower head diameter</b>					
	very small					1
	small				Macaroon	2
	medium				Real Sunbeam	3
	large				REGLO	4
	very large					5
<b>17</b> (*)	<b>QN</b>	<b>MG/MS/VG</b>		<b>(b)</b>		
	<b>Only varieties with flower head: type: single or semi-double: Flower head: ray floret number</b>					
	very few				Little Miss Muffet	1
	very few to few					2
	few				Sunrimaiapy	3
	few to medium					4
	medium				REGLO	5
	medium to many					6
	many				LEUZ0001	7
	many to very many					8
	very many				Macaroon	9
<b>18</b>	<b>QN</b>	<b>VG</b>		<b>(b)</b>		
	<b>Only varieties with flower head: type: double: Ray floret: density</b>					
	very sparse				Summer Snowball	1
	sparse					2
	medium				Osiris Neige	3
	dense				Luna	4
	very dense					5

	English		français		deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>19</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>	<b>(b), (c)</b>				
	<b>Flower head: attitude of ray florets at base</b>							
		moderately ascending					Daisy Duke	1
		weakly ascending					Becky	2
		horizontal					Sunrimaiapy	3
		weakly descending					Macaroon	4
		moderately descending						5
<b>20</b>	<b>(*) PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b), (c)</b>				
	<b>Ray floret: type</b>							
		ligulate					GFLEUWHMTN	1
		divided ligulate					Luna	2
		divided					Real Galaxy	3
		spatulate					Doleuswedaso	4
		divided spatulate					Lacrosse	5
		divided funnel shaped					Osiris Neige	6
<b>21</b>	<b>(*) QN</b>	<b>MG/MS/VG</b>		<b>(b), (c)</b>				
	<b>Ray floret: length</b>							
		very short						1
		very short to short						2
		short					Little Miss Muffet	3
		short to medium						4
		medium					LEUZ0001	5
		medium to long						6
		long					Daisy Duke	7
		long to very long						8
		very long						9
<b>22</b>	<b>(*) QN</b>	<b>MG/MS/VG</b>		<b>(b), (c)</b>				
	<b>Only varieties with ray floret: type: ligulate or spatulate: Ray floret: width</b>							
		very narrow					Angel	1
		narrow						2
		medium					GFLEUWHMTN	3
		broad					Daisy Duke	4
		very broad						5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>23</b>	<b>(*) QN</b>	<b>MG/MS/VG</b>	<b>(b), (c)</b>			
	<b>Only varieties with ray floret: type: ligulate or spatulate; Ray floret: length/width ratio</b>					
	very low				GFLEUWHMTN	1
	very low to low					2
	low				Real Dream	3
	low to medium					4
	medium					5
	medium to high				REGLO	6
	high					7
	high to very high				Angel	8
	very high					9
<b>24</b>	<b>(*) PQ</b>	<b>VG</b>	<b>(b), (c)</b>			
	<b>Ray floret: color</b>					
	RHS colour chart (indicate reference number)					
<b>25</b>	<b>PQ</b>	<b>VG</b>	<b>(b), (c)</b>			
	<b>Ray floret: color of tip if different</b>					
	RHS colour chart (indicate reference number)					
<b>26</b>	<b>(*) PQ</b>	<b>VG</b>	<b>(b), (c)</b>			
	<b>Only varieties with ray floret: type: ligulate or spatulate; Ray floret: longitudinal axis</b>					
	incurved				REGLO	1
	straight				Real Sunbeam	2
	recurved				Daisy Duke	3
<b>27</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>	<b>(b), (c)</b>		
	<b>Ray floret: degree of curvature</b>					
	very weak				REGLO	1
	weak					2
	medium				Luna	3
	strong				LEUZ0003	4
	very strong				LEUZ0001	5

