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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

DRAFT

ALSTROEMERIA

UPOV Code: ALSTR_

(Alstroemeria L.)

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the Netherlands

to be considered by the Technical Working Party for Ornamental Plants and Forest Trees at its thirty-seventh session, to be held in Hanover, Germany, from July 12 to 16, 2004

Alternative Names:*

Latin	English	French	German	Spanish	
Alstroemeria L.	Alstroemeria, Herb Lily	Alstroemère, Lis des Incas	Inkalilie	Alstromeria	

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 guidelines ("Test 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.

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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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ANNEX: EXAMPLE VARIETIES

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1. <u>Subject of these Test Guidelines</u>

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

2. <u>Material Required</u>

- 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: 8 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 Number of Growing Cycles

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

3.2 Testing Place

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, it is essential that the trees produce a satisfactory crop of fruit in each of the two growing cycles.

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): November (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 eight 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
- 3.5.1 Vegetatively propagated varieties: unless otherwise indicated, all observations on single plants should be made on eight plants or parts taken from each of eight plants and any other observations made on all plants in the test.
- 3.5.2 Seed-propagated varieties: unless otherwise indicated, all observations on single plants should be made on 50 plants or parts taken from each of 50 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.

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4. <u>Assessment of Distinctness, Uniformity and Stability</u>

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.

4.2 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, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of eight plants, one off-type is allowed.
- 4.2.3 Seed-propagated varieties: the assessment of uniformity 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 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: height (characteristic 1)
 - (b) Flower: ground 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. <u>Introduction to the Table of Characteristics</u>
- 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.

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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. [Please refer to the Annex to this document.]

- 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

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	Plant: height					
QN	short					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. (*) (+)	Umbel: number o	f				
QN	few					3
	medium					5
	many					7

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (*) (+)		Umbel: length of branches					
QN		short					3
		medium					5
		long					7
7. (*) (+)		Flower: length of pedicel					
QN	(a)	short					3
		medium					5
		long					7
8. (*)		Flower: ground color					
PQ	(a)	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

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. (*)		Flower: size					
QN	(a)	small					3
		medium					5
		large					7
10. (*)		Outer tepal: shape of blade					
PQ	(a)	elliptic					1
		broad elliptic					2
		circular					3
		obovate					4
		broad obovate					5
11. (*)		Outer tepal: depth of emargination					
QN	(a)	shallow					3
		medium					5
		deep					7
12. (*)		Outer tepal: ground color of upper side of blade	I				
PQ	(a)	RHS Colour Chart (indicate reference number)					
13. (*) (+)		Outer tepal: presence of over color					
QL	(a)	absent					1
		present					9
14. (*)		Outer tepal: over color					
PQ	(a)	RHS Colour Chart (indicate reference number)					

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

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		English	français	deutsch	español	Note/ Nota
21. (*)		Inner lateral tepal: size of largest stripes on upper side of blade				
QN	(a)	small				3
		medium				5
		large				7
22. (*)		Stamen: main colour of filament				
PQ	(a)	white				1
		yellow				2
		orange				3
		orange red				4
		red				5
		pink				6
		red purple				7
		light purple				8
		purple				9
23.	(a)	Stamen: small spots on filaments				
QL		absent				1
		present				9

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. (*)		Anther: color at the start of dehiscence					
PQ	(a)	yellowish					1
		greenish					2
	(a)	orange					3
		purplish					4
		brownish					5
		grey					6
		dark grey					7
25. (*)		Ovary: anthocyanin coloration					
QN		absent or weak					1
		medium					2
		strong					3

- 8. <u>Explanations on the Table of Characteristics</u>
- 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

Ad. 5: Umbel: number of branches

Illustrations to be provided.

Ad. 6: Umbel: length of branches

Illustrations to be provided.

Ad. 7: Flower: length of pedicel

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

Ad. 13: Outer tepal: presence of over color

Color to be observed excluding stripes and greenish color at tip.

Ad. 18: Upper lateral tepal: size of middle zone on upper side of blade

Illustration of middle zone to be provided.

