European Union
Community Plant Variety Office

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

***Antirrhinum majus* L.**

ANTIRRHINUM, COMMON SNAPDRAGON

UPOV Species Code: ANTIR

Adopted on 01/12/2005

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/221/1 dated 06/04/2005 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of ***Antirrhinum majus* L.** of the family *Scrophulariaceae*.

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. 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) Plant: growth habit (characteristic 1)

(b) Only varieties with bushy plant growth habit: Plant: attitude of shoots (characteristic 2)

(c) Flower: form (characteristic CPVO 13 – UPOV 15)

(d) Upper lip: main colour of upper side (characteristic CPVO 20 – UPOV 22) with the following groups:
- Gr. 1: white
- Gr. 2: yellow
- Gr. 3: orange
- Gr. 4: red
- Gr. 5: pink
- Gr. 6: purple

(e) Lower lip: main colour of upper side of cusp (characteristic CPVO 24 – UPOV 26) with the following groups:
- Gr. 1: white
- Gr. 2: yellow
- Gr. 3: orange
- Gr. 4: red
- Gr. 5: pink
- Gr. 6: purple

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 20 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 at the time of full flowering.

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 at the time of full flowering.

The test should normally be conducted at one place.

The test should be carried out in the glasshouse, 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

ANNEX I PAGE

ANNEX II

ANNEX I
TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°		Characteristics		Examples	Note
1. **(+)** **QL**	**1.** **(+)** **QL**		**Plant: growth habit**			
				single stem		1
				bushy		2
2. **(+)** **QN**	**2.** **(+)** **QN**		**Only varieties with bushy plant growth habit: Plant: attitude of shoots**			
				upright		1
				semi upright		3
				horizontal		5
				semi drooping		7
				drooping		9
3. **QN**	**3.** **QN**		**Stem: length**			
				short	Lared	3
				medium	Bridal Pink	5
				long	Napoleon Red	7
4. **QN**	**4.** **QN**	**(a)**	**Stem: anthocyanin coloration**			
				absent or very weak		1
				weak		3
				medium		5
				strong		7
				very strong		9
5. **QN**	**7.** **QN**	**(b)**	**Leaf: length**			
				short	Lared	3
				medium	Bridal Pink	5
				long	Iyonokurenai	7

CPVO N°	UPOV N°		Characteristics		Examples	Note
6. QN	**8. QN**	**(b)**	**Leaf: width**			
				narrow	Lared	3
				medium	Bridal Pink	5
				broad	Iyonokurenai	7
7. QL	**9. QL**	**(b)**	**Leaf: variegation**			
				absent		1
				present	Dancing Flame	9
8. QN	**10. QN**		**Only varieties with leaf variegation absent: Leaf: intensity of green colour of upper side**			
				light		3
				medium	Lared	5
				dark	Yapear	7
9. QL	**11. QL**	**(b)**	**Leaf: anthocyanin coloration on lower side**			
				absent		1
				present		9
10. QN	**12. QN**	**(b)**	**Leaf: pubescence**			
				absent or very weak	Yacan	1
				weak	Balumwhite	3
				medium	Apple Blossom	5
				strong		7

CPVO N°	UPOV N°		Characteristics		Examples	Note
11. QN	**13. QN**		**Only varieties with single stem plant growth habit: Inflorescence: length**			
				short	Sankisupink	3
				medium	Iyonokurenai	5
				long	Napoleon Red	7
12. (+) QN	**14. (+) QN**		**Only varieties with single stem plant growth habit: Inflorescence: density**			
				sparse		3
				medium	Bridal Pink	5
				dense	Bridal White	7
13. (+) QL	**15. (+) QL**	**(c)**	**Flower: form**			
				zygomorph		1
				actinomorph		2
14. QL	**16. QL**	**(c)**	**Flower: type**			
				single		1
				double		2
15. (+) QN	**17. (+)** QN	**(c)**	**Flower: length**			
				short	Lared	3
				medium	Bridal Pink	5
				long	Napoleon Red	7
16. (+) QN	**18. (+) QN**	**(c)**	**Flower: width**			
				narrow	Lared	3
				medium	Bridal Pink	5
				broad		7

CPVO N°	UPOV N°		Characteristics		Examples	Note
17. (+) QN	**19. (+) QN**	**(c)**	**Corolla tube: length**			
				short		3
				medium		5
				long		7
18. (+) QN	**20. (+) QN**	**(c)**	**Upper lip: width**			
				narrow	Lared	3
				medium	Bridal Pink	5
				broad		7
19. QN	**21. QN**		**Upper lip: conspicuousness of veins**			
				absent or very weak		1
				weak		3
				medium		5
				strong		7
				very strong		9
20. PQ	**22. PQ**	**(c)**	**Upper lip: main colour of <u>upper</u> side**			
				RHS Colour Chart (indicate reference number)		
21. PQ	**23. PQ**	**(c)**	**Upper lip: main colour of <u>lower</u> side**			
				RHS Colour Chart (indicate reference number)		

