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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

ALSTROEMERIA

(*Alstroemeria* L.)

*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its thirty-sixth session,
to be held in Niagara Falls, Canada, from September 22 to 26, 2003

Alternative Names:*

Latin	*English*	*French*	*German*	*Spanish*
Alstroemeria L.	Alstroemeria	Alstroemère	Inkalilie	Alstromeria

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as 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.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Alstroemeria* L. of family Liliaceae.

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 plants or seed.

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

- for vegetatively propagated varieties: 4 plants
- for seed-propagated varieties: 250 seeds

2.4 In the case of seed, the seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

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

2.6 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 Duration of Tests

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

3.2 Testing Place

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be observed at that place, the variety may be tested at an additional place.

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. In particular, unless otherwise indicated, all observations should be made on fully grown, typical organs at the time of full flowering.

3.3.2 The following growing conditions are recommended:

– Sowing time: February

– Planting time (in greenhouse): October (Northern hemisphere)

– Planting distance: ca. 40x50cm

– Soil: well-drained, pH 5.5-6.0

– Fertilizer: well-balanced, accordingly to soil analysis

3.3.3 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.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 4 plants (vegetatively propagated varieties) or 50 plants (seed-propagated varieties).

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 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations on single plants should be made on 4 plants or parts taken from each of 4 plants and any other observations made on all plants in the test.

3.6 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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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.

4.2 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 Vegetatively propagated varieties: for the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 4 plants, no off-types are allowed.

4.2.3 Seed-propagated varieties: the assessment of uniformity of seed-propagated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.

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 tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous 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 is aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded

from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

(a) Plant: height (characteristic 1)

(b) Flower: main color (characteristic 8)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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

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.

6.3 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 Section 6.1.2

(QL) Qualitative characteristic – see Section 6.3
(QN) Quantitative characteristic – see Section 6.3
(PQ) Pseudo-qualitative characteristic – see Section 6.3

(a) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 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.	**Plant: height**					
QN	low					3
	medium					5
	tall					7
2.	**Stem: thickness**					
QN	thin					3
	medium					5
	thick					7
3.	**Leaf: length**					
QN	short					3
	medium					5
	long					7
4.	**Leaf: width**					
QN	narrow					3
	medium					5
	broad					7
5.	**Inflorescence: number of branches in umbel**					
QN	few					3
	medium					5
	many					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. **(+)**	**Inflorescence: length of branches in umbel**					
PQ	short					3
	medium					5
	long					7
7. **(+)**	**Flower: length of pedicel**					
QN	short					3
	medium					5
	long					7
8.	**Flower: main color**					
QL	white					1
	light yellow					2
	yellow					3
	greenish					4
	orange					5
	orange red					6
	red					7
	light pink					8
	pink					9
	purple pink					10
	red purple					11
	light purple					12
	purple					13
	dark purple					14

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9.	**Flower: size**					
QN	small					3
	medium					5
	large					7
10.	**Outer tepal: shape of blade**					
PQ	elliptic					1
	broad elliptic					2
	circular					3
	obovate					4
	broad obovate					5
11.	**Outer tepal: depth of emargination**					
QN	shallow					3
	medium					5
	deep					7
12.	**Outer tepal: main color of upper side of blade**					
PQ	RHS Colour Chart (indicate reference number)					
13.	**Outer tepal: secondary color**					
QN	absent					1
	present					9
14.	**<u>Varieties with secondary color only</u>: secondary color (color of stripes excluded)**					
PQ	RHS Colour Chart (indicate reference number)					

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
15.		**Outer tepal: stripes on upper side of blade**					
QN		absent					1
		present					9
16.		**Outer tepal: number of stripes on upper side of blade**					
QN		few					3
		medium					5
		many					7
17.		**Inner tepal: shape of blade**					
PQ		elliptic					1
		obovate					2
18.		**Inner lateral tepal: size of middle zone on inner side of blade**					
QN		small					3
		medium					5
		large					7
19.	**(a)**	**Inner lateral tepal: main color of middle zone on upper side of blade**					
PQ		RHS Colour Chart (indicate reference number)					

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
20.	**Inner lateral tepal: number of stripes on upper side of blade (basal zone excluded)**					
QN	absent or few					1
	medium					2
	many					3
21.	**Inner lateral tepal: size of largest stripes on upper side of blade (basal zone excluded)**					
QN	small					3
	medium					5
	large					7
22.	**Inner lateral tepal: size of smallest stripes on inner side of blade (basal zone excluded)**					
QN	small					3
	medium					5
	large					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23.	**Stamens: main colour of filament**					
QN	white					1
	yellow					2
	orange					3
	orange red					4
	red					5
	pink					6
	red purple	.				7
	light purple					8
	purple					9
24.	**Stamens: small spots on filaments**					
QN	absent					1
	present					9
25.	**Stamens: color of the anthers at the start of dehiscence**					
PQ	yellowish					1
	greenish					2
	orange-like					3
	purplish					4
	brownish					5
	grey					6
	dark grey					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26.	**Pistil: anthocyanin coloration on the ovary**					
PQ	absent or weak					1
	medium					2
	strong					3

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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 flower should be made at the time of dehiscence of some of the anthers in an individual flower .

8.2 Explanations for individual characteristics

9. 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

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 *Latin Name*	*Alstroemeria* L.
1.2 Common Name	ALSTROEMERIA

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

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery [ ]
(please state where, when and how developed)

4.1.4 Other [ ]
(please provide details)]

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 Seed [ ]

4.2.3 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 (1)	**Plant: height**		
	low		1[ ]
	medium		2[ ]
	tall		3[ ]
5.2 (8)	**Flower: main color**		
	white		1[ ]
	light yellow		2[ ]
	yellow		3[ ]
	greenish		4[ ]
	orange		5[ ]
	orange red		6[ ]
	red		7[ ]
	light pink		8[ ]
	pink		9[ ]
	purple pink		10[ ]
	red purple		11[ ]
	light purple		12[ ]
	purple		13[ ]
	dark purple		14[ ]

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

6. Similar varieties and differences from these varieties

Please use the table, and space provided for comments, below 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
Example	*Flower: main color*	*light pink*	*pink*

Comments:

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 Special conditions for the examination of the variety

7.2.1 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

7.2.2 If yes, please give details:

7.3 Other information

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

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

If the answer to (b) is yes, please attach a copy of the authorization.

9. Information on plant material to be examined.

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”.

……

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

Applicant’s name

Signature Date

[End of document]