



PROTOCOL FOR TESTS ON DISTINCTNESS, UNIFORMITY AND STABILITY

***Osteospermum* L.;**
hybrids with *Dimorphotheca* Vaill. ex Moench

OSTEOSPERMUM; OSTEOSPERMUM x DIMORPHOTHECA

UPOV Code: OSTEO; OSDIM

Adopted on 19/03/2014

Entry into force on 01/01/2014

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1. SUBJECT OF THE PROTOCOL AND REPORTING

1.1 Scope of the technical protocol

This Technical Protocol applies to all varieties of *Osteospermum L.* and its hybrids with *Dimorphotheca* Vaill. ex Moench.

The protocol describes the technical procedures to be followed in order to meet the requirements of Council Regulation 2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on documents agreed by the International Union for the Protection of New Varieties of Plants (UPOV), such as the General Introduction to DUS (UPOV Document TG/1/3 http://www.upov.int/en/publications/intro_dus.htm), its associated TGP documents (<http://www.upov.int/en/publications/tgp/>) and the relevant UPOV Test Guideline TG/176/5 dated 20/03/2013 (<http://www.upov.int/edocs/tgdocs/en/tg176.pdf>) for the conduct of tests for Distinctness, Uniformity and Stability.

1.2 Entry into Force

The present protocol enters into force on **01.01.2014**. Any on-going DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the Technical Protocol. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for submitting of plant material for the first test period.

In cases where the Office requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process to be carried out at the moment of this request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

1.3 Reporting between Examination Office and CPVO and Liaison with Applicant

1.3.1 Reporting between Examination Office and CPVO

The Examination Office shall deliver to the CPVO a preliminary report ("the preliminary report") no later than two weeks after the date of the request for technical examination by the CPVO.

The Examination Office shall also deliver to the CPVO a report relating to each growing period ("the interim report") and, when the Examination Office considers the results of the technical examination to be adequate to evaluate the variety or the CPVO so requests, a report relating to the examination ("the final report").

The final report shall state the opinion of the Examination Office on the distinctness, uniformity and stability of the variety. Where it considers those criteria to be satisfied, or where the CPVO so requests, a description of the variety shall be added to the report. If a report is negative the Examination Office shall set out the detailed reasons for its findings.

The interim and the final reports shall be delivered to the CPVO as soon as possible and no later than on the deadlines as laid down in the designation agreement.

1.3.2 Informing on problems in the DUS test

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior permanent agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

1.3.3 Sample keeping in case of problems

If the technical examination has resulted in a negative report, the CPVO shall inform the Examination Office as soon as possible in case that a representative sample of any relevant testing material shall be kept.

2. MATERIAL REQUIRED

2.1 Plant material requirements

Information with respect to the agreed closing dates and submission requirements of plant material for the technical examination of varieties can be found on <http://www.cpvo.europa.eu/main/en/home/documents-and-publications/s2-gazette> in the special issue S2 of the Official Gazette of the Office. General requirements on submission of samples are also to be found following the same link.

2.2 Informing the applicant of plant material requirements

The CPVO informs the applicant that:

- he is responsible for ensuring compliance with any customs and plant health requirements,
- the plant material supplied should be visibly healthy, not lacking in vigour, nor affected by any important pest or disease,
- 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.

2.3 Informing about problems on the submission of material

The Examination Office shall report to the CPVO immediately in cases where the test material of the candidate variety has not arrived in time or in cases where the material submitted does not fulfil the conditions laid down in the request for material issued by the CPVO.

In cases where the examination office encounters difficulties to obtain plant material of reference varieties the CPVO should be informed.

3. METHOD OF EXAMINATION

3.1 Number of growing cycles

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

3.2 Testing Place

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

http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_9_1.pdf.

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.

Because daylight varies, colour determinations made against a colour 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 colour 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 15 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

In accordance with Article 83(3) of Council Regulation No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, an additional test may be undertaken providing that a technically acceptable test procedure can be devised.

Additional tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characters listed in the protocol.

3.6 Constitution and maintenance of a variety collection

The process for the constitution and the maintenance of a variety collection can be summarized as follows:

Step 1: Making an inventory of the varieties of common knowledge

Step 2: Establishing a collection ("variety collection") of varieties of common knowledge which are relevant for the examination of distinctness of candidate varieties

Step 3: Selecting the varieties from the variety collection which need to be included in the growing trial or other tests for the examination of distinctness of a particular candidate variety.