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9. <u>Literature</u>

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. <u>Technical Questionnaire</u>

TECHNICAL QUESTIONS	NAIRE	Page {x} of {y}	Reference Number:				
			Application date: (not to be filled in by the applicant)				
to be completed i		INICAL QUESTIONN tion with an applicatio	NAIRE on for plant breeders' rights				
1. Subject of the Technic	al Questi	ionnaire					
1.1 Botanical name	Als	troemeria L.					
1.2 Common name	AL	STROEMERIA					
2. Applicant Name							
Address							
Telephone No. Fax No.							
E-mail address							
Breeder (if different fr	om appli	cant)					
3. Proposed denomination	3. Proposed denomination and breeder's reference						
Proposed denomination (if available)	n						
Breeder's reference							

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

[#] 4.	Info	rmation	on the breeding scheme and propagation of the variety							
	4.1	Breedi	Breeding scheme							
		Variet	y resulting from:							
		4.1.1	Crossing							
			(a) controlled cross (please state parent varieties)	[]					
			(b) partially known cross (please state known parent variety(ies))	[]					
			(c) unknown cross	[]					
		4.1.2	Mutation (please state parent variety)	[1					
		4.1.3	Discovery and development (please state where and when discovered and how developed)	[1					
		4.1.4	Other (please provide details)]	[1					
	4.2	Metho	d 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)	[]					

[#] 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:

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		
	short		1[]
	medium		2[]
	tall		3[]
5.2 (8)	Flower: ground 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[]

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TECHNICAL QUEST	TIONNAIRE	Page {x}	of {y}	Reference N	Number:
candidate variety diffe	ving table and ers from the va . This inform	box for viety (or veation may	comments to arieties) wh whelp the e	ich, to the be	formation on how your st of your knowledge, is authority to conduct its
Denomination(s) of variety(ies) similar to your candidate variety	which your c	andidate from the	of the char for the	-	Describe the expression of the characteristic(s) for your candidate variety
Example	Flower: main	• ` '		t pink	pink
Comments:					

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TECI	HNICAL	QUESTIONNAIRE	Page {x} o	of {y}	Reference Number:						
[#] 7.	Additio	nal information which	may help in	the exami	nation 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 []	1							
	(If yes, p	please provide details)									
7.2	Special	conditions for the exam	nination of tl	he variety							
	7.2.1	Are there any special examination?	al condition	s for gro	wing the variety or conducting the	•					
		Yes []	No	[]							
	7.2.2	If yes, please give det	ails:								
7.3	Other in	nformation									
8.	Authori	zation for release									
		oes the variety require ection of the environme	•		release under legislation concerning health?	,					
	Y	es []	No	[]							
	(b) H	as such authorization b	een obtained	1?							
	Y	es []	No	[]							
	If the ar	nswer to (b) is yes, plea	se attach a c	opy of the	authorization.						

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

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TEC	HNIC.	AL QUESTIONNAIRE Page $\{x\}$ of $\{y\}$ R	eterence N	lumber:	
9.	Info	rmation on plant material to be examined.			
-	ets of	expression of a characteristic or several characteristic such as pests and disease, chemical treatment (e.g tissue culture, different rootstocks, scions taken fr	g. growth r	etardants or	pesticides),
such must	ession treatm be giv	plant material should not have undergone any troof the characteristics of the variety, unless the comment. If the plant material has undergone such treativen. In this respect, please indicate below, to the been subjected to:	petent autl tment, full	horities allow details of th	w or request ne treatment
	(a)	Microorganisms (e.g. virus, bacteria, phytoplasma	n)	Yes []	No []
	(b)	Chemical treatment (e.g. growth retardant or pesti-	cide)	Yes []	No []
	(c)	Tissue culture		Yes []	No []
	(d)	Other factors		Yes []	No []
	Pleas	se provide details of where you have indicated "yes"	···.		
	•••••				
10. is coi	I her	reby declare that, to the best of my knowledge, the	informatio	on provided	in this form
	Appl	icant's name			
	Signa	ature	Date		

[Annex follows]