	English		français		deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>28</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b), (c)</b>			
		<b>Only varieties with ray floret: type: ligulate or spatulate: Ray floret: shape of apex</b>						
		acute					Becky	1
		rounded					REGLO	2
		truncate					Real Sunbeam	3
<b>29</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>					
		<b>Ray floret: number of indentations</b>						
		absent or very few						1
		few					Becky	2
		medium					Luna	3
		many						4
		very many					Osiris Neige	5
<b>30</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b), (c)</b>			
		<b>Ray floret: depth of indentations</b>						
		all shallow					Daisy Duke	1
		mainly shallow, some medium or deep					Luna	2
		mainly medium					Macaroon	3
		some medium, some deep					LaSpider	4
		all deep					Engelina	5
<b>31</b>		<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b)</b>			
		<b>Only varieties with flower head: type: single or semi-double: Disc: color before anthesis</b>						
		yellow green					Real Galaxy	1
		yellow					Sunrimaiapy	2
		yellow orange					Real Sunbeam	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>32</b> (*)	<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(b)</b>		
	<b>Only varieties with flower head: type: single or semi- double: Disc: color after anthesis</b>					
	white				Angel	1
	yellow				REGLO	2
	yellow orange				Real Sunbeam	3
<b>33</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(b)</b>			
	<b>Only varieties with flower head: type: single or semi- double: Disc: number of ray florets within disc</b>					
	absent or few				Daisy Duke	1
	medium				Macaroon	2
	many					3
<b>34</b>	<b>QN</b>	<b>MG/MS/VG</b>	<b>(+)</b>	<b>(b)</b>		
	<b>Only varieties with flower head: disc type: anemone: Disc floret: length</b>					
	very short				Angel	1
	short					2
	medium				REGLO	3
	long					4
	very long					5

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Observations should be made at the time of full flowering.

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

- (a) Observations should be made on fully developed leaves from the middle third of the stem, and, unless otherwise indicated, on the upper surface.
- (b) Observations should be made on fresh, fully open flowers. In the case of single and semi-double flower head types, 2 or 3 rows of anthers should have dehisced.
- (c) Observations should be made on ray florets from the outer rows, and, unless otherwise indicated, on the upper surface.

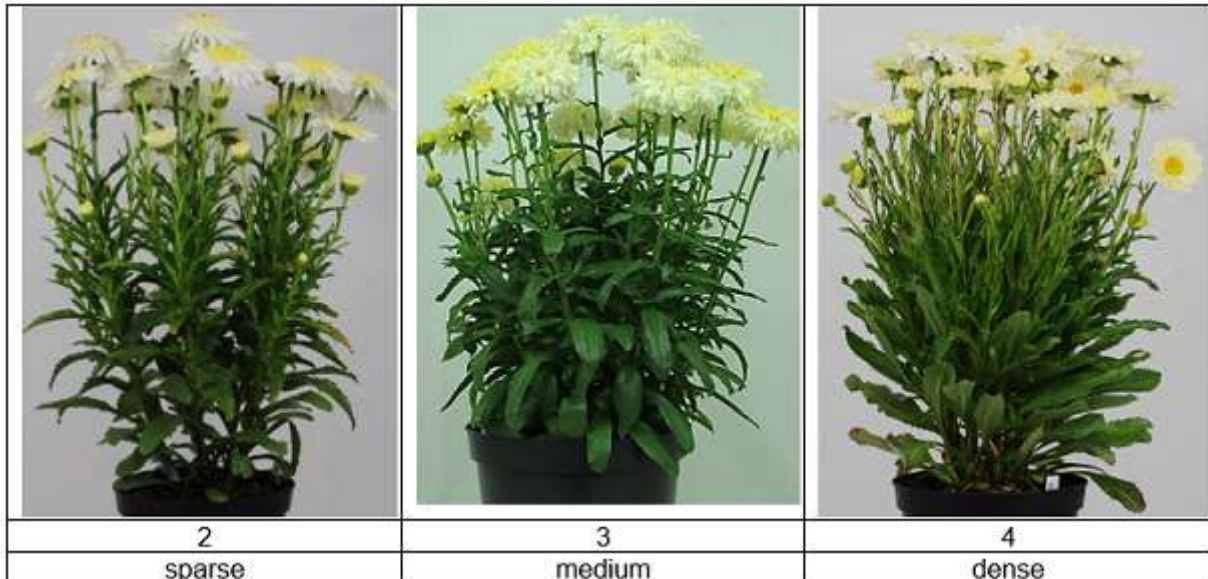
8.2 *Explanations for individual characteristics*