3.6.1 Forms of variety collection

The variety collection shall comprise variety descriptions and may comprise living plant material. The variety description shall be produced by the examination office unless special cooperation exists between examination offices and the CPVO. The descriptive and pictorial information produced by the examination office shall be held and maintained in a form of a database.

3.6.2 Living Plant Material

The examination office shall obtain living plant material of reference varieties as and when those varieties need to be included in growing trials or other tests.

3.6.3 Making an inventory of varieties of common knowledge for inclusion in the variety collection

The inventory shall include varieties protected under National and Community PBR and varieties in trade or in commercial registers. In addition to the above, the inventory shall be extended to the appropriate to

- any commercial document in which varieties are marketed as propagating or harvested material, especially when there is no official registration system;
- any list including varieties which are publicly available within plant collections (varieties included in genetic resource collections, collection of old varieties, etc.);
- information provided by relevant plant experts;
- relevant example varieties referred to in the technical protocols for the examination of distinctness.

4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY

The prescribed procedure is to assess distinctness, uniformity and stability in a growing trial.

4.1 Distinctness

4.1.1 General recommendations

It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 9 'Examining Distinctness' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_9_1.pdf) prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in this Technical Protocol.

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 Technical Protocols are familiar with the recommendations contained in the UPOV-General Introduction to DUS prior to making decisions regarding distinctness.

4.1.4 Number of plants/parts of plants to be examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts taken from each of 10 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 third column of the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

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

"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. colour 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

It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 10 'Examining Uniformity' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_10_1.pdf) prior to making decisions regarding uniformity. However, the following point is provided for elaboration or emphasis in this Technical Protocol.

Uniformity assessment by off-types

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 15 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 11 'Examining Stability' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_11_1.pdf)

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: growth habit (characteristic 1)
- b) Leaf: variegation (characteristic 6)
- c) Disc: type (characteristic 12)
- d) Plant: inward rolling of longitudinal margins on ray florets (characteristic 23)
- e) Ray floret: main colour of basal part (characteristic 27) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange
 - Gr. 4: pink
 - Gr. 5: red
 - Gr. 6: purple
 - Gr. 7: violet
- f) Ray floret: main colour of middle part (characteristic 28) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange
 - Gr. 4: pink
 - Gr. 5: red
 - Gr. 6: purple
 - Gr. 7: violet
- g) Ray floret: main colour of apical part (characteristic 29) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange
 - Gr. 4: pink
 - Gr. 5: red
 - Gr. 6: purple
 - Gr. 7: violet

5.4 If other characteristics than those from the TP are used for the selection of varieties to be included into the growing trial, the examination office shall inform the CPVO and seek the prior consent of the CPVO before using these characteristics.

6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS

6.1 Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the table of characteristics. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted or by specific legislation on plant health. In the latter case, the CPVO should be informed.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation N°874/2009, to insert additional characteristics and their expressions in respect of a variety.

States of expression and corresponding notes

In the case of qualitative and pseudo-qualitative characteristics, all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2 Example Varieties

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

6.3 Legend

For the CPVO N° column:

G	Grouping characteristic	– see Chapter 5
MG, MS, VG, VS		– see Chapter 4.1.5
QL	Qualitative characteristic	
QN	Quantitative characteristic	
PQ	Pseudo-qualitative characteristic	

For the UPOV N° column:

The numbering of the characteristics is provided as a reference to the ad hoc UPOV guideline.

(*) UPOV Asterisked characteristic – Characteristics that are important for the international harmonization of variety descriptions.

(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

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
1.	1. (*)	VG	Plant: growth habit		
(+)			upright	SUMIPAS 0904	1
PQ			semi-upright	SAKOST 8077	2
G			spreading	Duetiswila	3
2.	2. (*)	VG/MS	Plant: height		
(+)			short	Sir Rossa	3
QN			medium	Balserimlav	5
			long	Sunny Henry	7
3.	3.	VG/MS	Leaf: length		
(+)		(a)	short	Sir Rossa	3
QN			medium	KLEOE 05115	5
			long	SUNBRE 0905	7
4.	4.	VG/MS	Leaf: width		
(+)		(a)	narrow	Balvoyelo	3
QN			medium	Duetirevel	5
			broad	Sir Whit	7
5.	5. (*)	VG	Leaf: indentation of margin		
(+)		(a)	absent or very shallow		1
QN			shallow		3
			medium		5
			deep		7
			very deep		9
6.	6. (*)	VG	Leaf: variegation		
(+)		(a)	absent	Sunny Henry	1
QL G			present	Silver Sparkler	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
7. QN	7.	VG (a)	Leaf: intensity of green colour		
			light		1
			medium	Sir Rossa	2
			dark	SUNOST 1001	3
8. (+) PQ	8.	VG	Young flower head: main colour of ray floret		
			RHS Colour Chart (indicate reference number)		
9. (+) QL	9. (*)	VG (b)	Flower head: paracorolla		
			absent		1
			present		9
10. (+) QN	10. (*)	VG/MS (b)	Flower head: number of ray florets		
			few	Balvoyelo	3
			medium	Sunny Xandra	5
			many		7
11. QN	11. (*)	VG/MS (b)	Flower head: diameter		
			small	Sir Whit	3
			medium		5
			large	Sakcadnucop	7
12. (+) QL G	12. (*)	VG (b)	Disc: type		
			daisy	Sunny Henry	1
			anemone	KLEOE 10180	2

