



**European Union
Community Plant Variety Office**

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Alstroemeria L.

ALSTROEMERIA

UPOV Species Code: ALSTR

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/29/7 dated 5th April 2006 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of *Alstroemeria* L. of the family of *Liliaceae*.

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) Plant: height (characteristic 1)
- (b) Flower: main colour (characteristic 8)

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. 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 8 plants for vegetatively propagated varieties and 50 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.

All observations on single plants for vegetatively propagated varieties determined by measurement or counting should be made on 8 plants or parts taken from each of 8 plants and any other observations made on all plants in the test.

All observations on single plants for seed propagated varieties 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 greenhouse, 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

ANNEX I	<u>PAGE</u>
List of characteristics to be observed	8
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<u>Legend:</u>	
QL Qualitative characteristic	
QN Quantitative characteristic	
PQ Pseudo-qualitative characteristic	
(a) See Explanations on the Table of characteristics	
(+) See Explanations on the Table of characteristics	
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ANNEX II

Technical Questionnaire

ANNEX 1

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note	
1.	1. QN	Plant: height	short	Zanspot, Koglow	3
			medium	Prealpech, Koanti	5
			tall	Teswhite, Kofuji	7
2.	2. QN	Stem: thickness	thin	Zaprijul, Koanti	3
			medium	Tesdoro, Tesfortun	5
			thick	Korfuji, Tescow	7
3.	3. QN	Leaf: length	short	Zaprijul, Zanrina	3
			medium	Stasach, Kofuji, Tessalm	5
			long	Teswhite, Tesdoro	7
4.	4. QN	Leaf: width	narrow	Teswhite, Koglow	3
			medium	Statiren, Zalsaccept, Koudrey	5
			broad	Kofuji, Tesdoro	7
5.	5. (+) QN	Umbel: number of branches	few	Staprisis, Koglow, Zapribel	3
			medium	Statiren, Teswhite, Zalsaccept	5
			many	Tescow, Tessalm	7

CPVO N°	UPOV N°	Characteristics	Examples	Note		
6.	6. (+) QN	Umbel: length of branches	short	Staprisis, Koglow, Little Moon	3	
			medium	Stamond, Zalscept, Kofuji	5	
			long	Stasach, Tescow, Tesamad	7	
7.	7. (+) QN	Flower: length of pedicel	(a)	short	Staprilan, Zalsamot, Prealpech	3
				medium	Stasach, Zalscept, Tesdoro	5
				long	Teswhite, Zaprijul	7
8.	8. PQ	Flower: main colour	(a)	white	Stamond, Teswhite	1
				light yellow	Koanti	2
				medium yellow	Staprilan, Tespluto	3
				greenish	Kofuji	4
				orange	Little Moon	5
				orange red	Zapribel	6
				red	Stasach, Staflam	7
				light pink	Prealpech	8
				medium pink	Staprisis, Tescow	9
				purple pink		10
				red purple	Tesamad	11
				light purple	Zapriko	12
medium purple	Zalsamot	13				
dark purple	Napoli	14				

CPVO N°	UPOV N°	Characteristics	Examples	Note	
9.	9. QN	Flower: size (a)	small	Elegance, Tespluto	3
			medium	Stasach, Zalsamot, Koglow	5
			large	Statiren, Tesdoro, Tescow	7
10.	10. PQ	Outer tepal: shape of blade (a)	medium elliptic	Zalsanion, Zanmirac	1
			broad elliptic	Teswhite, Zanbritta	2
			circular	Stamond, Gamanda	3
			medium obovate	Tesdoro, Prealpech	4
			broad obovate	Statiren, Zalsacept, Koglow	5
11.	11. QN	Outer tepal: depth of emargination (a)	shallow	Stasach, Teswhite, Koglow	3
			medium	Tesamad, Zalsamay	5
			deep	Zaprijul, Tessalm	7
12.	12. (+) PQ	Outer tepal: main colour of <u>central</u> zone (a)	RHS Colour Chart (indicate reference number)		
			RHS Colour Chart (indicate reference number)		
13.	13. (+) PQ	Outer tepal: main colour of <u>top</u> zone (green tip excluded) (a)	RHS Colour Chart (indicate reference number)		
			RHS Colour Chart (indicate reference number)		
14.	14. (+) PQ	Outer tepal: main colour of <u>lateral</u> zone (a)	RHS Colour Chart (indicate reference number)		
			RHS Colour Chart (indicate reference number)		

