


 UPOV

TG/176/5(proj.1)

ORIGINAL: English

DATE: 2011-09-16

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA


 DRAFT
OSTEOSPERMUM

UPOV Code: OSTEO; OSDIM

Osteospermum L. and
hybrids with *Dimorphotheca* Vaill.

GUIDELINES**FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

prepared by an expert from Germany

to be considered by the

*Technical Working Party for Ornamental Plants and Forest Trees
at its forty-fourth session, to be held in in Fukuyama City, Hiroshima
Prefecture, Japan, from November 7 to 11, 2011*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Osteospermum</i> L.	Osteospermum	Ostéospermum	Osteospermum	Osteospermum
<i>Osteospermum</i> L. x <i>Dimorphotheca</i> Vaill. ex Moench				

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), for the latest information.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design	4
3.5 Additional Tests	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	4
4.1 Distinctness	4
4.2 Uniformity.....	5
4.3 Stability	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	7
6.1 Categories of Characteristics.....	7
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression	8
6.4 Example Varieties	8
6.5 Legend.....	8
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	9
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	18
8.1 Explanations covering several characteristics	18
8.2 Explanations for individual characteristics	19
9. LITERATURE	27
10. TECHNICAL QUESTIONNAIRE	28

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Osteospermum* L. and hybrids with *Dimorphotheca* Vaill..

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 rooted cuttings.

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

15 rooted cuttings.

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 a single growing cycle.

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. Except where otherwise indicated, the optimum stage of development for the assessment of the characteristics is at the time of full flowering.

3.3.2 Observation of color by eye

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 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*

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 / 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 second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

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

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

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

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

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

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

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

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

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

4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.2.2 For the assessment of uniformity 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 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: attitude of shoots (characteristic 1)
- (b) Leaf: variegation (characteristic 7)
- (c) Disc: type (characteristic 13)
- (d) Ray floret: inward rolling of longitudinal margins (characteristic 23)
- (e) Ray floret: main color of basal part on upper side (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 color of middle part on upper side (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 color of apical part on upper side (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 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 *States of Expression and Corresponding Notes*