CPVO N°	UPOV N°		Characteristics		Examples	Note
22. (+) QN	**24. (+) QN**	**(c)**	**Lower lip: attitude of middle cusp lobe (relative to corolla tube)**			
				erect	Diana Pink	1
				semi erect		3
				horizontal	Sulte Redyel	5
				semi drooping		7
				drooping	Diana Dark Red	9
23. (+) QN	**25. (+) QN**	**(c)**	**Lower lip: width of middle cusp lobe**			
				narrow	Lared	3
				medium	Chihaya Yellow 1go	5
				broad	Bridal Pink	7
24. (+) PQ	**26. (+) PQ**	**(c)**	**Lower lip: main colour of <u>upper</u> side of cusp**	RHS Colour Chart (indicate reference number)		
25. PQ	**27. PQ**	**(c)**	**Lower lip: main colour of <u>lower</u> side of cusp**	RHS Colour Chart (indicate reference number)		
26. (+) PQ	**28. (+) PQ**	**(c)**	**Lower lip: main colour of upper side of base**	RHS Colour Chart (indicate reference number)		

CPVO N°	UPOV N°		Characteristics	Examples	Note
27. (+) QL	**29. (+) QL**	**(c)**	**Lower lip: spot**		
				absent	1
				present	9
28. QN	**30. QN**	**(c)**	**Lower lip: size of spot**		
				very small	1
				small	3
				medium	5
				large	7
				very large	9
29. PQ	**31. PQ**	**(c)**	**Lower lip: colour of spot**		
				RHS Colour Chart (indicate reference number)	
30. PQ	**32. PQ**	**(c)**	**Corolla tube: colour of outer side**		
				RHS Colour Chart (indicate reference number)	
31. (+) QN	**33. (+) QN**	**(c)**	**Only seed-propagated varieties: Time of beginning of flowering**		
				very early	1
				early	3
				medium	5
				late	7
				very late	9

EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

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 stem to be made on the middle part of main stem
(b) Observations on the leaf to be made on the middle part of main stem
(c) Observations on the flower to be made on the second flower to open

Explanations for individual characteristics

Ad. 1: Plant: growth habit

1
single stem

2
bushy

Ad. 2: Plant: attitude of shoots

1
upright

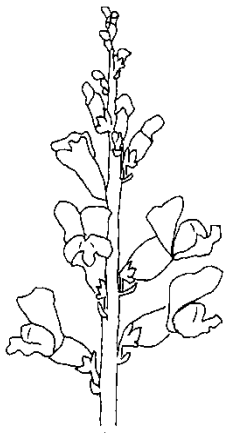
3
semi upright

5
horizontal

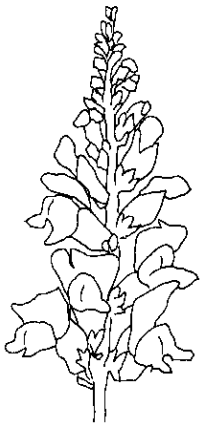
7
semi drooping

9
drooping

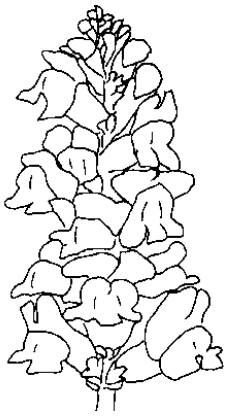
Ad. 12 (UPOV 14): Inflorescence: density