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ANNEX

EXAMPLE VARIETIES

edium II Eem: thickness in edium ick eaf: length	Zaprifabi Koglow Prealpech Teswhite Zalsanion Christina Zaprifabi Zalsamano Zalsadim Tampa	Zaprinous Turcalrite Preallad Zalsadim Zanbritta Arabella Turcalisa Turcalmath Zalsamot Tessalm	Christina Turcalmath Prealdordo Kofuji Bella Moon Zapribel Turcalrite Tesdoro Kofuji Stalidi	Arabella Kotropic Tesfortun Zalsasenan Staflam Stapricamil Zaprijul Zalsasweet Koudrey Macondo	Zaprijul Koice Zanrina Zalsamano Stadebor Staprioxa Turcalreau Etna Zalsasenan	Zapribel Zanspot Koanti Tampa Zanspot Koanti Tesfortun Tescow	Zapriko Macondo Tessalm Tesamad		
edium II Eem: thickness in edium ick eaf: length	Prealpech Teswhite Zalsanion Christina Zaprifabi Zalsamano Zalsadim Tampa	Preallad Zalsadim Zanbritta Arabella Turcalisa Turcalmath Zalsamot Tessalm	Prealdordo Kofuji Bella Moon Zapribel Turcalrite Tesdoro Kofuji	Tesfortun Zalsasenan Staflam Stapricamil Zaprijul Zalsasweet Koudrey	Zanrina Zalsamano Stadebor Staprioxa Turcalreau Etna	Koanti Tampa Zanspot Koanti Tesfortun	Tessalm		
in edium ick eaf: length	Teswhite Zalsanion Christina Zaprifabi Zalsamano Zalsadim Tampa	Zalsadim Zanbritta Arabella Turcalisa Turcalmath Zalsamot Tessalm	Kofuji Bella Moon Zapribel Turcalrite Tesdoro Kofuji	Zalsasenan Staflam Stapricamil Zaprijul Zalsasweet Koudrey	Zalsamano Stadebor Staprioxa Turcalreau Etna	Tampa Zanspot Koanti Tesfortun	Tessalm		
in edium ick eaf: length	Zalsanion Christina Zaprifabi Zalsamano Zalsadim Tampa	Zanbritta Arabella Turcalisa Turcalmath Zalsamot Tessalm	Bella Moon Zapribel Turcalrite Tesdoro Kofuji	Staflam Stapricamil Zaprijul Zalsasweet Koudrey	Stadebor Staprioxa Turcalreau Etna	Zanspot Koanti Tesfortun			
in edium ick eaf: length	Christina Zaprifabi Zalsamano Zalsadim Tampa	Arabella Turcalisa Turcalmath Zalsamot Tessalm	Zapribel Turcalrite Tesdoro Kofuji	Stapricamil Zaprijul Zalsasweet Koudrey	Staprioxa Turcalreau Etna	Koanti Tesfortun	Tesamad		
in edium ick eaf: length	Zaprifabi Zalsamano Zalsadim Tampa	Turcalisa Turcalmath Zalsamot Tessalm	Turcalrite Tesdoro Kofuji	Zaprijul Zalsasweet Koudrey	Turcalreau Etna	Koanti Tesfortun	Tesamad		
in edium ick eaf: length	Zaprifabi Zalsamano Zalsadim Tampa	Turcalisa Turcalmath Zalsamot Tessalm	Turcalrite Tesdoro Kofuji	Zaprijul Zalsasweet Koudrey	Turcalreau Etna	Koanti Tesfortun	Tesamad		
in edium ick eaf: length	Zaprifabi Zalsamano Zalsadim Tampa	Turcalisa Turcalmath Zalsamot Tessalm	Turcalrite Tesdoro Kofuji	Zaprijul Zalsasweet Koudrey	Turcalreau Etna	Koanti Tesfortun	Tesamad		
edium ick eaf: length	Zalsamano Zalsadim Tampa	Turcalmath Zalsamot Tessalm	Tesdoro Kofuji	Zalsasweet Koudrey	Etna	Tesfortun	Tesamad		
ick eaf: length	Zalsadim Tampa	Zalsamot Tessalm	Kofuji	Koudrey			Tesamad		
eaf: length	Tampa	Tessalm		-	Zalsasenan	Tescow	Tesamad		
eaf: length			Stalidi	Macondo		0			
	Zaprifabi					0			
	Zaprifabi					-	1		
	Zaprifabi								
ort		Christina	Arabella	Zapribel	Zapriko	Staprisara			
UIL	Zaprinous	Zaprijul	Zapricean	Zanrina	Zanfier	Stapricamil			
edium	Kofuji	Koudrey	Turcalisa	Turcalrite	Turcalmath	Tessalm			
ng	Teswhite	Zalsadim	Zalsacept	Zalsamot	Zalsamano	Tesdoro	Tescow	Tesamad	
	Zalsanion	Zalsasenan	Stalidi	Stalcor	Tesmomblen	Orinoco	Bordeaux		
eaf width									
	Zapriko	Zapricean							