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

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

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

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

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

6.3 *Types of Expression*

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

6.4 *Example Varieties*

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

6.5 *Legend*

(*) 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 4.1.5

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

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

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. VG (*)	Plant: attitude of shoots	Plante : port des tiges	Pflanze: Haltung der Triebe	Planta: porte de los tallos		
QN	erect	dressé	aufrecht	erecto		1
	semi-erect	demi-dressé	halbaufrecht	semierecto		2
	horizontal	horizontal	waagerecht	horizontal		3
2. VG/ MS (*) (+)	<u>Only varieties with plant: attitude of shoots: erect and semi-erect: Plant: height</u>	<u>Variétés avec plante : port des tiges : dressé et demi-dressé seulement : Plante : hauteur</u>	<u>Nur Sorten mit Pflanze: Haltung der Triebe: aufrecht und halbaufrecht: Pflanze: Höhe</u>	<u>Únicamente variedades con planta: porte de los tallos: horizontal: Planta: altura</u>		
QN	short	basse	niedrig	baja		3
	medium	moyenne	mittel	media		5
	tall	haute	hoch	alta		7
3. VG/ MS (*) (+)	<u>Only varieties with plant: attitude of shoots: horizontal Shoot: length</u>	<u>Variétés avec plante : port des tiges : horizontal seulement : Tige : longueur</u>	<u>Nur Sorten mit Pflanze: Haltung der Triebe: waagerecht: Trieb: Länge</u>	<u>Únicamente variedades con planta: porte de los tallos: horizontal: Tallo: longitud</u>		
QN	short	courte	kurz	corto		3
	medium	moyenne	mittel	medio		5
	long	longue	lang	largo		7
4. VG/ MS (*) (+)	Leaf: length	Feuille : longueur	Blatt: Länge	Hoja: longitud		
QN (a)	short	courte	kurz	corta		3
	medium	moyenne	mittel	media		5
	long	longue	lang	larga		7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. VG/ MS (+)	Leaf: width	Feuille : largeur	Blatt: Breite	Hoja: anchura		
QN (a)	narrow	étroite	schmal	estrecha		3
	medium	moyenne	mittel	media		5
	broad	large	breit	ancha		7
6. VG (+)	Leaf: indentation of margin	Feuille : denticulation du bord	Blatt: Randeinschnitte	Hoja: indentación del borde		
QN (a)	absent or very shallow	absente ou très peu profonde	fehlend oder sehr flach	ausente o muy poco profunda		1
	shallow	peu profonde	flach	poco profunda		3
	medium	moyenne	mittel	media		5
	deep	profonde	tief	profunda		7
	very deep	très profonde	sehr tief	muy profunda		9
7. VG (*) (+)	Leaf: variegation	Feuille : panachure	Blatt: Panaschierung	Hoja: variegación		
QL (a)	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente		9
8. VG	Leaf: intensity of green color of upper side	Feuille : intensité de la couleur verte de la face supérieure	Blatt: Intensität der Grünfärbung der Oberseite	Hoja: intensidad del color verde del haz		
QN (a)	light	clair	hell	claro		1
	light to medium	clair à moyen	hell bis mittel	claro a medio		2
	medium	moyen	mittel	medio		3
	medium to dark	moyen à foncé	mittel bis dunkel	medio a oscuro		4
	dark	foncé	dunkel	oscuro		5
9. VG (+)	Young flower head: main color of upper side of ray floret	Jeune capitule : couleur principale de la face supérieure de la fleur ligulée	Junger Blütenstand: Hauptfarbe der Oberseite der Zungenblüte	Capítulo joven: color principal de la parte superior de la flor ligulada		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10.	VG	Flower head:	Capitule :	Blütenstand:	Capítulo:		
(*)		paracorolla	paracorolle	Nebenkrone	paracorola		
(+)							
QL	(b)	absent	absente	fehlend	ausente		1
		present	présente	vorhanden	presente		9
11.	VG/	Flower head:	Capitule : nombre	Blütenstand: Anzahl	Capítulo: número		
(*)	MS	number of ray	de fleurs ligulées	Zungenblüten	de flores liguladas		
(+)		florets					
QN	(b)	few	faible	gering	poco		3
		medium	moyen	mittel	medio		5
		many	élevé	groß	mucho		7
12.	VG/	Flower head:	Capitule : diamètre	Blütenstand:	Capítulo: diamètre		
(*)	MS	diameter		Durchmesser			
(+)							
QN	(b)	small	petit	klein	pequeño		3
		medium	moyen	mittel	medio		5
		large	grand	groß	grande		7
13.	VG	Disc: type	Disque : type	Scheibe: Typ	Disco: tipo		
(*)							
(+)							
QL	(b)	daisy	marguerite	margeritenförmig	margerita		1
		anemone	anémone	anemonenförmig	anémona		2
14.	VG/	<u>Only varieties with</u>	<u>Variétés avec</u>	<u>Nur Sorten mit</u>	<u>Únicamente</u>		
	MS	<u>disc: type: daisy</u>	<u>disque: type :</u>	<u>Scheibe: Typ:</u>	<u>variedades con</u>		
		<u>Disc: diameter</u>	<u>marguerite</u>	<u>margeritenförmig:</u>	<u>disco: tipo:</u>		
			<u>seulement: Disque :</u>	<u>Scheibe:</u>	<u>margerita: Disco:</u>		
			<u>diamètre</u>	<u>Durchmesser</u>	<u>diámetro</u>		
QN	(b)	small	petit	klein	pequeño		3
		medium	moyen	mittel	medio		5
		large	grand	groß	grande		7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15.	VG/ MS	<u>Only varieties with</u> <u>disc: type: anemone</u> Disc: diameter	<u>Variétés avec</u> <u>disque: type :</u> <u>anémone seulement:</u> Disque : diamètre	<u>Nur Sorten mit</u> <u>Scheibe: Typ:</u> <u>anemonenförmig:</u> Scheibe: Durchmesser	<u>Únicamente</u> <u>variedades con</u> <u>disco: typo:</u> <u>anémona:</u> Disco: diámetro	
QN	(b)	small	petit	klein	pequeño	3
		medium	moyen	mittel	medio	5
		large	grand	groß	grande	7
16.	VG (*) (+)	<u>Only varieties with</u> <u>disc: type: daisy</u> Disc: color	<u>Variétés avec</u> <u>disque: type :</u> <u>marguerite</u> <u>seulement:</u> Disque : couleur	<u>Nur Sorten mit</u> <u>Scheibe: Typ:</u> <u>margeritenförmig:</u> Scheibe: Farbe	<u>Únicamente</u> <u>variedades con</u> <u>disco: typo:</u> <u>margerita:</u> Disco: color	
PQ		light grey	gris clair	hellgrau	gris claro	1
		yellow	jaune	gelb	amarillo	2
		yellow green	vert jaune	gelbgrün	verde amarillento	3
		medium grey green	vert gris moyen	mittel graugrün	verde gris medio	4
		dark grey green	vert gris foncé	dunkel graugrün	verde gris oscuro	5
		dark grey	gris foncé	dunkelgrau	gris oscuro	6
		purple	pourpre	purpurn	púrpura	7
		violet	violet	violett	violeta	8
		light blue	bleu clair	hellblau	azul claro	9
		dark blue	bleu foncé	dunkelblau	azul oscuro	10
		brown	brun	braun	marrón	11
		black	noir	schwarz	negro	12
17.	VG (*) (+)	<u>Only varieties with</u> <u>disc: type: anemone</u> Disc floret: main color of upper side of corolla tube		<u>Nur Sorten mit</u> <u>Scheibe: Typ:</u> <u>anemonenförmig:</u> Scheibenblüte: Hauptfarbe der Oberseite der Kronröhre	should "upper side" be changed to "outer side"?	
PQ		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)		