Ad. 1: Plant: height

Observation should be made from the surface of the growing media to the highest point of the plant.

Ad. 2: Plant: density

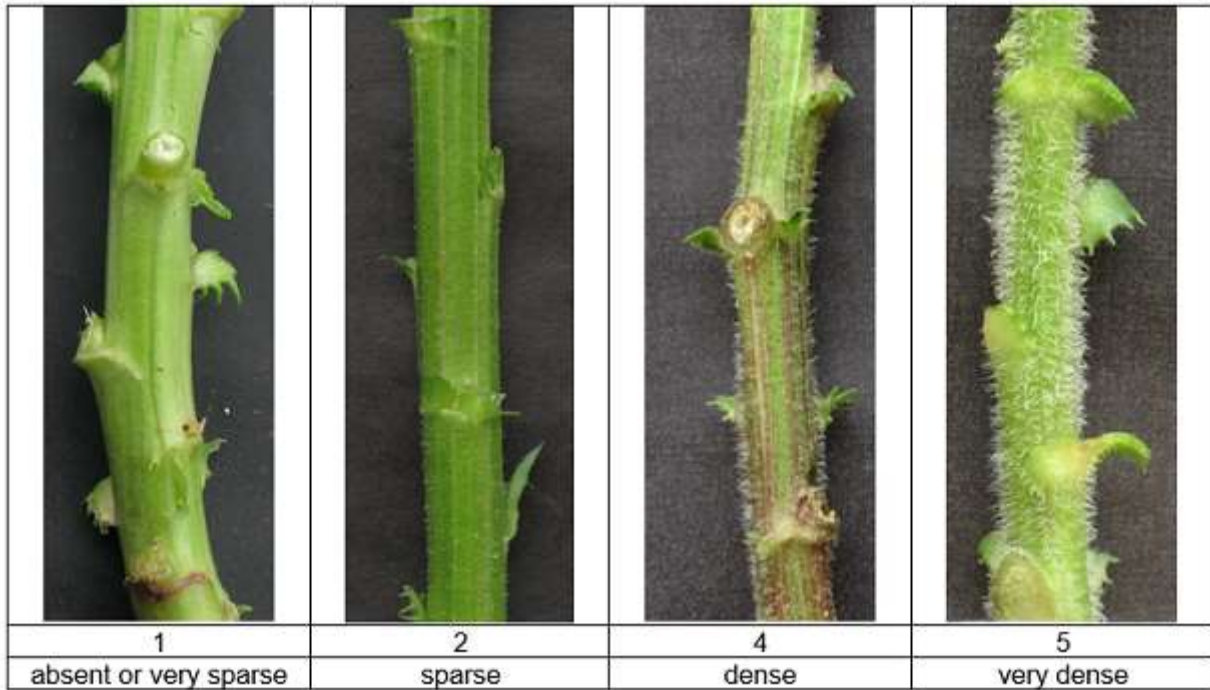
Observations should be made taking into account the stems, leaves and flowers.