arrow	Teswhite	Zaprifabi	Koglow	Turcalisa	Christina	Zapribel			
edium	Zaprinous	Zalsanion	Zalsacrea	Zalsacept	Zalsamot	Koudrey	Zalsasenan	Zalsamano	Turcalrite
oad	Kofuji	Tesdoro	Tescow	Tesamad	Tesazur	Tesmomblen	Da Vinci		
						Ş			
mbel: number branches									
	Arabella	Stapricamil	Endless love	Staprimar	Stapripal				
w	Zaprifabi	Koglow	Koudrey	Christina	Zapribel	Staprisara			
edium	Teswhite	Zalsadim	Zalsacept	Turcalisa	Turcalrite	Turcalmath	Tesamad		
any	Zalsacrea	Zalsamot	Zalsasenan	Tescow	Tessalm	Zapricean			
	Zalsanion	Zalsasea	Zanbritta	Tesbay	Tesdream				
mm' b	af width row dium ad bel: number branches	Zalsanion Af width Zapriko Teswhite dium Zaprinous Af Kofuji Abel: number branches Arabella Zaprifabi dium Teswhite Teswhite	Zalsanion Zalsasenan Af width Zapriko Zapricean Teswhite Zaprifabi dium Zaprinous Zalsanion ad Kofuji Tesdoro Arabella Stapricamil Zaprifabi Koglow dium Teswhite Zalsadim ny Zalsacrea Zalsamot	Zalsanion Zalsasenan Stalidi af width Zapriko Zapricean Tow Teswhite Zaprifabi Koglow dium Zaprinous Zalsanion Zalsacrea ad Kofuji Tesdoro Tescow abel: number branches Arabella Stapricamil Endless love Zaprifabi Koglow Koudrey dium Teswhite Zalsadim Zalsacept ny Zalsacrea Zalsamot Zalsasenan	Zalsanion Zalsasenan Stalidi Stalcor af width Zapriko Zapricean Tow Teswhite Zaprifabi Koglow Turcalisa dium Zaprinous Zalsanion Zalsacrea Zalsacept ad Kofuji Tesdoro Tescow Tesamad abel: number branches Arabella Stapricamil Endless love Staprimar Zaprifabi Koglow Koudrey Christina dium Teswhite Zalsadim Zalsacept Turcalisa ny Zalsacrea Zalsamot Zalsasenan Tescow	Zalsanion Zalsasenan Stalidi Stalcor Tesmomblen of width Zapriko Zapricean Teswhite Zaprifabi Koglow Turcalisa Christina dium Zaprinous Zalsanion Zalsacrea Zalsacept Zalsamot Tesdoro Tescow Tesamad Tesazur bel: number oranches Arabella Stapricamil Endless love Staprimar Stapripal Zaprifabi Koglow Koudrey Christina Zapribel dium Teswhite Zalsadim Zalsacept Turcalisa Turcalrite ny Zalsacrea Zalsamot Zalsasenan Tescow Tessalm	Zalsanion Zalsasenan Stalidi Stalcor Tesmomblen Orinoco Af width Zapriko Zapricean Teswhite Zaprifabi Koglow Turcalisa Christina Zapribel dium Zaprinous Zalsanion Zalsacrea Zalsacept Zalsamot Koudrey Tesdoro Tescow Tesamad Tesazur Tesmomblen Arabella Stapricamil Endless love Staprimar Stapripal Zaprifabi Koglow Koudrey Christina Zapribel Staprisara dium Teswhite Zalsadim Zalsacept Turcalisa Turcalrite Turcalmath ny Zalsacrea Zalsamot Tescow Tesalm Zapricean	Zalsanion Zalsasenan Stalidi Stalcor Tesmomblen Orinoco Bordeaux of width Zapriko Zapricean row Teswhite Zaprifabi Koglow Turcalisa Christina Zapribel dium Zaprinous Zalsanion Zalsacrea Zalsacept Zalsamot Koudrey Zalsasenan ad Kofuji Tesdoro Tescow Tesamad Tesazur Tesmomblen Da Vinci abel: number oranches Arabella Stapricamil Endless love Staprimar Stapripal Zaprifabi Koglow Koudrey Christina Zapribel Staprisara dium Teswhite Zalsadim Zalsacept Turcalisa Turcalrite Turcalmath Tesamad ny Zalsacrea Zalsamot Zalsasenan Tescow Tessalm Zapricean	Zalsanion Zalsasenan Stalidi Stalcor Tesmomblen Orinoco Bordeaux Inf width Zapriko Zapricean Zapriko Zapricean Zapriko Zapricean Turcalisa Christina Zapribel Zapribu Zaprinous Zalsanion Zalsacrea Zalsacept Zalsamot Koudrey Zalsasenan Zalsamano Acfuji Tesdoro Tescow Tesamad Tesazur Tesmomblen Da Vinci Tesmomber Tesmomblen Da Vinci Te