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18.	VG	<u>Only varieties with disc: type: anemone</u>		<u>Nur Sorten mit Scheibe: Typ: anemonenförmig:</u>		
(+)		Disc floret: color of inner side of corolla lobe		Scheibenblüte: Farbe der Innenseite des Kronzipfels		
PQ		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)		
19.	VG/ MS	Ray floret: length	Fleur ligulée : longueur	Zungenblüte: Länge	Flor ligulada: longitud	
QN	(b)	short	courte	kurz	corta	3
		medium	moyenne	mittel	media	5
		long	longue	lang	larga	7
20.	VG/ MS	Ray floret: width	Fleur ligulée : largeur	Zungenblüte: Breite	Flor ligulada: anchura	
(*)						
(+)						
QN	(b)	narrow	étroite	schmal	estrecha	3
		medium	moyenne	mittel	media	5
		broad	large	breit	ancha	7
21.	VG/ MS	Ray floret: length/width ratio	Fleur ligulée : rapport longueur/largeur	Zungenblüte: Verhältnis Länge/Breite	Flor ligulada: relación entre la longitud y la anchura	
(+)						
QN	(b)	very compressed		sehr zusammengedrückt		1
		moderately compressed		mäßig zusammengedrückt		2
		medium		mittel		3
		moderately elongated		mäßig langgezogen		4
		very elongated		sehr langgezogen		5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. VG (+)	Ray floret: shape of apex (excluding incisions)	Fleur ligulée : forme du sommet (non compris les incisions)	Zungenblüte: Form der Spitze (ohne Einschnitte)	Flor ligulada: forma del ápice (sin incluir incisiones)		
PQ (b)	acute	aigu	spitz	aguda		1
	obtuse	obtus	stumpf	obtusa		2
	rounded	arrondi	abgerundet	redondeada		3
	truncate	tronqué	gerade	truncada		4
23. VG (*) (+)	Ray floret: inward rolling of longitudinal margins	Fleur ligulée : enroulement vers l'intérieur des bords longitudinaux	Zungenblüte: Einrollen der Längsränder	Flor ligulada: curvatura interna de los bordes longitudinales		
QN (b)	absent on all flowers	absent sur toutes les fleurs	an allen Blüten fehlend	ausente en todas las flores		1
	present on some flowers	présent sur certaines fleurs	an einigen Blüten vorhanden	presente en algunas flores		2
	present on all flowers	présent sur toutes les fleurs	an allen Blüten vorhanden	presente en todas las flores		3
24. VG (+)	<u>Only flowers with inward rolling ray floret margins: Ray floret: length of ray floret with rolled margin</u>	<u>Seulement les fleurs à enroulement vers l'intérieur des bords de la fleur ligulée : Fleur ligulée : longueur de la fleur ligulée à bord enroulé</u>	<u>Nur Blüten mit Einrollen der Zungenblüten-ränder: Zungenblüte: Länge der Zungenblüte mit eingerollten Rändern</u>	<u>Únicamente las flores con curvatura interna de los bordes de la flor ligulada: Flor ligulada: longitud de la flor ligulada con los bordes curvados</u>	Would "Ray floret: length of part of ray floret with rolled margin" be more precise?	
QN (b)	less than one-third	moins d'un tiers	weniger als ein Drittel	menos de un tercio		1
	one-third to less than one-half	un tiers à moins de la moitié	ein Drittel bis weniger als die Hälfte	de un tercio a menos de una mitad		2
	one-half to two-thirds	la moitié à deux tiers	die Hälfte bis zwei Drittel	de una mitad a dos tercios		3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25. (*) (+)	VG <u>Only varieties with disc: type: daisy:</u> Ray floret: width of ring at base		<u>Nur Sorten mit Scheibe: Typ: margeritenförmig:</u> Zungenblüte: Breite des Rings an der Basis			
QN	(b) absent or very narrow (c)		fehlend oder sehr schmal			1
	narrow		schmal			3
	medium		mittel			5
	broad		breit			7
	very broad		sehr breit			9
26.	VG <u>Only varieties with ray floret: width of ring narrow to very broad:</u> Ray floret: color of ring at base		<u>Nur Sorten mit Breite des Rings an der Basis schmal bis sehr breit:</u> Zungenblüte: Farbe des Rings an der Basis			
PQ	(b) RHS Colour Chart (c) (indicate reference number)		RHS-Farbkarte (Nummer angeben)			
27. (*) (+)	VG Ray floret: main color of basal part of upper side	Fleur ligulée : couleur principale de la base sur la face supérieure	Zungenblüte: Hauptfarbe des basalen Teils der Oberseite			
PQ	(b) RHS Colour Chart (c) (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)			
28. (*) (+)	VG Ray floret: main color of middle part of upper side	Fleur ligulée : couleur principale de la partie médiane sur la face supérieure	Zungenblüte: Hauptfarbe des mittleren Teils der Oberseite			
PQ	(b) RHS Colour Chart (c) (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référenc	RHS-Farbkarte (Nummer angeben)			

