



**European Union
Community Plant Variety Office**

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Dahlia Cav.

DAHLIA

UPOV Species Code: DAHLI

Adopted on 15/11/2006

I - SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the requirement of Council Regulation 2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV Document TG/1/3 and UPOV Guideline TG/226/1 dated 5th April 2006 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of *Dahlia Cav.* of the family *Asteraceae*.

II - SUBMISSION OF PLANT MATERIAL

1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of:

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the examination office to which material is to be sent.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

2. Final dates for receipt of documentation and material by the Examination Office:

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. If no or unsatisfactory plant material is submitted the CPVO should be informed as soon as possible.

3. Plant material requirements:

Information with respect to closing dates and submission requirements of plant material for the technical examination of varieties can be found on the CPVO website (www.cpvo.europa.eu) and in the special Issue S2 of the Official Gazette of the Office published yearly in the month of September.

Quality: The plant material supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease, especially virus, as laid down in Council Directive 2000/29/EC and its amendments, or organisms impairing quality as indicated in Council Directive 98/56/EEC and Commission Directive 93/49/EEC and their amendments.

The plant material must not have undergone any treatment unless the CPVO and the examination office allow or request such treatment. If it has been treated, full details of the treatment must be given

Labelling of sample: - Species
- File number of the application allocated by the CPVO
- Breeder's reference
- Examination reference (if known)
- Name of applicant
- The phrase "On request of the CPVO".

III - CONDUCT OF TESTS

1. Variety collection:

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a reference collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level or at least in one of the EEA Member States;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

It is the responsibility of Examination Office to keep the variety collection up to date.

2. Material to be examined:

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the variety collection. When necessary an Examination Office may also include other candidates and varieties.

3. Characteristics to be used:

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in Annex 1. 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. In the later case, the CPVO should be informed. In addition the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation N° 1239/95, to insert additional characteristics and their expressions in respect of a variety.

4. Grouping of varieties:

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characters used for grouping are the following ones:

- (a) Leaf: colour (characteristic 9)
- (b) Flower head: type (characteristic 21)
- (c) Only single and semi double varieties (see char. 21): Flower head: disc type (characteristic 22)
- (d) Flower head: diameter (characteristic 25)
- (e) Ray floret: number of colours of inner side (characteristic 43)
- (f) Ray floret: main colour of inner side (characteristic 44) with the following colour groups :
 - Gr. 1: white
 - Gr. 2: off-white
 - Gr. 3: yellow
 - Gr. 4: bronze
 - Gr. 5: orange
 - Gr. 6: orange red
 - Gr. 7: salmon
 - Gr. 8: pink
 - Gr. 9: red
 - Gr. 10: red purple
 - Gr. 11: purple
 - Gr. 12: violet

(g) Ray floret: second colour of inner side (characteristic 45) with the following colour groups :

- Gr. 1: white
- Gr. 2: off-white
- Gr. 3: yellow
- Gr. 4: bronze
- Gr. 5: orange
- Gr. 6: orange red
- Gr. 7: salmon
- Gr. 8: pink
- Gr. 9: red
- Gr. 10: red purple
- Gr. 11: purple
- Gr. 12: violet

5. Trial designs and growing conditions:

The minimum duration of tests will normally be one growing cycle if the results on distinctness and uniformity are conclusive. Tests will be carried out under conditions ensuring normal growth in particular the plants in the trial should not be disbudded. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

The test design is as follows:

As a minimum, each test should include a total of 12 plants for vegetatively propagated varieties and 40 plants for seed propagated varieties. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

For vegetatively propagated varieties all observations on single plants determined by measurement or counting 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.

For seed propagated varieties all observations on single plants determined by measurement or counting should be made on 20 plants or 20 parts taken from each of 20 plants and any other observations made on all plants in the test.

All observations on plants should be made at the time of full flowering.

The test should normally be conducted at one place.

The test should be carried out in the open or under glass, as appropriate for the type of variety, under conditions ensuring normal growth.

6. Special 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, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

Special 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.

7. Standards for decisions:

a) Distinctness

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation No. 2100/94.

b) Uniformity

For the assessment of uniformity of vegetatively propagated varieties and seed-propagated varieties which are self-pollinated, a population standard of 1% with an acceptance probability of at least 95% should be applied.

For a sample size between 6 and 35 plants for vegetatively propagated varieties, only 1 off-type is allowed.

For the assessment of uniformity of seed propagated open pollinated and hybrid varieties, relative uniformity standards should be applied.

c) Stability

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

IV - REPORTING OF RESULTS

After each growing cycle the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after one growing cycle but in some cases two or more growing cycles may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not the reasons for failure and a summary of the test results will be included with the final report.

The CPVO must receive interim reports and final reports by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

V - LIAISON WITH THE APPLICANT

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 agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

The interim report and final report shall be sent by the Examination Office to the CPVO.