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
13.	13.	VG/MS	<u>Only varieties with disc: type: daisy:</u> <u>Disc: diameter</u>		
QN		(b)	very small		1
			small	Sir Whit	2
			medium		3
			large	Sunny Xandra	4
			very large		5
14.	14.	VG/MS	<u>Only varieties with disc: type:</u> <u>anemone: Disc: diameter</u>		
QN		(b)	very small		1
			small		2
			medium		3
			large		4
			very large		5
15.	15. (*)	VG	<u>Only varieties with disc: type: daisy:</u> <u>Disc: colour</u>		
(+)			light grey		1
PQ			yellow		2
			yellow green		3
			medium grey green		4
			dark grey green		5
			dark grey		6
			purple		7
			violet		8
			light blue		9
			dark blue		10
			brown		11
			black		12

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
16.	16.	VG	Only varieties with disc: type: <u>anemone</u>: Plant: predominant type of disc floret		
(+)			funnel shaped		1
PQ			petaloid and funnel shaped		2
			petaloid		3
17.	17. (*)	VG	Funnel shaped disc floret: main colour of outer side of corolla tube		
(+)			RHS Colour Chart		
PQ			(indicate reference number)		
18.	18.	VG	Petaloid disc floret: main colour of upper side		
(+)			RHS Colour Chart		
PQ			(indicate reference number)		
19.	19. (*)	VG/MS	Ray floret: length		
QN		(b)	short		3
			medium	Balvoyelo	5
			long	Sunny Xandra	7
20.	20.	VG/MS	Ray floret: width		
(+)		(b)	very narrow		1
QN			narrow	SUNPIX 0804	2
			medium		3
			broad	KLEOE 06123	4
			very broad		5
21.	21.	VG/MS	Ray floret: length/width ratio		
(+)		(b)	very low		1
QN			low		2
			medium		3
			high		4
			very high		5

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
22.	22.	VG	Ray floret: shape of apex		
(+)		(b)	acute		1
PQ			obtuse		2
			rounded		3
			truncate		4
23.	23. (*)	VG	Plant: inward rolling of longitudinal margins on ray florets		
(+)		(b)	absent on all flower heads	Sunny Henry	1
QN			present on some flower heads	Osjaseclipur	2
G			present on all flower heads	Balserlabli	3
24.	24. (*)	VG	Ray floret: proportion with rolled margin		
(+)		(b)	less than one-third		1
QN			one-third to less than one-half		2
			one-half to two thirds		3
25.	25. (*)	VG	<u>Only varieties with disc: type: daisy:</u> Ray floret: width of ring at base		
(+)		(c)	absent or very narrow	Sunny Henry	1
QN		(d)	narrow	SUMIPAS 02	2
			medium	Sunny Felix	3
			broad	Balserimlav	4
			very broad		5
26.	26.	VG	Ray floret: colour of ring at base		
PQ		(c) (d)	RHS Colour Chart (indicate reference number)		
27.	27. (*)	VG	Ray floret: main colour of basal part		
(+)		(c)	RHS Colour Chart		
PQ		(d)	(indicate reference number)		
G					