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. (*) (+)	VG Ray floret: main color of apical part of upper side	Fleur ligulée : couleur principale de la partie apicale sur la face supérieure	Zungenblüte: Hauptfarbe des apikalen Teils der Oberseite			
PQ	(b) RHS Colour Chart (c) (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référenc	RHS-Farbkarte (Nummer angeben)			
30. (+)	VG Ray floret: prominence of longitudinal stripes of upper side		Zungenblüte: Ausprägung der Längsstreifen der Oberseite			
QN	(b) absent or very weak		fehlend oder sehr gering			1
	weak		gering			2
	medium		mittel			3
	strong		stark			4
31. (+)	VG Ray floret: color of tip		Zungenblüte: Farbe der Spitze			
PQ	(b) same as color of apical part		genauso wie die Farbe des apikalen Teils			1
	slightly different from color of apical part		etwas anders als die Farbe des apikalen Teils			2
	strongly different from color of apical part		deutlich anders als die Farbe des apikalen Teils			3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32.	VG	Ray floret: color	Fleur ligulée :	Zungenblüte:	Flor ligulada: grupo	
(*)		group of <u>lower</u> side	groupe de couleurs	Farbgruppe der	de color de la parte	
(+)			sur la face <u>inférieure</u>	<u>Unterseite</u>	<u>inferior</u>	
PQ	(b)	very light yellow to light yellow	jaune très clair à jaune clair	sehr hellgelb bis hellgelb	amarillo muy claro a amarillo claro	1
		medium yellow to dark yellow	jaune moyen à jaune foncé	mittelgelb bis dunkelgelb	amarillo medio a amarillo oscuro	2
		orange to brown orange	orange à orange brun	orange bis braunorange	naranja a marrón naranja	3
		red brown to dark brown	rouge brun à brun foncé	rotbraun bis dunkelbraun	marrón rojizo a marrón oscuro	4
		purple	pourpre	purpurn	púrpura	5
		violet	violet	violett	violeta	6
		brown purple to brown violet	pourpre brun à violet brun	braunpurpurn bis braunviolett	púrpura marrón a violeta marrón	7
		blue	bleu	blau	azul	8
		very light brown	brun très clair	sehr hellbraun	marrón muy claro	9
		yellow brown	brun jaune	gelbbraun	marrón amarillento	10
		yellowish white with purple stripe	jaune blanc à bande pourpre	gelblich weiß mit purpurnem Streifen	amarillo blanco con línea purpúreo	11
		yellow with grey green stripe	jaune à bande vert gris	gelb mit graugrünem Streifen	amarillo con línea verde gris	12
	<u>check</u>	yellow with red stripe	jaune à bande rouge	gelb mit rotem Streifen	amarillo con línea roja	Picnic Yellow? 13
		yellow with brown stripe	jaune à bande brune	gelb mit braunem Streifen	amarillo con línea marrón	14
		orange with brown stripes	orange à bandes brune	orange mit braunen Streifen	naranja con líneas marrón	15