ANNEXES TO FOLLOW

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<u>Legend:</u>	
QL Qualitative characteristic	
QN Quantitative characteristic	
PQ Pseudo-qualitative characteristic	
(a) - (d) See Explanations on the Table of characteristics	
(+) See Explanations on the Table of characteristics	
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ANNEX II

Technical Questionnaire

ANNEX I TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note	
1.	1. (+)	Plant: growth habit			
	PQ		upright	Red Fox	1
			semi-upright	Dark Desire	2
			semi-spreading	Carolina Orange	3
			spreading	Papagaya	4
2.	2.	Plant: height			
	QN		short	Gallery Rubens	3
			medium	Dark Desire	5
			tall	Hot Chocolate	7
3.	3. (+)	Stem: colour			
	PQ		green	Jaimaica	1
			green tinged with brownish red or purple	Carolina Orange	2
			brownish red	Dark Desire	3
			purple	Hot Chocolate	4
4.	4. (+)	Leaf: type			
	PQ	(a)	predominantly simple	Papagaya	1
			simple and pinnate (no predominance)	Carolina Orange	2
			predominantly pinnate	Hot Chocolate	3
			pinnate and bipinnate (no predominance)	Ragged Robin	4
			predominantly bipinnate	Bishop of Llandaff	5

CPVO N°	UPOV N°	Characteristics	Examples	Note	
5.	5. (+) QN	Leaf: wing (a)	absent or weak	Melody Lisa	1
			moderate	Karma Royal Seas	2
			strong	Ace Summer Emotions	3
6.	6. (+) QN	Leaf: length including petiole (a)	short	Carolina Orange	3
			medium	Jaimaica	5
			long	Ragged Robin	7
7.	7. (+) QN	Leaf: width (a)	narrow	Carolina Orange	3
			medium	Gallery Rubens	5
			broad	Ragged Robin	7
8.	8. QN	Leaf: length / width ratio (a)	low	Ragged Robin	3
			medium	Olinda	5
			high	Carolina Orange	7
9.	9. PQ	Leaf: colour (a)	light green	Rio	1
			medium green	Red Fox	2
			dark green	Frivolous Glow	3
			green tinged with brownish red	City of Rotterdam	4
			green tinged with purple	Passion	5
			brownish red	Nippon	6
			purple	Tresor	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
10.	10. QN	Leaf: glossiness (a)	weak	Red Fox	3
			medium	Papagaya	5
			strong		7
11.	11. QN	Leaf: texture of surface (a)	smooth or very weakly rugose	Hot Chocolate	1
			weakly rugose	Karma Ventura	2
			strongly rugose	Carolina Orange	3
12.	12. QN	Leaf: veins (a)	depressed		1
			flat		2
			raised	Carolina Orange	3
13	13. (+) PQ	Leaflet: shape	ovate	Carolina Orange	1
			elliptic	Olinda	2
			oblanceolate	Frivolous Glow	3
14.	14. (+) PQ	Leaflet: shape of base	acute	Frivolous Glow	1
			obtuse	Olinda	2
			rounded	Carolina Orange	3
			truncate		4
			cordate		5
			asymmetric		6
15.	15. (+) QN	Leaflet margin: number of incisions (excluding lobes)	few	Passion	3
			medium	Carolina Orange	5
			many	Frivolous Glow	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
16.	16. (+) QN	Leaflet margin: depth of incisions (excluding lobes)	shallow	Hot Chocolate	3
			medium	Frivolous Glow	5
			deep	Baronesse	7
17.	17. QN	Peduncle: length	short	Bounty	3
			medium	Dark Desire	5
			long	Red Fox	7
18.	18. PQ	Peduncle: colour	green	Jaimaica	1
			green tinged with brownish red or purple	Carolina Orange	2
			brownish red	Dark Desire	3
			purple	Hot Chocolate	4
19.	19. QN	Flower heads: position in relation to foliage	below foliage		1
			at same level	Gallery Rubens	2
			moderately above foliage	Frivolous Glow	3
			high above foliage	Red Fox	4
20.	20. (+) QN	Flower head: attitude	upright	Gallery Rubens	1
			semi-upright	Passion	3
			horizontal	Carolina Orange	5
			moderately downward		7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
21.	21. (+) PQ	Flower head: type	single	Dark Desire	1
			semi double	Bishop of Llandaff	2
			daisy-eyed double	Carolina Orange	3
			double	Passion	4
22.	22. (+) QL	<u>Only single and semi double varieties (see char. 21):</u> Flower head: disc type	daisy	Dark Desire	1
			anemone	Scarlet Comet	2
23.	23. (+) QL	Flower head: collar segments	absent	Dark Desire	1
			present (collerette type)	Famoso	9
24.	24. QN	Flower head: length of collar segments relative to ray florets	about quarter the length	Cher Ami	3
			about half the length	Famoso	5
			about three quarters the length	Bumble Rumble	7
25.	25. QN	Flower head: diameter	small	Jaimaica	3
			medium	Passion	5
			large		7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
26.	26. (+) QN	<u>Only double and daisy-eyed double varieties (see char. 21): Flower head: height</u>	short	Frivolous Glow	3
			medium	Hot Chocolate	5
			tall	Karma Bon Bini	7
27.	27. QN	<u>Only single, semi double and daisy-eyed double varieties (see char. 21): Flower head: number of ray florets</u>	few	Bishop of Llandaff	3
			medium	Carolina Orange	5
			many	Bahamas	7
28.	28. QN	<u>Only double varieties (see char. 21): Flower head: density of ray florets</u>	sparse	Karma Ventura	3
			medium	Karma Bob Bini	5
			dense	Red Fox	7
29.	29. QN (b)	Ray floret: length	short	Red Fox	3
			medium	Kiedahboa	5
			long	Gallery Bellini	7
30.	30. QN (b)	Ray floret: width	narrow	Frivolous Glow	3
			medium	Gallery Rubens	5
			broad	Passion	7
31.	31. QN (b)	Ray floret: length / width ratio	low	Bounty	3
			medium	Dark Desire	5
			high	Gallery Bellini	7