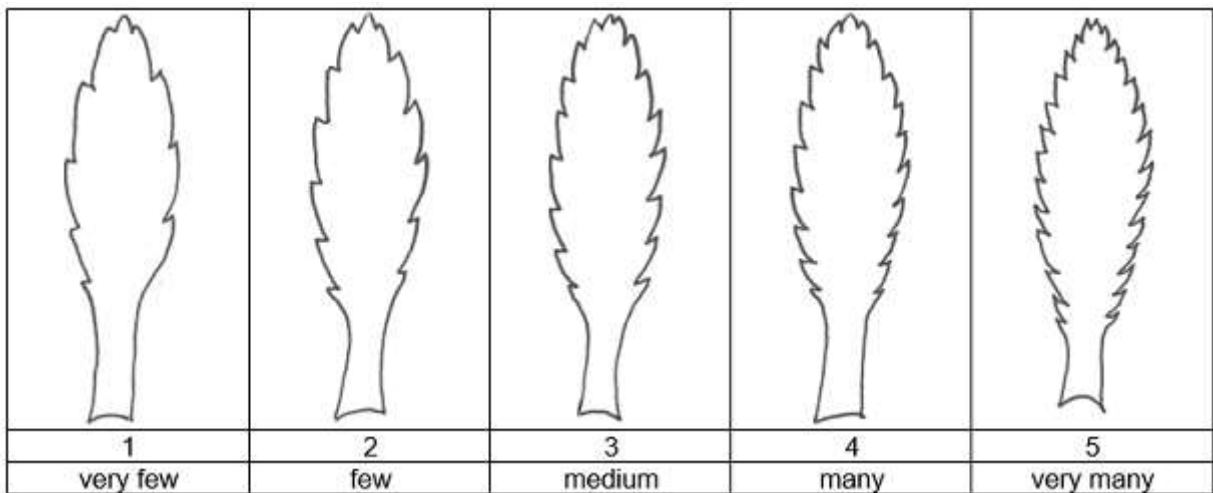


Ad. 3: Stem: pubescence

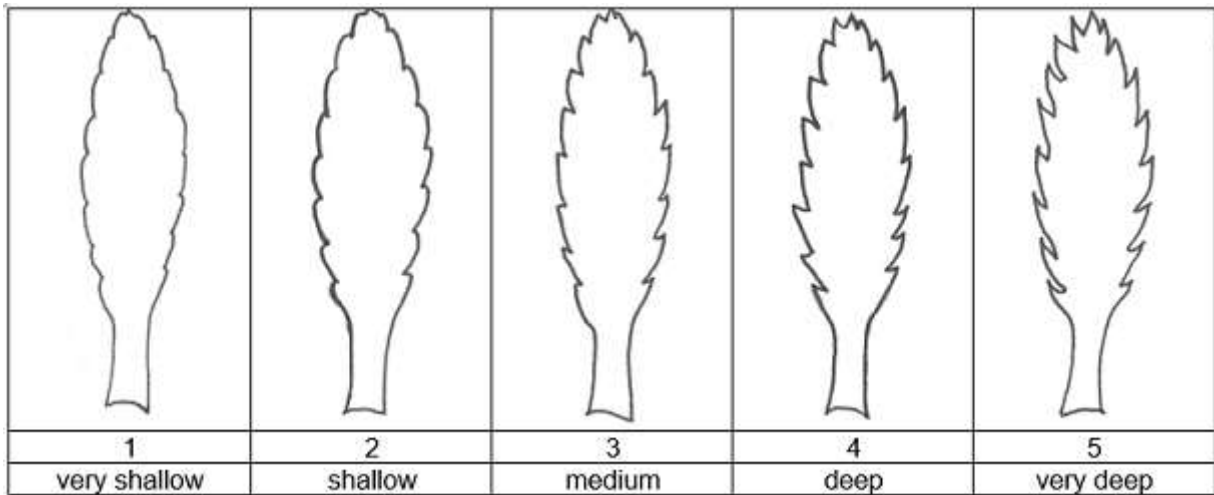
Observations should be made in the middle third of the stem.