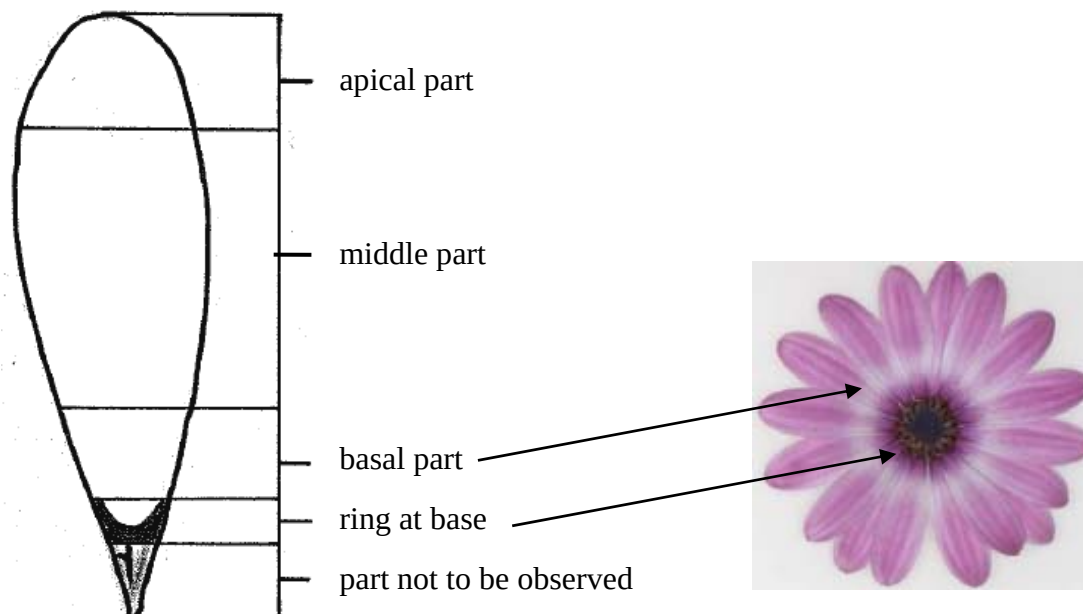
8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Unless otherwise indicated, all observations should be made at the time of full flowering.