CPVO N°	UPOV N°	Characteristics	Examples	Note
32.	32. (+) PQ	Ray floret: upper surface (c)	smooth	1
			ribbed	2
			keeled	Moonshine 3
33.	33. (+) PQ	Ray floret: number of keels on keeled florets (c)	one	1
			two	Moonshine 2
			more than two	3
34.	34. (+) QN	Ray floret: profile in cross section <u>at mid point</u> (c)	strongly concave with margins overlapping	1
			strongly concave with margins touching	2
			strongly concave	Red Fox 3
			moderately concave	Jaimaica 4
			weakly concave	Salvador 5
			flat	Dark Desire 6
			weakly convex	Karma Ventura 7
			moderately convex	Mick's Peppermint 8
			strongly convex	9
			strongly convex with margins touching	10
			strongly convex with margins overlapping	Alfred Grille 11

CPVO N°	UPOV N°	Characteristics	Examples	Note		
35.	35. (+) QN	Ray floret: profile in cross section at $\frac{3}{4}$ point from base, if different from mid-point				
			(c)	strongly concave with margins overlapping	1	
				strongly concave with margins touching	2	
				strongly concave	3	
				moderately concave	4	
				weakly concave	5	
				flat	6	
				weakly convex	7	
				moderately convex	8	
				strongly convex	9	
				strongly convex with margins touching	10	
	strongly convex with margins overlapping	11				
36.	36. (+) QN	Ray floret: rolling of margin				
			(c)	strongly involute	1	
				moderately involute	Hot Chocolate	2
				weakly involute	Carolina Orange	3
				flat (not rolled)	Frivolous Glow	4
				weakly revolute	Blue Angel	5
				moderately revolute		6
	strongly revolute	Mick's Peppermint	7			

CPVO N°	UPOV N°	Characteristics	Examples	Note	
37.	37. PQ	Ray floret: position of part with rolled margin (c)	basal quarter		1
			basal half	Hot Chocolate	2
			basal three quarters		3
			middle half		4
			distal three quarters		5
			distal half	Mick's Peppermint	6
			distal quarter		7
			throughout		8
38.	38. (+) QN	Ray floret: longitudinal axis (c)	incurving	Karma Bon Bini	1
			straight	Kiedahboa	2
			reflexing	Baronesse	3
39.	39. QN	Ray floret: proportion of axis curved (c)	distal quarter	Baronesse	1
			distal half		2
			distal three quarters	Karma Bon Bini	3
40.	40. QN	Ray floret: strength of curvature (c)	weak	Frivolous Glow	3
			medium	Karma Bon Bini	5
			strong		7
41.	41. (+) QN	Ray floret: twisting (c)	absent or very weak	Gallery Rubens	1
			weak or moderate	Ragged Robin	2
			strong		3

CPVO N°	UPOV N°	Characteristics	Examples	Note			
42.	42. (+) PQ	Ray floret: shape of apex					
			(c)	pointed	Carolina Orange	1	
				rounded	Bounty	2	
				retuse	Gallery Rubens	3	
				dentate	Karma Bon Bini	4	
				mamillate	Passion	5	
				fringed	Jacy	6	
				laciniate	My Beverly	7	
		horned		8			
43.	43.	Ray floret: number of colours of inner side					
			PQ	(c)	one	Red Fox	1
				(d)	two	Papagaya	2
			more than two	Secret Glow	3		
44.	44.	Ray floret: main colour of inner side					
			PQ	(c) (d)	RHS Colour Chart (indicate reference number)		
45.	45.	Ray floret: second colour of inner side					
			PQ	(c) (d)	RHS Colour Chart (indicate reference number)		

CPVO N°	UPOV N°	Characteristics	Examples	Note		
46.	46. (+) PQ	Ray floret: distribution of second colour of inner side		at tip	1	
				distal quarter	Salvador	2
				distal half		3
				distal three quarters	Kiedahbasar	4
				basal three quarters		5
				basal half	Papagaya	6
				basal quarter	Secret Glow	7
				at base		8
				on margin		9
				marginal zone		10
				central bar	Famoso	11
				transverse zone [band]	Fabula	12
				throughout	Mick's Peppermint	13
47.	47. (+) PQ	Ray floret: pattern of second colour of inner side		solid or nearly solid	Fabula, Papagaya, Secret Glow	1
				flushed	Famoso, Salvador	2
				diffuse stripes		3
				clearly defined stripes		4
				flecked		5
				flecked and striped	Mick's Peppermint	6
				mottled		7
48.	48.	Ray floret: third colour of inner side	PQ	(c) (d)	RHS Colour Chart (indicate reference number)	