CPVO N°	UPOV N°	Characteristics	Examples	Note	
15.	15. (+) PQ	Outer tepal: main colour of <u>basal</u> zone (a)	RHS Colour Chart (indicate reference number)		
16.	16. QL	Outer tepal: very small or small stripes on marginal part of lateral zone of upper side of blade (a)	absent present	Koanti Statistrip	1 9
17.	17. QL	Outer tepal: large or very large stripes on upper side of blade (marginal zone excluded) (a)	absent present	Zalsamot Prealpech	1 9
18.	18. QN	Outer tepal: number of large or very large stripes on upper side of blade (marginal zone excluded) (a)	few medium many	Sratisstrip Prealbour Prealpech	3 5 7
19.	19. QL	Inner tepal: shape of blade (a)	elliptic obovate	Statiren, Teswhite, Tessalm Zalsaccept, Kofuji	1 2

CPVO N°	UPOV N°	Characteristics	Examples	Note		
20.	20. (+)	Inner lateral tepal: size of striped zone on upper side (claw and top part of blade excluded)				
			QN (a)	small	Fuego	3
				medium	Teswhite	5
			large	Prealbour	7	
21.	21.	Inner lateral tepal: main colour of striped zone on upper side (as for 20)				
			PQ (a)	RHS Colour Chart (indicate reference number)		
22.	22.	Inner lateral tepal: number of stripes on upper side (as for 20)				
			QN (a)	absent or few	Staqueen, Koanti	1
				medium	Stamond, Tesdoro, Tessalm	2
			many	Prealpech, Preallad	3	
23.	23.	Inner lateral tepal: length of longest stripes on upper side (as for 20)				
			QN (a)	short	Koanti	3
				medium	Koice	5
			long	Prealbour	7	
24.	24.	Inner lateral tepal: width of widest stripes on upper side (as for 20)				
			QN (a)	narrow	Teswhite	3
				medium	Stapricamil	5
			broad	Zanfier	7	

CPVO N°	UPOV N°	Characteristics	Examples	Note	
25.	25.	Inner median tepal: difference in striped pattern compared to inner lateral tepal	absent	Tesdoro	1
			present	Stapricamil	9
26.	26.	(a) Filament: main colour	white	Teswhite, Zalsarest	1
			yellow	Tesfortun, Zanbritta	2
			orange	Zanrina, Tespluto	3
			orange red	Tessalm, Staqueen	4
			red	Tescow, Macondo	5
			pink	Stamond, Kofuji, Tampa	6
			red purple	Preallad, Tesbay	7
			light purple	Koglow, Zaprijul	8
			medium purple	Zalsamot, Tesazur	9
27.	27.	(a) Filament: small spots	absent	Tesdoro, Kofuji	1
			present	Gamanda, Staneltor	9
28.	28.	Anther: colour just before the start of dehiscence	yellowish	Green Bell, Zanpri	1
			greenish	Staprinag, Koglow, Tespro	2
			orange	Zaprijul, Tessalm	3
			purplish	Zanrina, Stapripame	4
			brownish	Kofuji, Tesdoro	5
			medium grey	Zapribel, Tesazur	6
			dark grey		7
			blue	Carmelita	8

CPVO N°	UPOV N°	Characteristics	Examples	Note	
29.	29. (+)	Ovary: anthocyanin coloration	absent	Tesdoro	1
			present	Pealpech	9
30.	30. (+)	Ovary: intensity of anthocyanin coloration	weak	Staprilan, Ivory, Stadicrem	3
			medium	Tescow, Zaprijul,	5
			strong	Tesazur, Prealpech	7

EXPLANATIONS AND METHODS

Explanations covering several characteristics

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

- (a) Observations on the flower should be made at the time of dehiscence of some of the anthers in an individual flower.

