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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

MARGUERITE DAISY

(*Argyranthemum frutescens* (L.) Sch. Bip.)*

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*
Argyranthemum frutescens (L) Sch. Bip.	Marguerite Daisy	Anthémis	Strauchmargerite	Cristantemo

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 *Argyranthemum frutescens* Sch. Bip. of the family Asteraceae.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of rooted cuttings.

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

- for vegetatively propagated varieties: 20 rooted cuttings.

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

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 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.

3.3.2 Stage of development for the assessment

The optimum stage of development for the assessment of the characteristics is the time of full flowering.

3.3.3 Type of observation –visual or measurement

The recommended method of observing the characteristic is indicated by the following key in the second column of the Table of Characteristics:

MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants

3.3.4 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 In the case of vegetatively propagated varieties, each test should be designed to result in a total of at least 20 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations on single plants of vegetatively propagated varieties 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.

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 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 20 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be 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) Flower head: type (characteristic 11)
(b) Flower head: diameter (characteristic 13)
(c) Ray floret: main color of upper side (characteristic 18) with the following groups:
Gr. 1: white
Gr. 2: yellow
Gr. 3: pink
Gr. 4: red
Gr. 5: purple
Gr. 6: violet

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

MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants

(+) See Explanations on the Table of Characteristics in Chapter 8.

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	**VG**	**Plant: habit**		**Pflanze: Wuchsform**			
PQ		upright		aufrecht			1
		rounded		rundlich			2
		spreading		breitwüchsig			3
2. **(*)** **QN**	**MS** **VG**	**Plant: height**		**Pflanze: Höhe**			
		very short		sehr niedrig		Eleonora	1
		short		niedrig		Supaglow	3
		medium		mittel		Danarnep	5
		tall		hoch		Danarmer	7
		very tall		sehr hoch		Supalight	9
3. **QN**	**VG**	**Plant: density**		**Pflanze: Dichte**			
		sparse		locker		Petite Pink	3
		medium		mittel		Supaglow	5
		dense		dicht		Summer Melody	7
4. **(*)** **(+)**	**MS** **VG**	**Leaf: length**		**Blatt: Länge**			
QN		very short		sehr kurz		Sumfrut01	1
		short		kurz		Ella	3
		medium		mittel		Petite Pink	5
		long		lang		Danarjup	7
		very long		sehr lang		Supasurprise	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. **(*)** **(+)**	**MS** **VG**	**Leaf: width**		**Blatt: Breite**			
QN		very narrow		sehr schmal		Sumfrut01	1
		narrow		schmal		Ella	3
		medium		mittel		Danarmer	5
		broad		breit		Petite Pink	7
		very broad		sehr breit			9
6. **PQ**	**VG**	**Leaf: color of upper side**		**Blatt: Farbe der Oberseite**			
(*)		light green		hellgrün			1
		medium green		mittelgrün		Summer Melody	2
		dark green		dunkelgrün			3
		blue green		blaugrün		Supacher	4
		grey green		graugrün		Argyraketis	5
7. **(+)** **QN**	**MS** **VG**	**Longest lateral lobe: length**		**Längster Seitenlappen: Länge**			
		short		kurz		Ella	3
		medium		mittel		Cobsing	5
		long		lang		Danarjup	7
8. **(+)** **QN**	**MS** **VG**	**Longest lateral lobe: width**		**Längster Seitenlappen: Breite**			
		narrow		schmal		Petite Pink	3
		medium		mittel		Cobsing	5
		broad		breit		Supasurprise	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. **QN**	**VG**	**Longest lateral lobe: depth of marginal incisions**		**Längster Seitenlappen: Tiefe der Randeinschnitte**			
		shallow		flach			3
		medium		mittel			5
		deep		tief			7
10. **QN**	**MS** **VG**	**Longest peduncle: length**		**Längster Blumenstiel: Länge**			
		short		kurz			3
		medium		mittel			5
		long		lang			7
11. **(*)**	**VG**	**Flower head: type**		**Blütenstand: Typ**			
(+)		single		einfach		Cobsing	1
PQ		double		gefüllt		Summer Melody	2
		anemone-like		anemonenförmig		Supaglow	3
		other type		anderer Typ			4
12. **QL**	**VG**	**Flower head: presence of disc**		**Blütenstand: Vorhandensein einer Scheibe**			
		absent		fehlend		Summer Melody	1
		present		vorhanden		Cobsing	9
13. **(*)** **QN**	**MS** **VG**	**Flower head: diameter**		**Blütenstand: Durchmesser**			
		very small		sehr klein		Sumfrut01	1
		small		klein		Ella	3
		medium		mittel		Cobsing	5
		large		groß		Supasurprise	7
		very large		sehr groß		Tana	9