6	Umbel: length of branches									
1		Staprioxa	Stapripame	Zanluck						
3	short	Zaprifabi	Zaprinous	Koglow	Turcalisa	Turcalmath	Christina	Zapricean		
5	medium	Zalsacrea	Zalsacept	Zalsamot	Kofuji	Koudrey	Turcalrite			
7	long	Zalsadim	Tescow	Tesamad	Stalsaku	Macondo				
9		Zalsanion	Elegance	Stalra						
	Flower: length of pedicel									
1		Zapribel	Zapriko							
3	short	Zalsamot	Turcalisa	Turcalmath	Zalsabel	Prealpech	Preallad			
5	medium	Zaprifabi	Zalsacrea	Zalsacept	Tampa	Tesdoro	Tesamad			
7	long	Teswhite	Zalsadim	Koudrey	Turcalrite	Tescow	Zaprijul			
9		Zalsanion	Zalsasenan	Avalon	Elegance	Zanluck	Zanpri			
9	Flower: size									
1										
3	small	Elegance	Tespluto	Cuba						
5	medium	Zaprifabi	Zaprinous	Zalsamot	Koglow	Koudrey	Zalsasenan	Turcalisa	Turcalrite	
7	large	Zalsanion	Zalsadim	Zalsacept	Zalsamano	Turcalmath	Tesdoro	Tescow	Tesamad	
9										
	Outer tepal: shape of blade									
1	elliptic	Zalsanion	Zanmirac	Sweet Laura						
2	broad elliptic	Teswhite	Stanecrem	Stalidi	Zanbritta	Elegance				
3	circular	(Gamanda)								
4	obovate	Tesdoro	Zalsamay	Prealpech	Turcalser	Stalcor	Orinoco			
5	broad obovate	Zaprifabi	Zaprinous	Zalsacrea	Zalsacept	Koglow	Koudrey	Zalsasenan	Zalsamano	Turcalisa
	transverse broad obovate	Zapribel				Ę				
	Outer tepal: depth of emargination									
1		Zaprifabi	Zaprinous	Zalsanion	Zalsadim	Moving Star	Tesazur	Ī		
3	shallow	Teswhite	Zalsacept	Koglow	Koudrey	Tescow	Zalsasweet			
5	medium	Zalsasenan	Zalsamano	Turcalisa	Turcalmath	Tesamad	Zalsamay			
7	deep	Tampa	Zaprijul	Zapriko	Tessalm	Tesparad	Stalsaku	Stalcor	Ī	
9		Zanfier	Eldorado	Stanata						