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

- (a) All observations on the leaf should be made on fully developed leaves from the middle part of the plant.
- (b) Unless otherwise indicated all observations on the flower should be made when one to two rows of disc florets have opened.
- (c) Diagram of parts of ray floret



8.2 *Explanations for individual characteristics*

Ad. 2: Only varieties with plant: attitude of shoots: erect and semi-erect: Plant: height

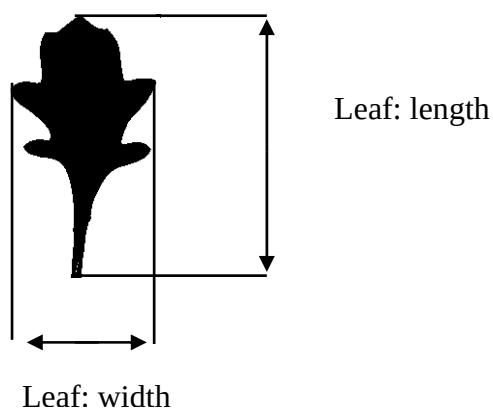
The plant height should be observed on the longest shoot from the ground to the flower head.

Ad. 3: Only varieties with plant: attitude of shoots: horizontal shoot: length

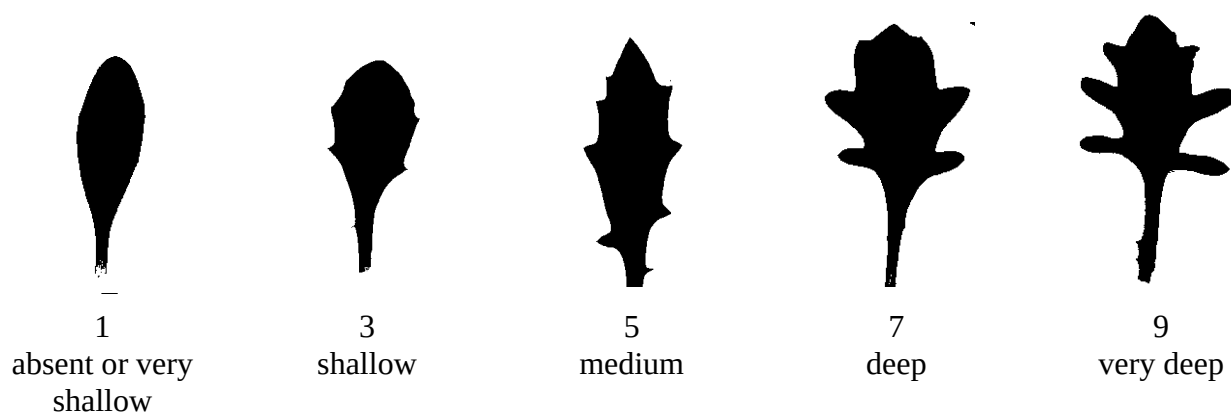
The length of the shoot should be observed on the longest shoot from the ground to the end of the shoot.

Ad. 4: Leaf: length

Ad. 5: Leaf: width



Ad. 6: Leaf: indentation of margin



Ad. 7: Leaf: variegation



1
absent



9
present

Ad. 9: Young flower head: main color of upper side of ray floret

Observations should be made when all ray florets are fully expanded and there are no open disc florets.

The main color is the color of the largest surface area. In cases where it is difficult to determine the largest surface area, the darkest color is considered to be the main color.

Ad. 10: Flower head: paracorolla

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



1
absent



9
present

Ad. 11: Flower head: number of ray florets

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

Ad. 13: Disc: type



1
daisy



2
anemone

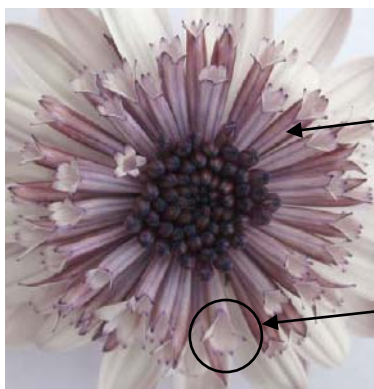
Ad. 16: Only varieties with disc: type: daisy: Disc: color