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
28.	28. (*)	VG	Ray floret: main colour of middle part		
(+) PQ G		(c) (d)	RHS Colour Chart (indicate reference number)		
29.	29. (*)	VG	Ray floret: main colour of apical part		
(+) PQ G		(c) (d)	RHS Colour Chart (indicate reference number)		
30.	30.	VG	Ray floret: conspicuousness of longitudinal stripes		
(+)		(c)	absent or very weak		1
QN			weak		2
			medium		3
			strong		4
31.	31. (*)	VG	Ray floret: colour of tip		
(+)		(c)	same as colour of apical part		1
QN			slightly different from colour of apical part		2
			strongly different from colour of apical part		3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
32.	32. (*)	VG	Ray floret: colour group of lower side		
(+)			very light brown		1
PQ			very light yellow to light yellow		2
			medium yellow to dark yellow		3
			yellow brown		4
			orange with brown stripes		5
			orange to brown orange		6
			red brown to dark brown		7
			purple		8
			violet		9
			brown purple to brown violet		10
			blue		11
			yellowish white with purple stripe		12
			yellow with green stripe		13
			yellow with brown stripe		14

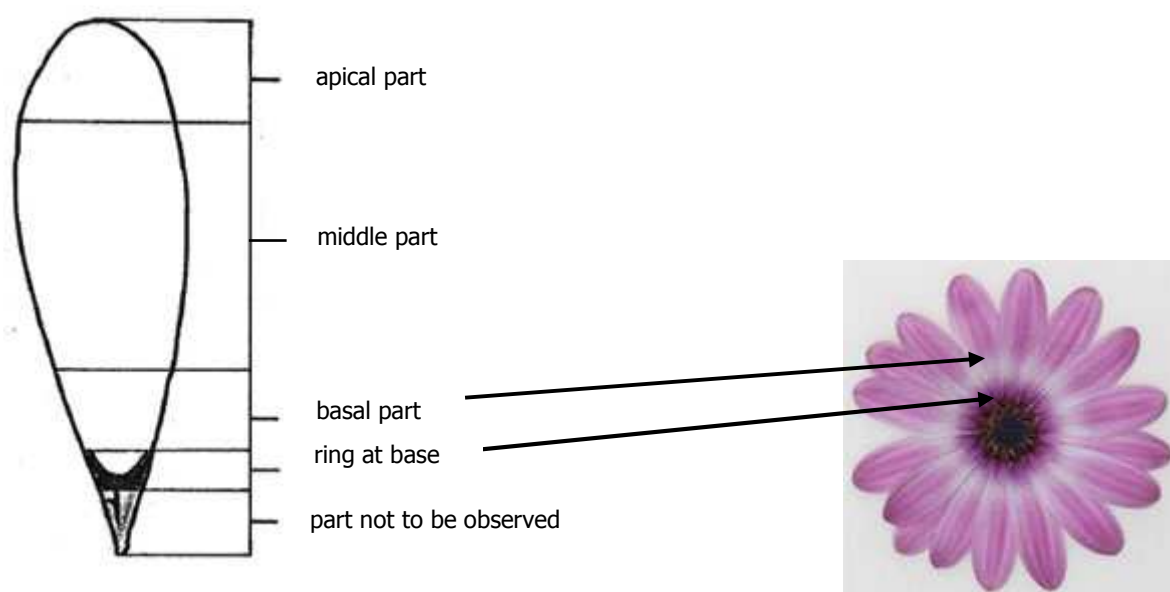
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

8.1 Explanations covering several characteristics

Observations should be made at the time of full flowering.

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

- (a) Observations on the leaf should be made on the upper side of fully developed leaves from the middle part of the plant.
- (b) Observations on the flower head, the disc and the ray floret should be made when nearly all disc florets have opened.
- (c) Observations on the colour of the ray floret should be made on the upper side of the ray floret when two to three rows of disc florets have opened.
- (d) Diagram of parts of the ray floret:



8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit



1
upright



2
semi-upright



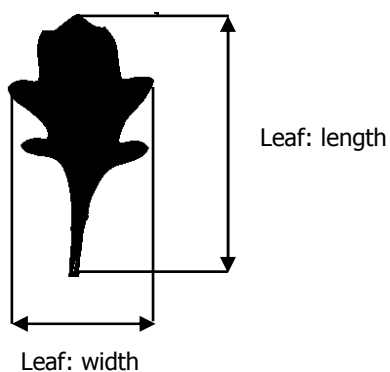
3
spreading

Ad. 2: Plant: height

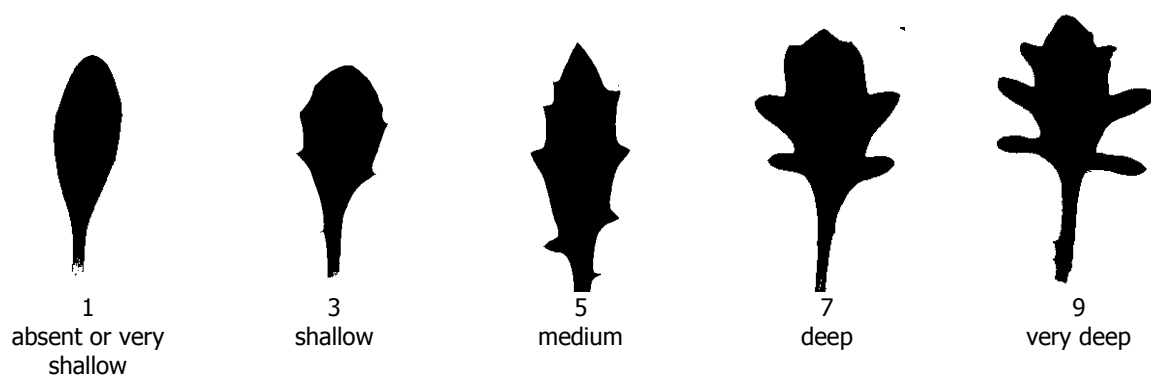
The plant height should be observed on the longest shoot from the ground to the flower head.

Ad. 3: Leaf: length

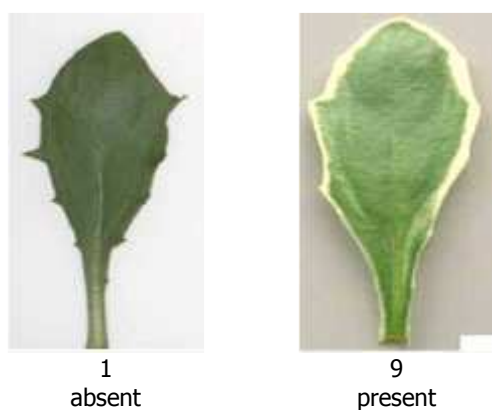
Ad. 4: Leaf: width



Ad. 5: Leaf: indentation of margin



Ad. 6: Leaf: variegation



Ad. 8: Young flower head: main colour of ray floret

Observations should be made on the upper side of the ray floret when all ray florets are fully expanded and there are no open disc florets.

The main colour is the colour with the largest surface area. In cases where the areas of the main and secondary colour are too similar to reliably decide which colour has the largest area, the darkest colour is considered to be the main colour.

Ad. 9: Flower head: paracorolla

The paracorolla is a secondary or inner corolla; a corona of the flower head.



1
absent



9
present

Ad. 10: Flower head: number of ray florets

The paracorolla should be excluded when observing the number of ray florets.

Ad. 12: Disc: type



1
daisy



2
anemone
(funnel shaped disc floret)



3
anemone
(petaloid disc floret)

Ad. 15: Only varieties with disc: type: daisy: Disc: colour

The observation should be done when there are no open disc florets.

Ad. 16: Only varieties with disc: type: anemone: Plant: predominant type of disc floret



1
funnel shaped



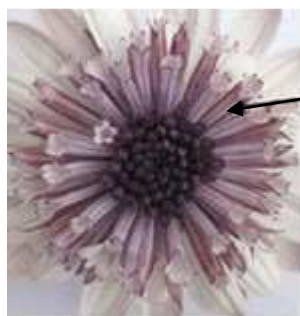
3
petaloid

State 2 (disc floret type funnel shaped and petaloid) means that flower heads with funnel shaped disc florets and petaloid disc florets in approximately the same amount are present on all plants of the variety.

Ad. 17: Funnel shaped disc floret: main colour of outer side of corolla tube

The main colour is the colour with the largest surface area. In cases where the areas of the main and secondary colour are too similar to reliably decide which colour has the largest area, the darkest colour is considered to be the main colour.

The observation should be done when two-thirds of the disc florets are open.

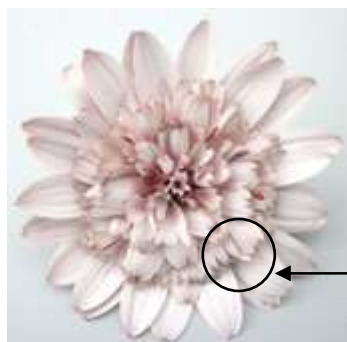


corolla tube, outer side
(as view on the flower head)

Ad. 18: Petaloid disc floret: main colour of upper side

The main colour is the colour with the largest surface area. In cases where the areas of the main and secondary colour are too similar to reliably decide which colour has the largest area, the darkest colour is considered to be the main colour.

The observation should be done when two-thirds of the disc florets are open.