	Outer tepal: presence of over color									
1	absent									
9	present	Turcalmath	Tespro	Christina	Zaprijul	Zapricean	Zalsamay	New York	Turcaljal	Staqueen
	Outer tepal: number of stripes on upper side of blade									
1		Zaprifabi	Zaprinous	Turcalmath	Tampa	Zaprijul	Tessalm			
3	few	Zalsacrea	Koudrey	Tesdoro	Tesfortun	Turcalser	Mombassa			
5	medium	Stalcor	Tesmomblen	Green Bell	Turcaloud					
7	many	Zalsanion	Prealpech	Zanpri	Komolight	Jamaica	Purple Rain			
9										
	Inner tepal: shape of blade									
1	elliptic (1:3 = narrow elliptic)	Teswhite	Zaprinous	Zalsadim	Zalsacrea	Zalsasenan	Turcalisa	Turcalmath	Tesamad	Tessalm
	narrow elliptic	Zalsanion								
2	obovate	Zalsacept	Zalsamot	Kofuji	Zalsamano	Christina	Zalsambia	Preallad		
	Inner lateral tepal: size of middle zone un upper side of blade									
1										
3	small									
5	medium									
7	large									
9										
	Inner lateral tepal: number of stripes on upper side of blade									
1										
3	few	Zalsasweet	Staqueen	Koanti	Da Vinci	Komolight				
5	medium	Zalsanion	Zalsamano	Tampa	Tesdoro	Moving Star	Tessalm			
7	many	Prealpech	Preallad	Mombassa	Orinoco	Prealtroub	Prealflas			
9										

21	Inner lateral tepal: size of largest stripes on upper side of blade									
1										
3	small									
5	medium									
7	large									
9										
	Stamen: main color of filament									
1	white	Teswhite	Zalsarest	Staprisusa	Koromy					
2	yellow	Moving Star	Tesfortun	Turcalbri	Zanbritta	Avalon				
3	orange	Turcalrite	New York	Zanrina	Stakosi	Eldorado	Zanmirac	Tespluto		
4	orange red	Zalsanion	Zalsacrea	Zapribel	Tessalm	Etna	Staqueen			
5	red	Zalsasenan	Tescow	Macondo	Bordeaux	Staprisara	Staflam	Prealtroub		
6	pink	Zaprifabi	Zalsadim	Kofuji	Zalsamano	Tampa	Christina			
7	red purple	Zalsatine	Zalsambia	Tesparad	Preallad	Prealflas	Tesbay			
8	light purple	Koglow	Tesdoro	Zaprijul	Zalsasweet	Zalsamay	Turcaljal			
9	purple	Zalsacept	Zalsamot	Tesamad	Tesazur	Zalsasea	Zalsabel			
	Stamen: small spots on filaments									
1	absent									
9	present	Arabella	Zanmirac	Corona Racor	Kotropic	(Gamanda)	Zantrice	Staneltor		
24	Anther: color at the start of dehiscence									
1	yellowish	Green Bell	Koice	Stadebor	Zantrice	Zanpri				
2	greenish	Koglow	Koudrey	Turcalisa	Tespro	Stalsaku	Stalcor			
3	orange	Zalsadim	Zalsamano	Zaprijul	Zapriko	Tessalm	Zalsamay		-	
4	purplish	Zanrina	Staprioxa	Stapripame	Staprivane					
5	brownish	Zalsanion	Zalsacrea	Zalsacept	Zalsamot	Kofuji	Zalsasenan	Turcalrite	Tesdoro	
6	grey	Christina	Arabella	Zapribel	Zapricean	Tesazur	Zalsasweet			-
	dark grey									
	<u> </u>									

	Ovary: anthocyanin coloration								
1	absent or weak	Zaprinous	Zalsacrea	Kofuji	Turcalisa	Tesdoro	Zalsasweet		
3	weak	Zaprifabi	Koudrey	Turcalrite	Turcalmath	Arabella	Zapricean		
5	medium	Zalsadim	Zalsamot	Tampa	Tescow	Zaprijul	Zanbritta		
7	strong	Tesamad	Tesazur	Zalsasea	Zalsambia	Prealpech			
9	very strong	Stalnetor							
	Eur. Kwekersrecht								
	NL. Kwekersrecht								
	Frans Kwekersrecht ?								

[End of Annex and of document]