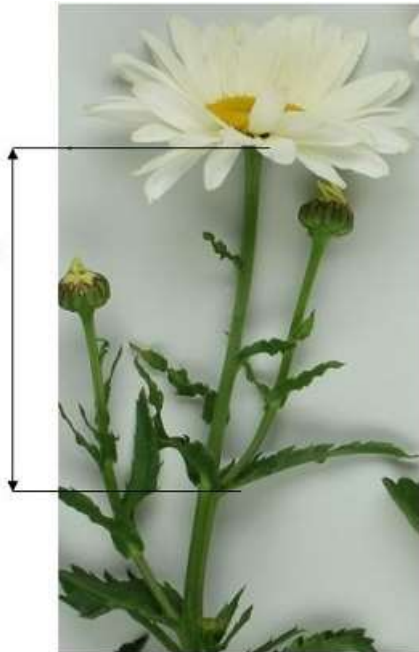
Ad. 8: Leaf: indentations of margin



Ad. 9: Leaf: depth of indentations of margin



Ad. 10: Peduncle: length



Ad. 11: Flower bud: color

Observations should be made on the outer side of the ray florets just before the bud opens.

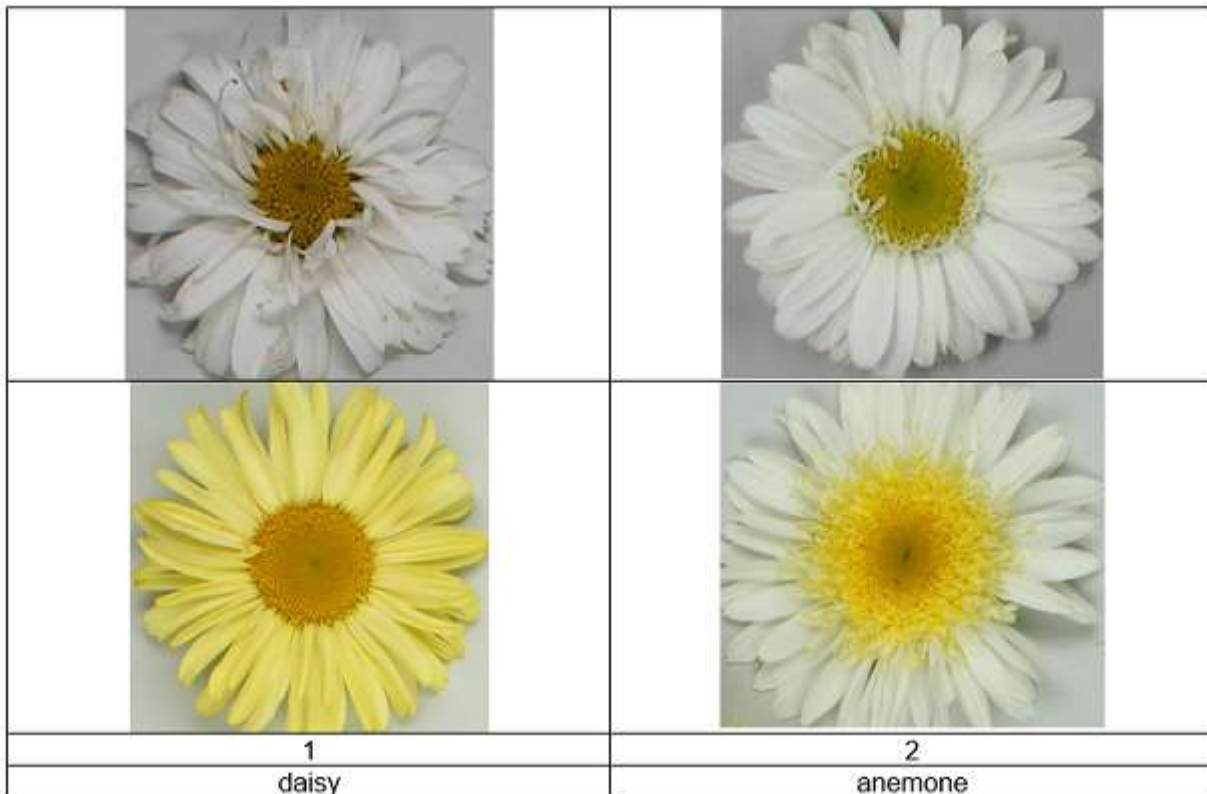
Ad. 12: Flower head: type

A single flower head has less than 2 full rows of ray florets, a semi-double flower head has 2 or more rows of ray florets and a clearly defined disc, a double flower head has many rows of ray florets and the disc florets are not clearly defined into a disc or not visible.



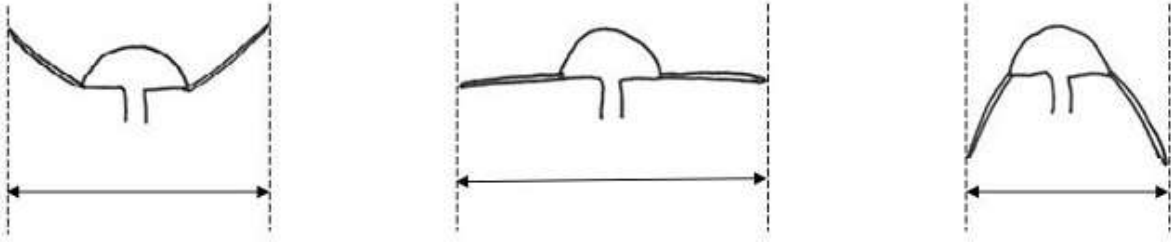
Ad. 13: Only varieties with flower head: type: single or semi-double: Flower head: disc type

Varieties with anemone disc type are ones where the disc florets are of a petaloid type. Varieties with daisy disc may have additional ray florets within the disc but these are not modified disc florets. The illustration below shows examples of varieties with daisy type disc with additional ray florets (top), and without additional ray florets (bottom). For note 2, the illustrations show examples of varieties with anemone disc but with different lengths of disc florets, very short (top), and medium (bottom).

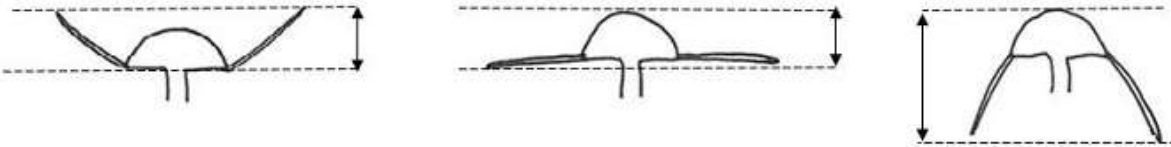


Ad. 14: Flower head: diameter

Observations should be made on the natural diameter of the flower head.