CPVO N°	UPOV N°	Characteristics	Examples	Note	
49.	49. (+) PQ	Ray floret: distribution of third colour of inner side (c) (d)	at tip		1
			distal quarter	Secret Glow	2
			distal half		3
			distal three quarters		4
			basal three quarters		5
			basal half		6
			basal quarter		7
			at base	Fabula	8
			on margin	Oriental Dream	9
			marginal zone		10
			central bar		11
			transverse zone [band]		12
			throughout	D'Alaïs	13
50.	50. (+) PQ	Ray floret: pattern of third colour of inner side (c) (d)	solid or nearly solid		1
			flushed	Secret Glow	2
			diffuse stripes		3
			clearly defined stripes		4
			flecked	D'Alaïs	5
			flecked and striped		6
			mottled		7
51.	51. QL	Ray floret: colour of outer side compared to main colour of inner side (c)	similar	Secret Glow	1
			markedly different	Giraffe	2

CPVO N°	UPOV N°	Characteristics	Examples	Note
52.	52.	Ray floret: colour of outer side, where markedly different to inner side		
	PQ	(c)	RHS Colour Chart (indicate reference number)	
53.	53.	<u>Only single and semi double varieties (see char. 21): Disc: diameter relative to flower head diameter</u>		
	QN		small Dark Desire	3
			medium Bumble Rumble	5
			large Scarlet Comet	7
54.	54.	<u>Only single and semi double varieties (see char. 21) which are daisy type (see char. 22): Disc: colour before anther dehiscence</u>		
	PQ		whitish	1
			green	2
			yellow green Salvador	3
			yellow	4
			orange Kiedahlem	5
			red brown Dark Desire	6
			purple brown	7
			brown	8
			purple black	9
			brown black	10

CPVO N°	UPOV N°	Characteristics	Examples	Note
55.	55.	<u>Only single and semi double varieties (see char. 21) which are daisy type (see char. 22):</u> Disc: colour at anther dehiscence		
	PQ		whitish	1
			green	2
			yellow green	3
			yellow	4
			orange	5
			red brown	6
			purple brown	7
			brown	8
			purple black	9
			brown black	10
56.	56.	<u>Only anemone-type varieties (see char. 22): Disc florets: colour</u>		
	PQ		RHS Colour Chart (indicate reference number)	
57.	57.	<u>Only collerette-type varieties (see char. 23): Collar segments: colour</u>		
	PQ		RHS Colour Chart (indicate reference number)	

EXPLANATIONS AND METHODS

Explanations covering several characteristics

Unless otherwise indicated, all characteristics should be examined 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) Leaf characteristics are recorded on typical leaves taken from the middle third of the stem, and are recorded on the whole leaf regardless of the number of leaflets, looking at the upper surface.
- (b) Ray floret length and width characteristics should be observed on the outermost row of ray florets.
- (c) In all but single flowered varieties, all ray floret characteristics, other than length and width characteristics (see note (b)), should be observed on the most typical florets, excluding the innermost and outermost rows, unless otherwise stated.
- (d) The main colour is the colour with the largest total surface area, the second colour (if present) is the colour with the second largest total surface area, and the third colour (if present) is that with the third largest total surface area.

Explanations for individual characteristics

Ad. 1: Plant: growth habit



1
upright



2
semi-upright



3
semi-spreading



4
spreading

Ad. 3: Stem: colour

The stem colour should be observed on the middle third of the stem, excluding the peduncle.

