



**European Union  
Community Plant Variety Office**

**PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS**

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

**ARGYRANTHEMUM**

**UPOV Species Code: ARGYR\_FRU**

**Adopted on 1<sup>st</sup> December 2005**

## **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/222/1 dated 04/06/2005 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of *Argyranthemum frutescens* (L.) Sch. Bip. of the family *Asteraceae*.

## **II - SUBMISSION OF PLANT MATERIAL**

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

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

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

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

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

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

3. Plant material requirements:

Information with respect to closing dates and submission requirements of plant material for the technical examination of varieties can be found on the CPVO website ([www.cpvo.europa.eu](http://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.

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:

- (a) Flower head: type (characteristic CPVO 11 – UPOV 12)
- (b) Flower head: diameter (characteristic CPVO 12 – UPOV 13)
- (c) Ray floret: main colour of upper side (characteristic CPVO 18- UPOV 19)  
with the following groups:
  - Gr.1: white
  - Gr.2: yellow
  - Gr.3: pink
  - Gr.4: red
  - Gr.5: purple
  - Gr.6: violet
  - Gr.7: blue

### 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 16 plants for vegetatively propagated varieties and 40 plants for seed propagated varieties. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

All observations on single plants for vegetatively propagated varieties determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test.

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 open, 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 a sample size between 36 and 82 plants for seed propagated varieties which are self-pollinated, only 2 off-types are 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.

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## ANNEXES TO FOLLOW

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Legend:	
QL Qualitative characteristic	
QN Quantitative characteristic	
PQ Pseudo-qualitative characteristic	
(a), (b) See explanations on the Table of characteristics	
(+) See explanations on the Table of characteristics	
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## ANNEX II

Technical questionnaire

## ANNEX I TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note
<b>1. QN</b>	<b>2. QN</b>	<b>Plant: height</b>		
		very short	Eleonora	1
		short	Supaglow	3
		medium	Supadawn	5
		tall	Argyraketis	7
		very tall	Supalight	9
<b>2. QN</b>	<b>3. QN</b>	<b>Plant: density</b>		
		sparse	Petite Pink	3
		medium	Supaglow	5
		dense	Summer Melody	7
<b>3. QL</b>	<b>4. QL</b>	<b>Stem: anthocyanin coloration</b>		
		absent	Argyraketis	1
		present	Izu-magu 85	9
<b>4. QN</b>	<b>5. QN</b>	<b>(a) Leaf: length</b>		
		very short	Sumfrut01	1
		short	Ella	3
		medium	Petite Pink	5
		long	Summer Pink	7
		very long	Supasurprise	9



CPVO N°	UPOV N°	Characteristics	Examples	Note	
5. QN	6. QN	(a) <b>Leaf: width</b>	very narrow	Sumfrut01	1
			narrow	Ella	3
			medium	Argyraketis	5
			broad	Petite Pink	7
6. PQ	7. PQ	<b>Leaf: colour of upper side</b>	light green	Supaellie	1
			medium green	Summer Melody	2
			dark green		3
			blue green	Supacher	4
			grey green	Argyraketis	5
7. QN	8. QN	(a) <b>Lateral lobe: length</b> (b)	short	Ella	3
			medium	Cobsing	5
			long	Supacher	7
8. QN	9. QN	(a) <b>Lateral lobe: width</b> (b)	narrow	Petite Pink	3
			medium	Cobsing	5
			broad	Supasurprise	7
9. QN	10. QN	(b) <b>Lateral lobe: depth of marginal incisions</b>	shallow	Julie Anna	3
			medium	Summer Pink	5
			deep	Surprise Party	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
10. (+) QN	11. (+) QN	<b>Peduncle: length</b>	short	Abbey Belle	3
			medium	Gretel	5
			long	Julie Anna	7
11. PQ	12. (+) PQ	<b>Flower head: type</b>	single	Argyraketis	1
			semi double	Supadream	2
			anemone like	Supaglow	3
			double	Summer Melody	4
			pompon	Rosetta	5
12. QN	13. QN	(c) <b>Flower head: diameter</b>	very small	Sumfrut01	1
			small	Ella	3
			medium	Cobsing	5
			large	Supasurprise	7
			very large	Tanja	9
13. QN	14. QN	(c) <b><u>Only non single flower head type varieties:</u></b> <b>Flower head: number of ray florets</b>	few		3
			medium	Summer Melody	5
			many	Sugar Button	7