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

Ad. 17: Only varieties with disc: type: anemone: Disc floret: main color of upper side of corolla tube

Ad. 18: Only varieties with disc: type: anemone: Disc floret: main color of inner side of corolla lobe

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



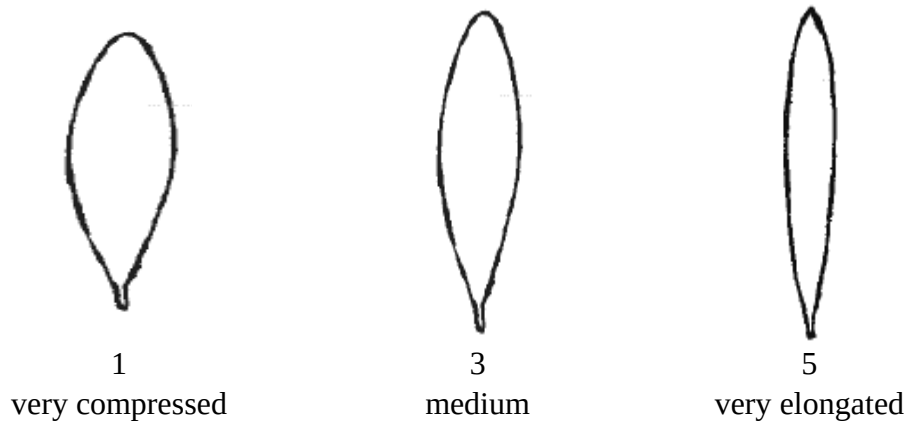
Corolla tube, upper side

Corolla lobe, inner side

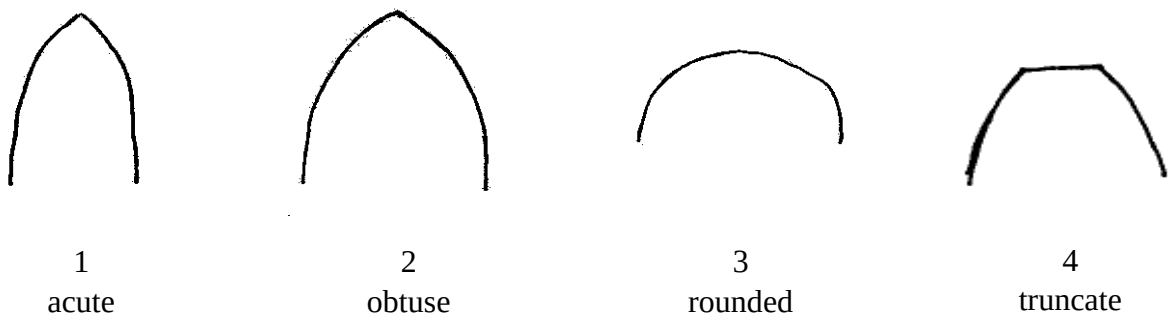
Ad. 20: Ray floret: width

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 (excluding incisions)



Ad. 23: Ray floret: inward rolling of longitudinal margins



1
absent



3
present

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

Ad. 24: Only flowers with inward rolling ray floret margins: Ray floret: length of ray floret 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



3
narrow



5
medium



7
broad



9
very broad

Ad. 27: Ray floret: main color of basal part of upper side

Ad. 28: Ray floret: main color of middle part of upper side

Ad. 29: Ray floret: main color of apical part of upper side

The main color is the color of the largest surface area. In cases where it is difficult to determine the largest surface area, the darkest color is considered to be the main color. 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 color of the visible lower side is not to be considered a color of the upper side.