Ad. 4: Leaf: type



simple



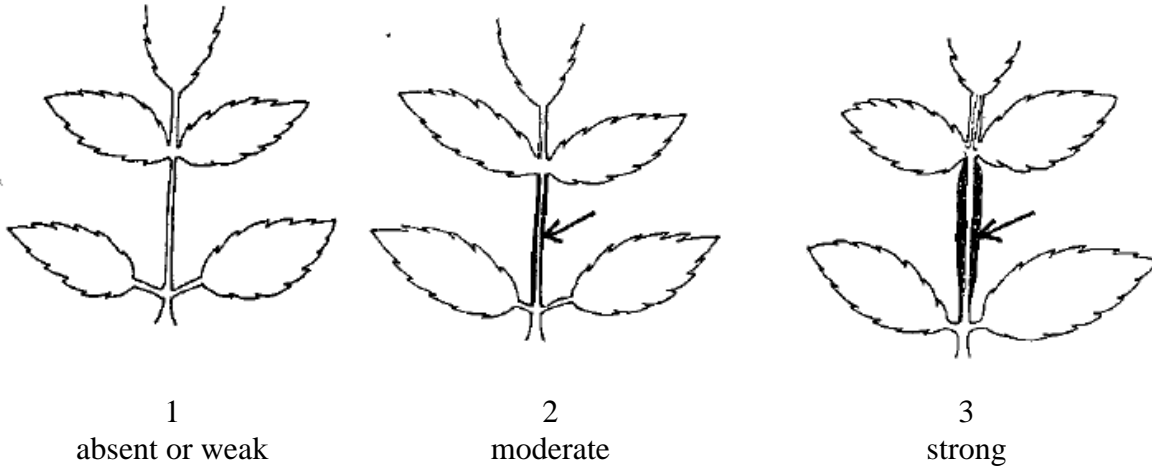
pinnate



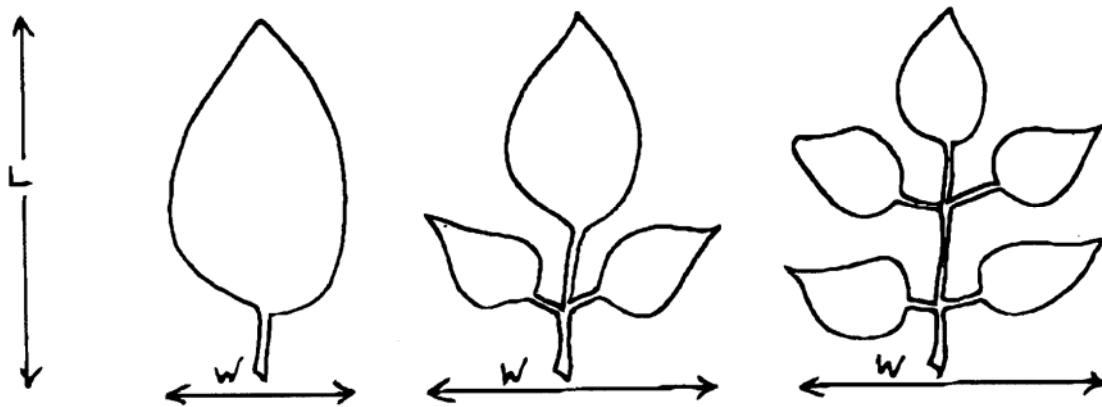
bipinnate

It is common to find a number of different leaf types within each plant of a Dahlia variety but the proportion of each type on the plant should be consistent within a variety.

Ad. 5: Leaf: wing



Ad. 6: Leaf: length including petiole
Ad. 7: Leaf: width



Ad. 13: Leaflet: shape

Ad. 14: Leaflet: shape of base

Ad. 15: Leaflet margin: number of incisions (excluding lobes)

Ad. 16: Leaflet margin: depth of incisions (excluding lobes)

These characteristics should be recorded on the terminal leaflet for compound leaves. In the case of simple leaves, they are recorded on the whole leaf.

Ad. 14: Leaflet: shape of base



1
acute



2
obtuse



3
Rounded



4
truncate



5
cordate



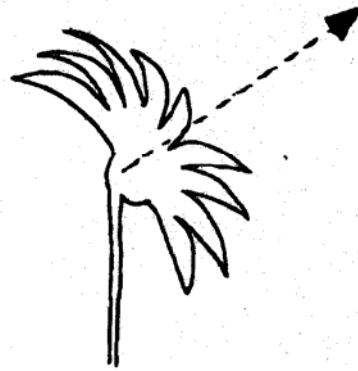
6
asymmetric

All varieties with asymmetric bases should be observed as state 6 for this characteristic, although the shape of the base of asymmetric varieties may be different from each other.

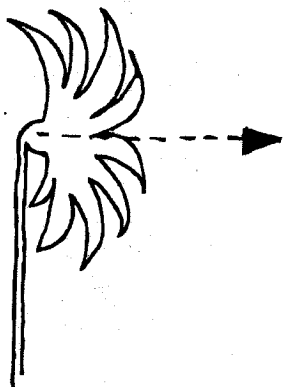
Ad. 20: Flower head: attitude



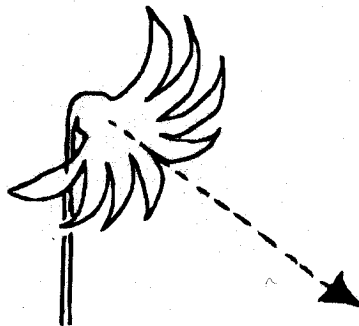
1
upright



3
semi upright



5
horizontal



7
moderately downward

Ad. 21: Flower head: type

1. single: flower heads with one row of ray florets, and a clearly defined central disc which is always visible.
2. semi double: flower heads with more than one row of ray florets, and a clearly defined central disc which is always visible.
3. daisy-eyed double: double flower heads where a disc is not visible in the early stages of flowering, but can be seen as the flower head opens fully. The disc is not always clearly defined.
4. double: double flower heads where a disc is not visible at any stage of flowering.