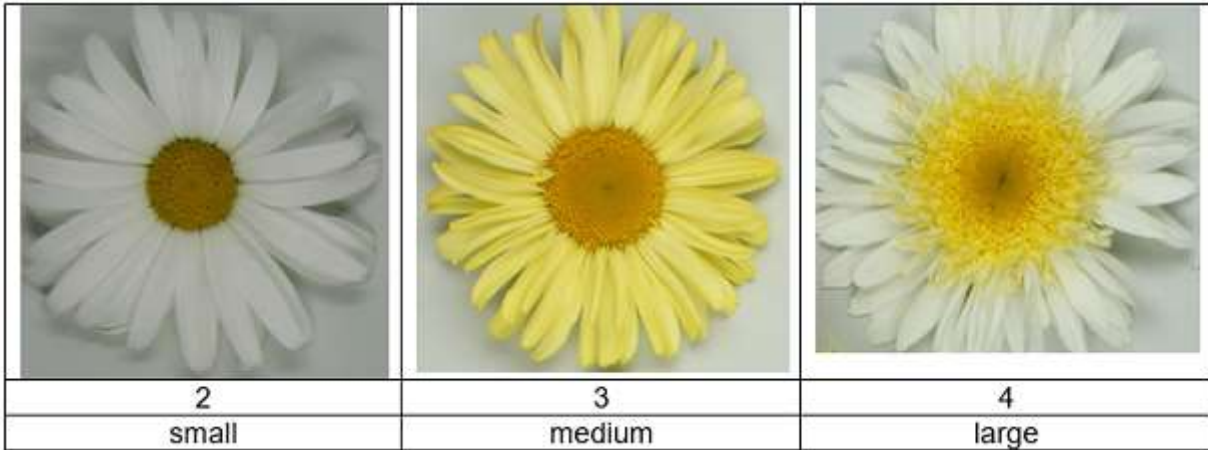


Ad. 15: Flower head: height

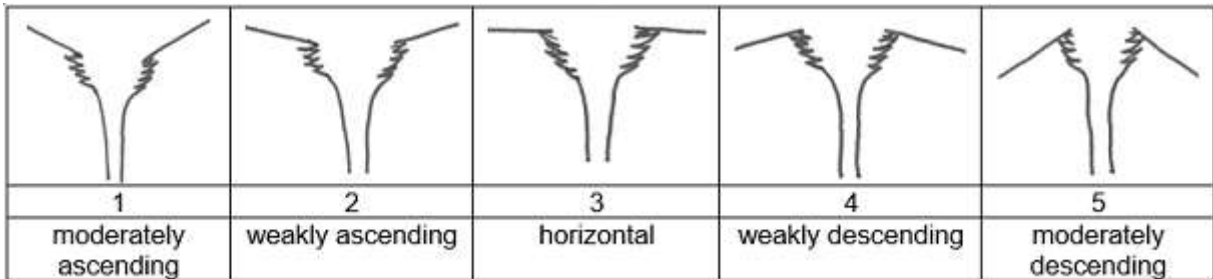


Ad. 16: Only varieties with flower head: type: single or semi-double: Flower head: disc diameter relative to flower head diameter


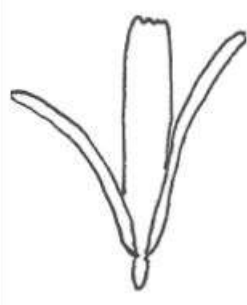



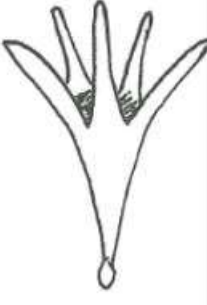
Observations should be made excluding any extra ray florets that are present in the disc.




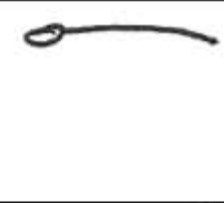
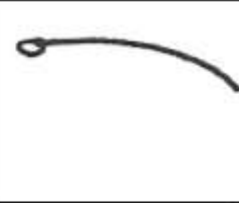


Ad. 19: Flower head: attitude of ray florets at base



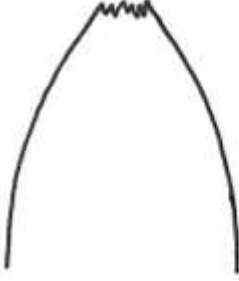

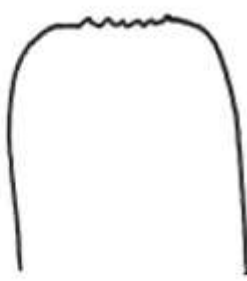
Ad. 20: Ray floret: type

					
1	2	3	4	5	6
ligulate	divided ligulate	divided	spatulate	divided spatulate	divided funnel shaped