Ad. 30: Ray floret: prominence of longitudinal stripes of upper side



1
absent or very weak



2
weak



3
medium



4
strong

Ad. 31: Ray floret: color of tip



1
same as color of apical part



3
strongly different from color
of apical part

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



1
very light yellow to light
yellow



2
medium yellow to dark
yellow



3
orange to brown orange



4
red brown to dark brown



5
purple



6
violet



7
brown purple to brown violet



8
blue



9
very light brown



10
yellow brown



11
yellowish white with purple
stripe



12
yellow with green stripe



13
yellow with red stripe



15
orange with brown stripes

14
yellow with brown stripe

9. Literature

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

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 Genus	Osteospermum L.	
1.2 Species (please complete)		
1.2.1 Botanical name		[]
1.2.2 Common name		
1.3 Hybrid	Osteospermum L. x Dimorphotheca Vaill.	[]
Species (please complete)		
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		

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

#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross []
(please state parent varieties)

(.....)
female parent

x

(.....)
male parent

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

(.....)
female parent

x

(.....)
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:
-------------------------	-----------------	-------------------

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings []

(b) *in vitro* propagation []

(c) other (state method) []

4.2.2 Other []
(please provide details)

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).			
Characteristics	Example Varieties	Note	
5.1 Plant: attitude of shoots (1)			
erect		1[]	
semi-erect		2[]	
horizontal		3[]	
5.2 Plant: height (2)			
very short		1[]	
very short to short		2[]	
short		3[]	
short to medium		4[]	
medium		5[]	
medium to tall		6[]	
tall		7[]	
tall to very tall		8[]	
very tall		9[]	
5.3 Leaf: variegation (7)			
absent		1[]	
present		9[]	
5.4 Disc: type (13)			
daisy		1[]	
anemone		2[]	

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

Characteristics	Example Varieties	Note
5.5 Ray floret: inward rolling of longitudinal margins (23)		
absent on all flowers		1[]
present on some flowers		2[]
present on all flowers		3[]
5.5 Ray floret: width of ring at base (25)		
absent or very narrow		1[]
narrow		2[]
medium		3[]
broad		4[]
very broad		5[]
5.6i Ray floret: main color of basal part (27)		
RHS Colour Chart (indicate reference number)		
5.6ii Ray floret: main color of basal part (27)		
white		1[]
yellow		2[]
orange		3[]
pink		4[]
red		5[]
purple		6[]
violet		7[]
other color (indicate which)		8[]

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

Characteristics	Example Varieties	Note
5.7i Ray floret: main color of middle part (28)		
RHS Colour Chart (indicate reference number)		
5.7ii Ray floret: main color of middle part (28)		
white		1[]
yellow		2[]
orange		3[]
pink		4[]
red		5[]
purple		6[]
violet		7[]
other color (indicate which)		8[]
5.8i Ray floret: main color of apical part (29)		
RHS Colour Chart (indicate reference number)		
5.8ii Ray floret: main color of apical part (29)		
whit		1[]
yellow		2[]
orange		3[]
pink		4[]
red		5[]
purple		6[]
violet		7[]
other color (indicate which)		8[]

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

Characteristics	Example Varieties	Note
5.9 Ray floret: color group of <u>lower</u> side (32)		
very light yellow to light yellow		1[]
medium yellow to dark yellow		2[]
orange brown to orange		3[]
red brown to dark brown		4[]
purple		5[]
violet		6[]
brown purple to brown violet		7[]
blue		8[]
very light brown		9[]
yellow brown		10[]
yellowish white with purple stripe		11[]
yellow with grey green stripe		12[]
yellow with red stripe	Picnic Yellow?	13[]
yellow with brown stripe		14[]
orange with brown stripes		15[]
other color group (indicate which)		17[]

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

6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Ray floret: width</i>	<i>broad</i>	<i>narrow</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
#7. Additional information which may help in the examination of the variety 7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety? Yes [] No [] (If yes, please provide details) 7.2 Are there any special conditions for growing the variety or conducting the examination? Yes [] No [] (If yes, please provide details) 7.3 Other information A representative color photograph of the variety should accompany the Technical Questionnaire.		
8. Authorization for release (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health? Yes [] No [] (b) Has such authorization been obtained? Yes [] No [] If the answer to (b) is yes, please attach a copy of the authorization.		

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

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

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

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

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

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

Please provide details for where you have indicated “yes”.

.....

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

Applicant's name			
Signature			

[End of document]