1
single



2
semi double



3
daisy-eyed double



4
double

Ad. 22: Only single and semi double varieties (see char. 21): Flower head: disc type



1
daisy



2
anemone

Ad. 23: Flower head: collar segments



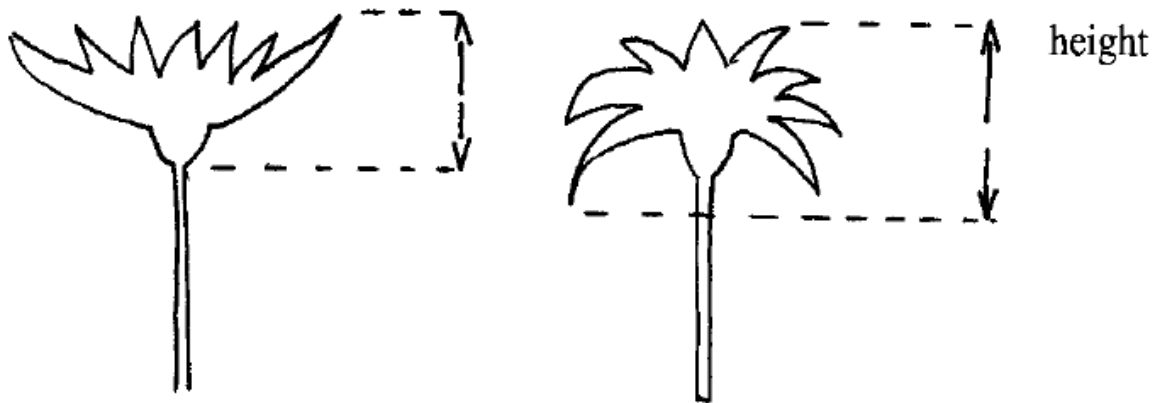
1
absent

Collar segments



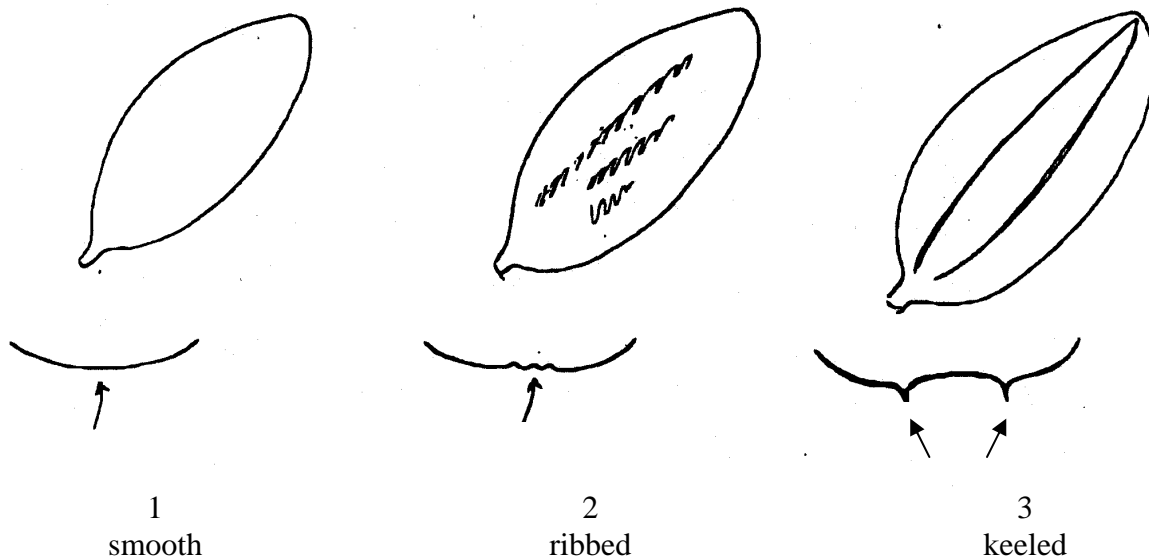
9
present (collerette type)

Ad. 26: Only double and daisy-eyed double varieties (see char. 21): Flower head: height



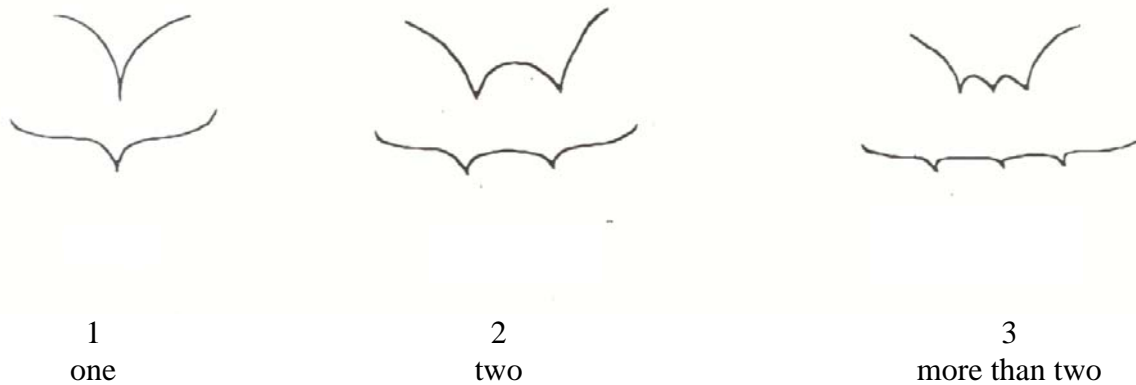
Ad. 32: Ray floret: upper surface

As seen from above (top row) and in profile (bottom row):



Ad. 33: Ray floret: number of keels on keeled florets

As seen in profile.