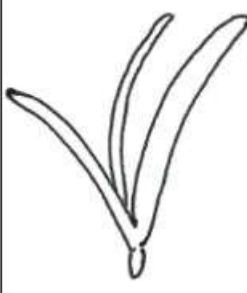
Ad. 27: Ray floret: degree of curvature

				
1	2	3	4	5
very weak	weak	medium	strong	very strong

Ad. 28: Only varieties with ray floret: type: ligulate or spatulate: Ray floret: shape of apex

		
1	2	3
acute	rounded	truncate

Ad. 30: Ray floret: depth of indentations

				
1	2	3	4	5
all shallow	mainly shallow, some medium or deep	mainly medium	some medium, some deep	all deep

Ad. 31: Only varieties with flower head: type: single or semi-double: Disc: color before anthesis

Observations should be made on the part of the disc that has not started to dehisce.

Ad. 32: Only varieties with flower head: type: single or semi-double: Disc: color after anthesis

Observations should be made on the part of the disc where anthers have started to dehisce.

Ad. 34: Only varieties with flower head: disc type: anemone: Disc floret: length

Observations should be made on the florets in the outer 2 or 3 rows of the disc.

9. Literature

Brickell, C. 2016: The Royal Horticultural Society A - Z Encyclopedia of Garden Plants. Dorling Kindersley, London, GB, pp. 616 to 617.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1	Botanical name	<input type="text" value="Leucanthemum Mill."/>
1.2	Common name	<input type="text"/>
1.3	Species (please indicate):	<input type="text"/>
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 (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>



TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross

(please state parent variety)

(.....) x (.....)

female parent male parent

(b) partially known cross

(please state known parent variety(ies))

(.....) x (.....)

female parent male parent

(c) unknown cross

4.1.2 Mutation

(please state parent variety)

4.1.3 Discovery and development

(please state where and when discovered and how developed)

4.1.4 Other

(Please provide details)

# 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:
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4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

4.2.2 Vegetative propagation

- (a) Cuttings [ ]
- (b) *In vitro* propagation [ ]
- (c) Division [ ]
- (d) Other (state method) [ ]

4.2.3 Other [ ]  
(Please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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
<b>5.1 Plant: height (1)</b>		
very short		1 [ ]
very short to short	Luna	2 [ ]
short	Sunrimaiapy	3 [ ]
short to medium		4 [ ]
medium	REGLO	5 [ ]
medium to tall		6 [ ]
tall	Becky	7 [ ]
tall to very tall		8 [ ]
very tall		9 [ ]
<b>5.2 Flower head: type (12)</b>		
single	Angel	1 [ ]
semi-double	Real Sunbeam, REGLO	2 [ ]
double	Luna	3 [ ]
<b>5.3 <u>Only varieties with flower head: type: single or semi-double:</u> Flower head: disc type (13)</b>		
daisy	Real Sunbeam	1 [ ]
anemone	REGLO	2 [ ]
<b>5.4 Ray floret: type (20)</b>		
ligulate	GFLEUWHMTN	1 [ ]
divided ligulate	Luna	2 [ ]
divided	Real Galaxy	3 [ ]
spatulate	Doleuswedaso	4 [ ]
divided spatulate	Lacrosse	5 [ ]
divided funnel shaped	Osiris Neige	6 [ ]
<b>5.5(i) Ray floret: color (24)</b>		
RHS colour chart (indicate reference number)		
<b>5.5(ii) Ray floret: color (24)</b>		
white	REGLO	1 [ ]
light yellow	Macaroon	2 [ ]
medium yellow	Real Sunbeam	3 [ ]
other (please specify)		[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

*Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.*

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the <b>similar</b> variety(ies)	Describe the expression of the characteristic(s) for <b>your</b> candidate variety
<i>Example</i>	<i>Plant: height</i>	<i>short</i>	<i>medium</i>
Comments:			

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

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (<http://www.upov.int/tgp/en/>).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

# 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:
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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

[End of document]