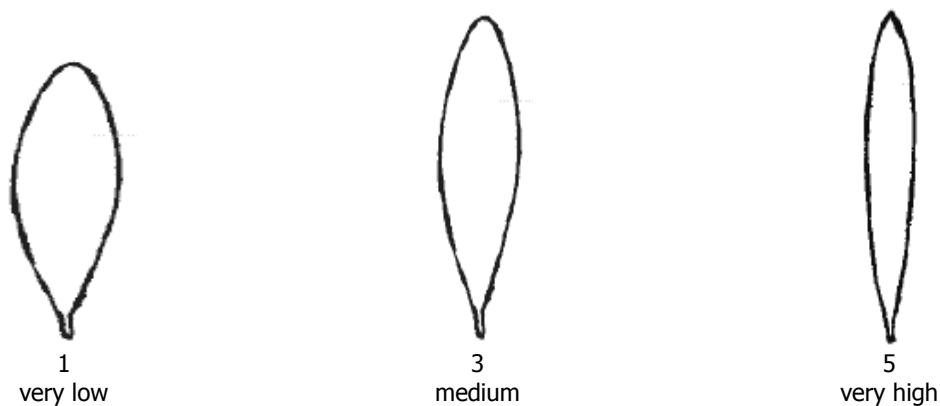


petaloid disc floret, upper side

Ad. 20: Ray floret: width

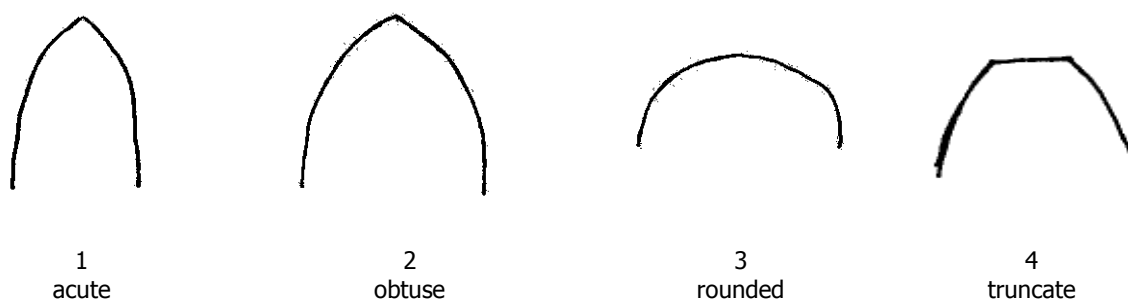
For ray florets with inward rolling of longitudinal margins, observe the broadest part.

Ad. 21: Ray floret: length/width ratio



Ad. 22: Ray floret: shape of apex

To be observed excluding incisions.



Ad. 23: Plant: inward rolling of longitudinal margins on ray florets



absent



present

State 2 (inward rolling of longitudinal margins present on some flower heads) means that inward rolling is present on some flower heads of all plants of the variety.

Ad. 24: Ray floret: proportion with rolled margin

In varieties with both types of flower heads (ray florets with and without rolled margin) observe only the flower heads with rolled margin.



1
less than one-third



2
one-third to less than one-half



3
one-half to two-thirds

Ad. 25: Only varieties with disc: type: daisy: Ray floret: width of ring at base



1
absent or very
narrow



2
narrow



3
medium



4
broad



5
very broad

Ad. 27: Ray floret: main colour of basal part

Ad. 28: Ray floret: main colour of middle part

Ad. 29: Ray floret: main colour of apical part

The main colour is the colour with the largest surface area. In cases where the areas of the main and secondary colour are too similar to reliably decide which colour has the largest area, the darkest colour is considered to be the main colour. In varieties with inward rolling ray floret margins, the lower side of the ray floret is visible when viewing the upper side of the flower. In these cases, the colour of the visible lower side is not to be considered a colour of the upper side.

Ad. 30: Ray floret: conspicuousness of longitudinal stripes

The conspicuousness is determined by the colour contrast.



1
absent or very weak



2
weak



3
medium



4
strong

Ad. 31: Ray floret: colour of tip



1

same as colour of apical part



3

strongly different from colour of
apical part

← colour of tip (pink)

Ad. 32: Ray floret: colour group of lower side

Observations should be made when two to three rows of disc florets have opened.

9. LITERATURE

Heywood, V.H. (ed.), 1993: Flowering Plants of the World. B.T. Batsford. London, GB.

10. TECHNICAL QUESTIONNAIRE

The Technical Questionnaire is available on the CPVO website under the following reference: CPVO-TQ/176/3