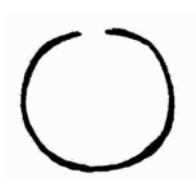


Ad. 34: Ray floret: profile in cross section at mid point

Ad. 35: Ray floret: profile in cross section at $\frac{3}{4}$ point from base, if different from mid-point



1
strongly concave
with margins
overlapping



2
strongly concave
with margins
touching



3
strongly concave



4
moderately concave



5
weakly concave



6
flat



7
weakly convex



8
moderately convex



9
strongly convex



10
strongly convex with
margins touching



11
strongly convex with
margins overlapping

Ad. 36: Ray floret: rolling of margin



1
strongly involute



2
moderately involute



3
weakly involute



4
flat (not rolled)



5
weakly revolute



6
moderately revolute

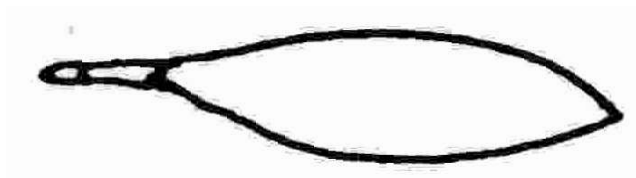


7
strongly revolute

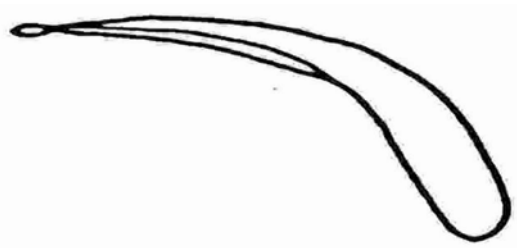
Ad. 38: Ray floret: longitudinal axis



1
incurving



2
straight



3
reflexing

Ad. 41: Ray floret: twisting



1

absent or very weak



2

weak or moderate



3

strong

Ad. 42: Ray floret: shape of apex



1

pointed



2

rounded



3

retuse



4

dentate



5

mullimate



6

fringed



7

lacinate



8

horned

Ad. 46: Ray floret: distribution of second colour of inner side

Ad. 49: Ray floret: distribution of third colour of inner side



1
at tip



2
distal quarter



3
distal half



4
distal three quarters



5
basal three quarters



6
basal half



7
basal quarter



8
at base



9
on margin



10
marginal zone



11
central bar



12
transverse zone
[band]



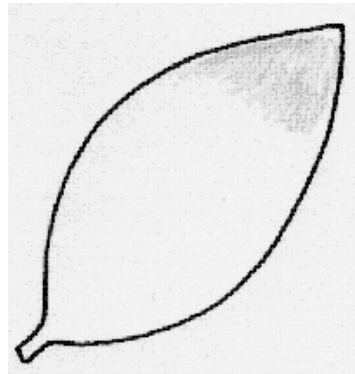
13
throughout

Ad. 47: Ray floret: pattern of second colour of inner side

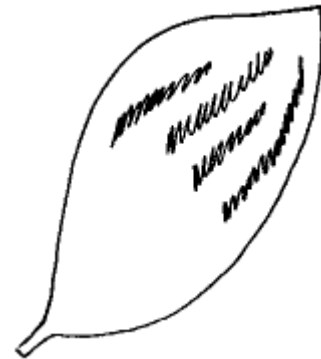
Ad. 50: Ray floret: pattern of third colour of inner side



1
solid or nearly solid



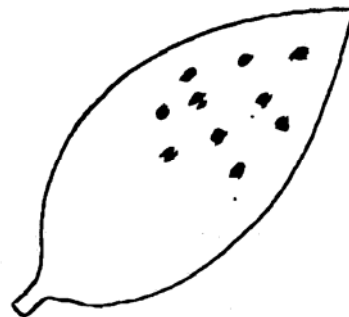
2
flushed



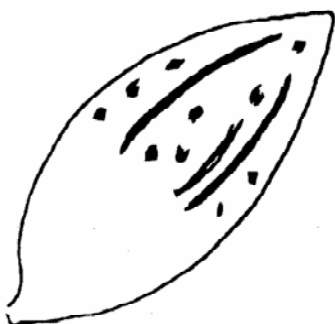
3
diffuse stripes



4
clearly defined stripes



5
flecked



6
flecked and striped



7
mottled

LITERATURE

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ANNEX 2



**European Union
Community Plant Variety Office**

TECHNICAL QUESTIONNAIRE

to be completed in connection with an application for Community Plant Variety Rights
Please answer all questions. A question without any answer will lead to a non-attribution
of an application date. In cases where a field / question is not applicable, please state so.

- 1. Botanical taxon:** Name of the genus, species or sub-species to which the variety belongs and common name

Dahlia Cav.