3
sparse

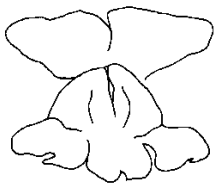


5
medium



7
dense

Ad. 13 (UPOV 15): Flower: form

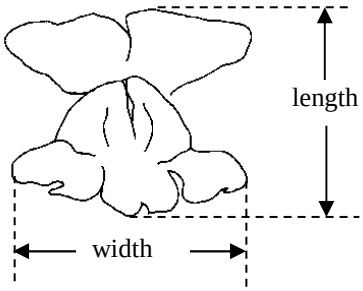


1
zygomorph

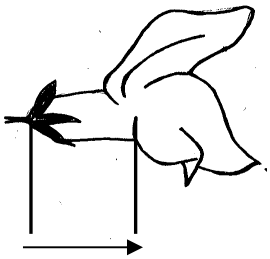
2
actinomorph

Ad. 15 (UPOV 17): Flower: length

Ad. 16 (UPOV 18): Flower: width



Ad. 17 (UPOV 19): Corolla tube: length

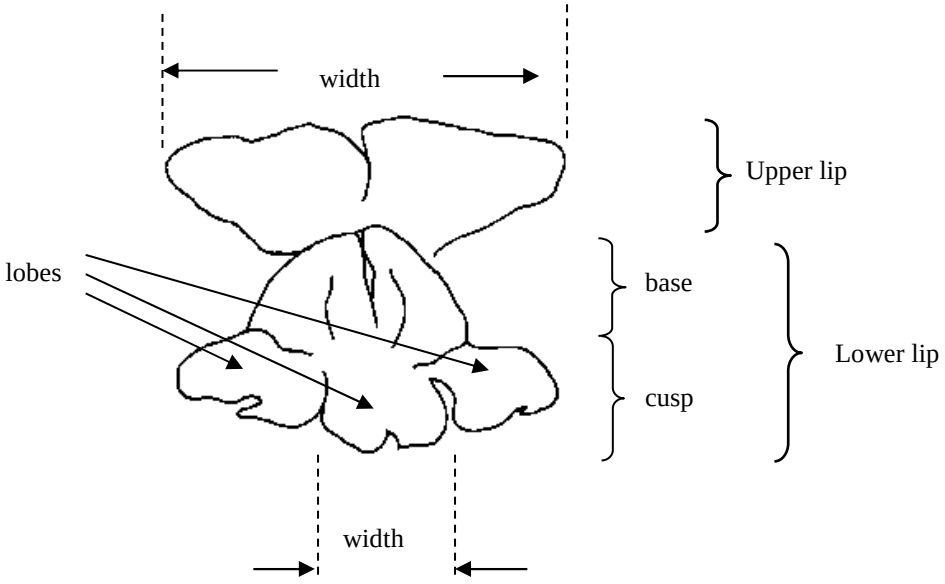


Ad. 18 (UPOV 20): Upper lip: width

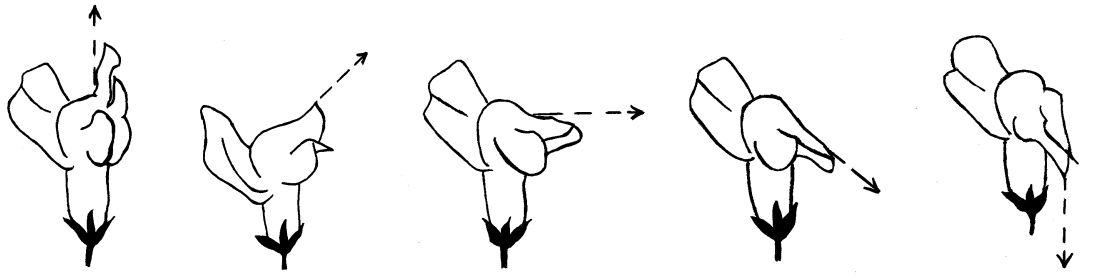
Ad. 23 (UPOV 25): Lower lip: width of middle cusp lobe

Ad. 24 (UPOV 26): Lower lip: main colour of upper side of cusp

Ad. 26 (UPOV 28): Lower lip: main colour of upper side of base

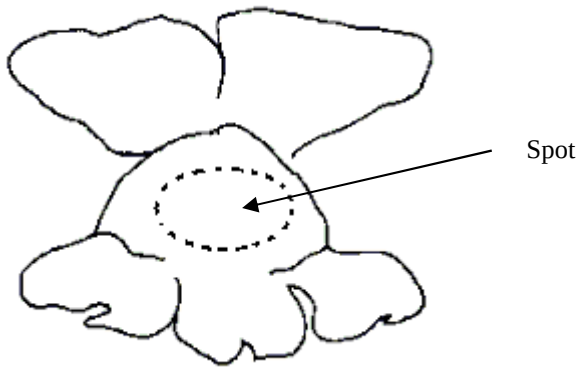


Ad. 22 (UPOV 24): Lower lip: attitude of middle cusp lobe (relative to corolla tube)



1	3	5	7	9
erect	semi erect	horizontal	semi drooping	drooping

Ad. 24 (UPOV 26): Lower lip: spot



Ad. 31 (UPOV 33): Only seed-propagated varieties: Time of beginning of flowering

Time of beginning of flowering is when 50% of the plants have one fully open flower.

LITERATURE

Encyclopedia of Horticulture, Vol. 1. pp. 193-195, Seibun-Do Shinkosha, Tokyo, Japan (Japanese)

The Grand Dictionary of Horticulture, Vol. 1. pp. 119-122, Shougakukan, Tokyo, Japan (Japanese)

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference: CPVO-TQ/221/1