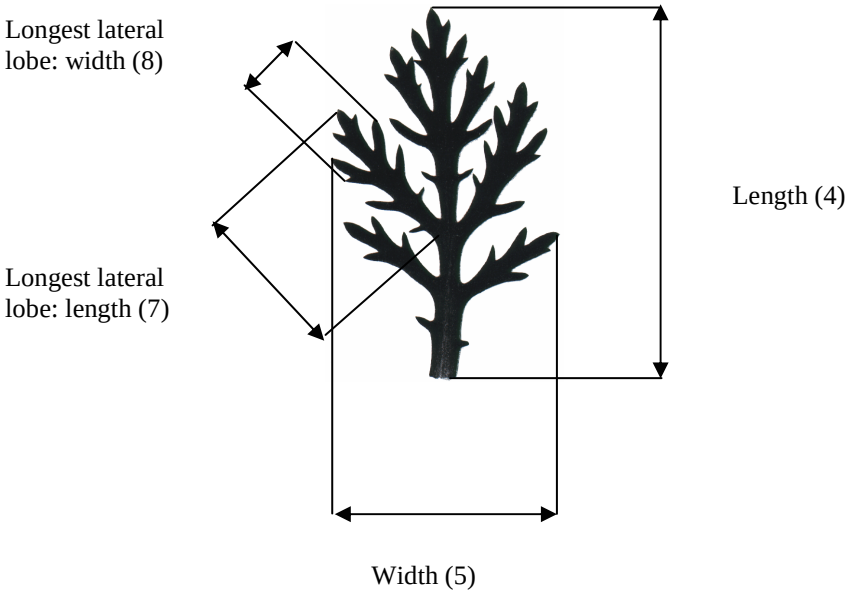
		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14. **QN**	**VG**	**<u>All varieties except those with single flower head:</u> Flower head: number of ray florets**		**<u>Alle Sorten außer denen mit einfachem Blütenstand:</u> Blütenstand: Anzahl der Zungenblüten**			
		few		gering			3
		medium		mittel		Summer Melody	5
		many		groß		Sugar Button	7
15. **(+)**	**VG**	**Ray floret: longitudinal axis**		**Zungenblüte: Längsachse**			
PQ		incurving		aufgebogen			1
		straight		gerade			2
		reflexing		zurückgebogen			3
		sinusoidal		sinusförmig			4
		twisted		gedreht			5
		broken		geknickt			6
16. **(*)**	**MS** **VG**	**Ray floret: length**		**Zungenblüte: Länge**			
QN		short		kurz		Ella	3
		medium		mittel		Danarjup	5
		long		lang		Supasurprise	7
17. **(*)** **QN**	**MS** **VG**	**Ray floret: width**		**Zungenblüte: Breite**			
		narrow		schmal		Ella	3
		medium		mittel		Suparosa	5
		broad		breit		Summer Angel	7
18. **(*)** **PQ**	**VG**	**Ray floret: main color of upper side**		**Zungenblüte: Hauptfarbe der Oberseite**			
		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)			