Explanations for individual characteristics

Ad. 5: Umbel: number of branches

Ad. 6: Umbel: length of branches

Ad. 7: Flower: length of pedicel



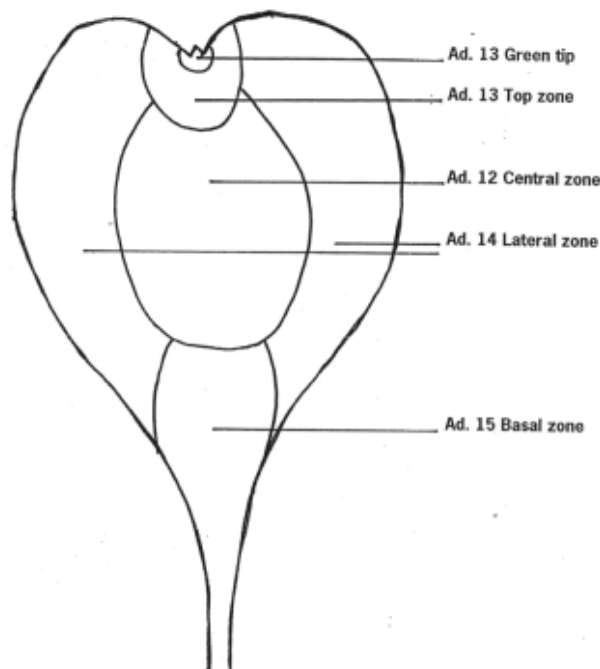
To be observed at the opening of the first flower on the umbel branch.

Ad. 12: Outer tepal: main colour of **central** zone

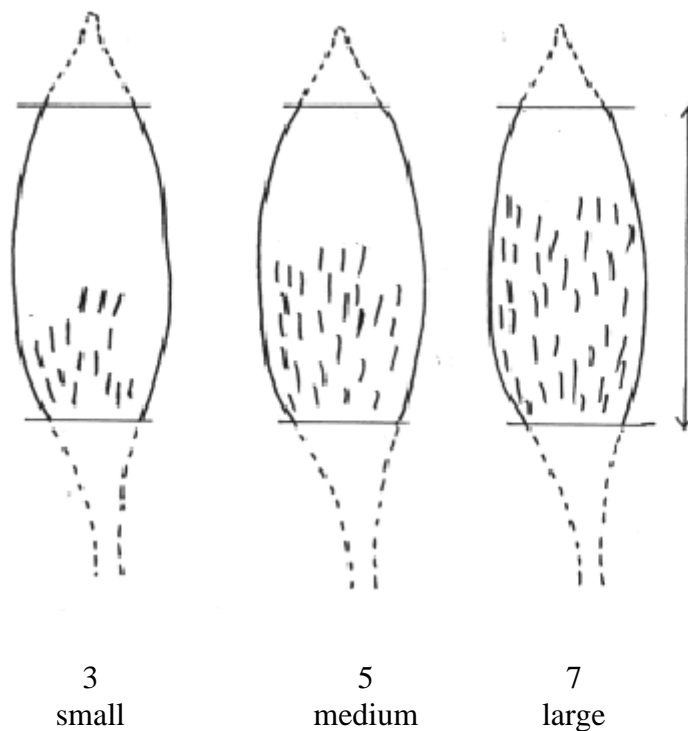
Ad. 13: Outer tepal: main colour of **top** zone (green tip excluded)

Ad. 14: Outer tepal: main colour of **lateral** zone

Ad. 15: Outer tepal: main colour of **basal** zone



Ad. 20: Inner lateral tepal: size of striped zone on upper side (claw and top part of blade excluded)



Ad. 29: Ovary: anthocyanin coloration

Ad. 30: Ovary: intensity of anthocyanin coloration

Anthocyanin should be observed over the whole surface, including ribs.

LITERATURE

The Royal General Bulbgrowers' Association, 1991: International Checklist for Hyacinths and Miscellaneous Bulbs (International Register and Classified List of Hyacinths and other bulbous, cormous and tuberous plants). Koninklijke Algemeene Vereeniging voor Bloembollencultuur, Hillegom, NL

Grunert, Christian, 1980: Das Blumenzwiebelbuch. Verlag Eugen Ulmer, Stuttgart, DE

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/029/2