CPVO N°	UPOV N°	Characteristics	Examples	Note
14. PQ	15. (+) PQ	(c) Ray floret: curvature of longitudinal axis	incurved	1
			straight	2
			reflexed	3
15. QN	16. QN	(c) Ray floret: length	short Ella	3
			medium Tesi	5
			long Supasurprise	7
16. QN	17. QN	(c) Ray floret: width	narrow Ella	3
			medium Suparosa	5
			broad Summer Angel	7
17. QL	18. QL	(c) Ray floret: number of colours	one Ella	1
			two	2
			more than two	3
18. PQ	19. PQ	(c) Ray floret: main colour of upper side	RHS Colour Chart (indicate reference number)	
19 PQ	20. PQ	(c) Ray floret: secondary colour of upper side	RHS Colour Chart (indicate reference number)	

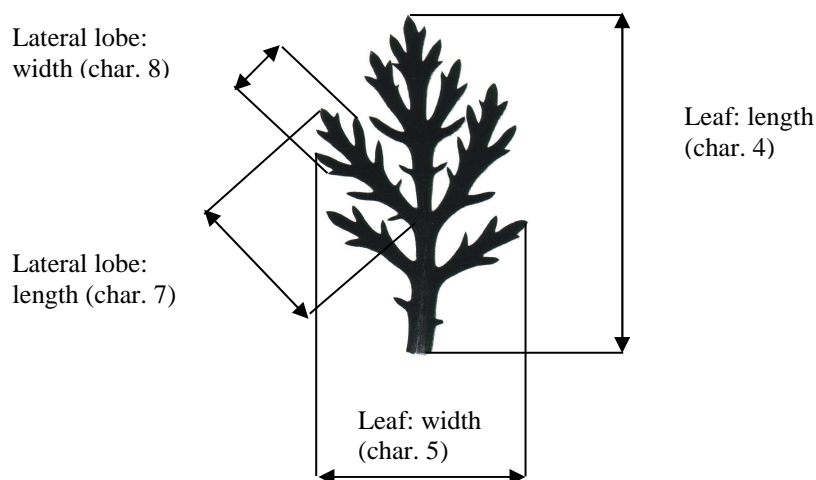
CPVO N°	UPOV N°	Characteristics	Examples	Note
20. PQ	21. PQ	(c) <b>Ray floret: main colour of lower side</b>		
				RHS Colour Chart (indicate reference number)
21. QN	22. (+) QN	(c) <b><u>Only varieties with flower head type: single; semi double; and anemone like; Disc: diameter</u></b>		
			small	Sugar Baby 3
			medium	Gretel 5
			large	Surprise Party 7
22. PQ	23. PQ	(c) <b><u>Only varieties with flower head type: single and semi double; Disc: main colour</u></b>		
			white	1
			yellow	2
			yellow orange	3
			red	4
			yellow brown	5
			brown	6
23. PQ	24. PQ	(c) <b><u>Only varieties with anemone like flower head type; Disc floret: colour</u></b>		
				RHS Colour Chart (indicate reference number)

## EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

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

Explanations covering several characteristics

(a) Leaf characteristics:



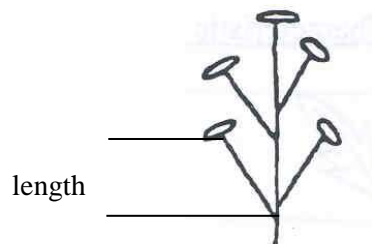
(b) All observations on the lateral lobe should be made on the longest lateral lobe of a fully grown leaf.

(c) Flower head type: single, semi double and anemone like: observations on the flower head should be made when the anthers in the outer 2-3 rows of the disc florets have dehisced.

Flower head type: double and pompon: observations on the flower head should be made where the flower head has fully expanded.

## Explanations for individual characteristics

### Ad. 10 (UPOV 11): Peduncle: length



Observations to be made on the longest peduncle

### Ad. 11 (UPOV 12): Flower head: type

1. single: flower heads with one row of ray florets, and a clearly defined central disc which is always visible.
2. semi double: flower heads with more than one row of ray florets, and a clearly defined central disc which is always visible.
3. anemone like: flower heads with one or more rows of ray florets, with a central "cushion" "(disc)" of petaloid disc florets, which is always visible and clearly defined.
4. double: double flower heads where a disc is not visible in the early stages of flowering, but can be seen as the flower head opens fully. The disc is not always clearly defined.
5. pompon: double flower heads where a disc is not visible at any stage of flowering.



1  
single



2  
semi double



3  
anemone like



4  
double



5  
pompon

Ad. 14 (UPOV 15): Ray floret: curvature of longitudinal axis



1  
incurved

2  
straight

3  
reflexed

Ad. 21 (UPOV 22): Only varieties with flower head type: single; semi double; and anemone like: Disc: diameter



Disc:  
diameter



## **LITERATURE**

No specific literature.



## **ANNEX II**

The Technical Questionnaire is available on the CPVO website under the following reference:  
CPVO-TQ/222/1