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19. PQ	**VG**	**Ray floret: main color of lower side**		**Zungenblüte: Hauptfarbe der Unterseite**			
		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)			
20. QN	**MS VG**	**Varieties with disc only: Disc: diameter**		**Nur Sorten mit Scheibe: Scheibe: Durchmesser**			
		small		klein			3
		medium		mittel			5
		large		groß			7
21. (*) PQ	**VG**	**Varieties with disc only: Disc: color**		**Nur Sorten mit Scheibe: Scheibe: Farbe**			
		yellow		gelb			1
		yellow orange		gelb orange			2
		yellow brown		orange			3
		brown		braun			4
		other color		andere Farbe			5
22. (*) QN		**Varieties with anemone-like flower head only: Disc floret: length**		**Nur Sorten mit anemonenförmigen Blütenstand: Röhrenblüte: Länge**			
		short		kurz			3
		medium		mittel			5
		long		lang			7
23. (*) PQ		**Varieties with anemone-like flower head only: Disc floret: color**		**Nur Sorten mit anemonenförmigem Blütenstand: Röhrenblüte: Farbe**			
		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)			

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. (*)	**Time of beginning of flowering**		**Zeitpunkt des Blühbeginns**			
QN	early		früh		Danarnep	3
	medium		mittel		Danarjup	5
	late		spät		Eleonora	7

8. Explanations on the Table of Characteristics

Ad. 4 and 5: Leaf: length (4) and width (5)
Ad. 7 and 8: Longest lateral lobe: length (7) and width (8)



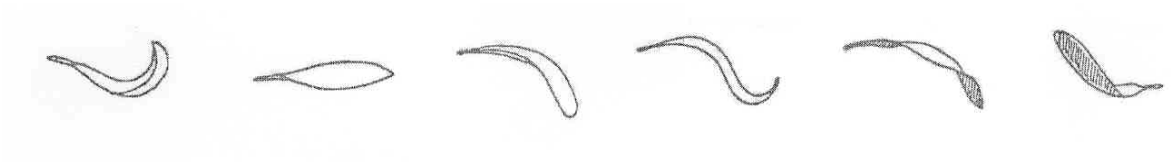
Ad. 11: Flower head: type

1
single

2
double

3
anemone-like

Ad. 15: Ray floret: longitudinal axis



1	2	3	4	5	6
incurving	straight	reflexing	sinusoidal	twisted	broken

9. Literature

No specific literature.

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*	*Argyranthemum frutescens* (L.) Sch. Bip.
1.2 Common Name	Marguerite Daisy

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 (2)	**Plant: height**		
	very short	Eleonora	1[ ]
	short	Supaglow	3[ ]
	medium	Danarnep	5[}
	tall	Danarmer	7[ ]
	very tall	Supalight	9[ ]
5.2 (4)	**Leaf: length**		
	very short	Sumfrut01	1[ ]
	short	Ella	3[ ]
	medium	Petite Pink	5[}
	long	Danarjup	7[ ]
	very long	Supasurprise	9[ ]
5.3 (5)	**Leaf: width**		
	very narrow	Sumfrut01	1[ ]
	narrow	Ella	3[ ]
	medium	Danarmer	5[}
	broad	Petite Pink	7[ ]
	very broad		9[ ]
5.4	**Leaf: color of upper side**		
(6)	light green		1[ ]
	medium green	Summer Melody	2[ ]
	dark green		3[ ]
	blue green	Supacher	4[ ]
	grey green	Argyraketis	5[ ]

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

	Characteristics	Example Varieties	Note
5.5 (11)	**Flower head: type**		
	single	Cobsing	1[ ]
	double	Summer Melody	2[ ]
	anemone-like	Supaglow	3[ ]
	other (indicate which)	……..	4[ ]
5.6 (13)	**Flower head: diameter**		
	very small	Sumfrut01	1[ ]
	small	Ella	3[ ]
	medium	Cobsing	5[ ]
	large	Supasurprise	7[ ]
	very large	Tana	9[ ]
5.7i (18)	**Ray floret: main color of upper side**		
	RHS Colour Chart (indicate reference number)	……..	
5.7ii (18)	**Ray floret: main color of upper side**		
	white		
	yellow		
	pink		
	red		
	other color (indicate which)	……..	

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

6. Similar varieties and differences from these varieties

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	*Ray floret: main color*	*white*	*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

A representative color photograph of the variety should accompany the Technical Questionnaire.

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”.

……

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

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]