DAHLIA

- 2. Applicant(s):** Name(s) and address(es), phone and fax number(s), Email address, and where appropriate name and address of the procedural representative

.....

.....

- 3. Variety denomination**

a) Where appropriate proposal for a variety denomination:

.....

b) Provisional designation (breeder's reference):

.....

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

(a) Seedling (indicate parent varieties)..... []

.....
.....
.....
.....

(b) Mutation (indicate parent variety) []

.....
.....
.....
.....

(c) Discovery (indicate where, when
and how the variety has been developed):..... []

.....
.....
.....
.....

(d) Other (please specify) []

.....
.....
.....
.....

4.2 Method of propagation

(a) Cuttings..... []

(b) Tubers []

(c) *In vitro* propagation []

(d) Seed []

(e) Other (please specify): []

.....
.....
.....
.....

4.3 Other information

In the case of seed propagated varieties: method of production:

(a) Self-pollinated []

(b) Cross-pollinated (please give details)..... []

.....
.....
.....
.....
.....

(c) Hybrid (please give details)..... []

.....
.....
.....
.....
.....

4.4 Geographical origin of the variety: the region and the country in which the variety was bred or discovered and developed

.....

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in the CPVO Protocol; please mark the state of expression which best corresponds).

Characteristics	Example varieties	Note
5.1 Plant: height (2)	short	Gallery Rubens 3 []
	medium	Dark Desire 5 []
	tall	Hot Chocolate 7 []

Characteristics	Example varieties		Note
5.2 Leaf: colour (9)	light green medium green dark green green tinged with brownish red green tinged with purple brownish red purple	Rio Red Fox Frivolous Glow City of Rotterdam Passion Nippon Tresor	1 [] 2 [] 3 [] 4 [] 5 [] 6 [] 7 []
5.3 Flower head: type (21)	single semi double daisy-eyed double double	Dark Desire Bishop of Llandaff Carolina Orange Passion	1 [] 2 [] 3 [] 4 []
5.4 <u>Only single and semi double varieties</u> (22) <u>(see char. 21): Flower head: disc type</u>	daisy anemone	Dark Desire Scarlet Comet	1 [] 2 []
5.5 Flower head: diameter (25)	small medium large	Jaimaica Passion	3 [] 5 [] 7 []
5.6 Ray floret: number of colour of inner side (43)	one two more than two	Red Fox Papagaya Secret Glow	1 [] 2 [] 3 []

Characteristics	Example varieties	Note
Please fill in point (i) if possible, otherwise point (ii).		
5.7(i) (44) Ray floret: main colour of inner side	RHS Colour Chart (indicate reference number) 	
5.7(ii) (44) Ray floret: main colour of inner side	white 1 [] off-white 2 [] yellow 3 [] bronze 4 [] orange 5 [] orange red 6 [] salmon 7 [] pink 8 [] red 9 [] red purple 10 [] purple 11 [] violet 12 [] other colour (indicate) 13 []	
Please fill in point (i) if possible, otherwise point (ii).		
5.8(i) (45) Ray floret: second colour of inner side	RHS Colour Chart (indicate reference number) 	

Characteristics		Example varieties	Note
5.8(ii) Ray floret: second colour of inner side (45)		white	1 []
		off-white	2 []
		yellow	3 []
		bronze	4 []
		orange	5 []
		orange red	6 []
		salmon	7 []
		pink	8 []
		red	9 []
		red purple	10 []
		purple	11 []
		violet	12 []
		other colour (indicate)	13 []
		
6. Similar varieties and differences from these varieties:			
Denomination of similar variety	Characteristic in which the similar variety is different ¹⁾	State of expression of similar variety	State of expression of candidate variety
<p>¹⁾ In the case of identical states of expressions of both varieties, please indicate the size of the difference</p>			

7. Additional information which may help to distinguish the variety

A representative printed-out colour photo of the variety **must** be added to the Technical Questionnaire.

7.1 Resistance to pests and diseases

.....
.....
.....
.....

7.2 Special conditions for the examination of the variety

7.2.1 Main use of the variety

(a) pot plant..... []

(b) garden plant..... []

(c) cut flower..... []

(d) other, please indicate..... []

.....
.....

7.2.2 Other conditions

[] YES, please specify:

[] NO

7.3 Additional information

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

[] YES, please specify:

[] NO

7.3.2 Other information

[] YES, please specify:

[] NO

8. GMO-information required

The variety represents a Genetically Modified Organism within the meaning of Article 2(2) of Council Directive EC/2001/18 of 12/03/2001.

[] YES [] NO

If yes, please add a copy of the written attestation of the responsible authorities stating that a technical examination of the variety under Articles 55 and 56 of the Basic Regulation does not pose risks to the environment according to the norms of the above-mentioned Directive.

9. Information on plant material to be examined

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 or pesticide) | [] Yes | [] No |
| (c) Tissue culture | [] Yes | [] No |
| (d) Other factors | [] Yes | [] No |

Please provide details of where you have indicated “Yes”:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

I/we hereby declare that to the best of my/our knowledge the information given in this form is complete and correct.

Date

Signature

Name