



**European Union
Community Plant Variety Office**

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Lilium L.

LILY

UPOV Species Code: LILIU

Adopted on 21st March 2007

I - SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the requirement of Council Regulation (EC) No. 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/59/6 dated 18th October 1991 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all vegetatively propagated varieties of *Lilium L.*

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, as laid down in Council Directive 2000/29/EC and its amendments, or organisms impairing quality as indicated in Council Directive 98/56/EEC and Commission Directive 93/49/EEC and their amendments.

For all types: at least 90% free from LSV (Lily Symptomless Virus), at least 95% free from TMV (Tulip Mosaic Virus) (type longiflorum included).
Bulbs should only have one vegetation point.

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 (EC) 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 latter 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 (EC) No. 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: main colour of the inner side of the inner tepal (characteristic 19 – (UPOV characteristic 20))
- b) Classification of *Lilium* by species of hybrid groups:

Asiatic hybrids	Gr. 1
Oriental hybrids	Gr. 2
Longiflorum	Gr. 3
Longiflorum x Asiatic hybrids	Gr. 4
Longiflorum x Oriental hybrids	Gr. 5
Longiflorum x Trumpet hybrids	Gr. 6
Other	Gr. 7

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. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

Before the bulbs are planted for the trial a virus test is performed. For this virus test 1 scale of each of 10 bulbs are sampled per bulb. Each sample is tested individually for the following viruses:

Lily Symptomless Virus (LSV)

Tulip Mosaic Virus (TMV), type longiflorum included

The virus test will take place at the Bloembollenkeuringsdienst (BKD) in Lisse, NL, according to the ELISA method. The BKD is a STERLAB accredited laboratory for these tests.

Maximum accepted viral infection:

30 x 5% = 1.5 bulbs infected for TMV

30 x 10% = 3 bulbs infected for LSV

A sample will be considered as being positive for viral infection when:

In a sample 2 or more bulbs are positive for TMV and/or

In a sample 4 or more bulbs are positive for LSV

In case of doubt an additional virus test can be done on (a part of) the not tested bulbs.

Unless otherwise stated all observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants at the time of anther dehiscence of the first flower and any other observations should be made on all plants in the test. All observations on the tepal should be made on the inner tepals.

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 (EC) No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the examination that a candidate variety 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 (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity of vegetatively propagated varieties, 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.

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.

ANNEXES TO FOLLOW

ANNEX I	<u>PAGE</u>
List of characteristics to be observed	8
Explanations on the table of characteristics	18
Literature	19

ANNEX II

Technical questionnaire

ANNEX I

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note	
1.	2.	Plant: height	short	Aristo	3
			medium	Casa Blanca	5
			tall	Pink Supreme	7
2.	3.	Stem: anthocyanin coloration (in middle third)	absent	Casa Blanca, White Europe	1
			present	Eurovision, Rhumba	9
3.	4.	Stem: distribution of anthocyanin coloration (as for 2 (UPOV 3))	even		1
			speckled and striped	Rhumba	2
4.	5.	Stem: number of leaves on middle third	few		3
			medium		5
			many		7
5.	6.	Leaf: arrangement	alternate		1
			opposite (decussate)	Marco Polo, Aristo	2
			whorled		3
6.	7.	Leaf: level of tip compared to point of attachment to stem	below	Minerva, Pink Supreme	1
			same level	Peaudouce	2
			above	Marco Polo	3

CPVO N°	UPOV N°	Characteristics	Examples	Note	
7.	8.	Leaf: distal part	incurved	3	
			straight	Marco Polo, Mero Star	5
			recurved	Aristo, Minerva	7
8.	9.	Leaf: length	short	Aristo	3
			medium	Marco Polo, Mero Star, White Lace	5
			long	White Europe	7
9.	10.	Leaf: width	narrow	Pink Supreme	3
			medium	White Europe	5
			broad	Pyramid	7
10.	11.	Leaf: glossiness of upper side	absent or very weak		1
			weak	Imperia, Marco Polo	3
			medium	Pyramid	5
			strong	Pink Supreme	7
			very strong		9
11.	12.	Leaf: cross section	angled	Minerva	1
			flat	Marco Polo	2
			recurved	Daydream, Sapporo	3

CPVO N°	UPOV N°	Characteristics	Examples	Note	
12.	13.	Inflorescence: type	racemose	Marco Polo, Montreux	1
			paniculate		2
			umbellate	Aristo	3
			corymbose		4
13.	14.	Inflorescence: number of flowers	few		3
			medium		5
			many		7
14.	15.	Inflorescence: pubescence	absent or very weak	White Europe	1
			weak	Marco Polo	3
			medium	Pyramid	5
			strong	Butter Pixie	7
			very strong		9
15.	16.	Flower: type	single	Pink Supreme	1
			double	Little Kiss	2
16.	17.	Flower: attitude of longitudinal axis	erect	Minerva, Pink Supreme	3
			horizontal	Imperia	5
			pendant	Gardenja	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
17.	18.	Flower: length of longest outer tepal	short	Adelina, Rhumba	3
			medium	Pyramid, White Ideal	5
			long	White Lace	7
18.	19.	Flower: width of widest outer tepal	narrow	Aladdin, Gardenja	3
			medium	White Europe, White Lace	5
			broad		7
19.	20.	Flower: main colour of <u>inner</u> side of <u>inner</u> tepal	RHS Colour Chart (indicate reference number)		
20.	21.	Flower: main colour of <u>outer</u> side of <u>inner</u> tepal	RHS Colour Chart (indicate reference number)		
21.	22.	Flower: main colour of <u>inner</u> side of <u>outer</u> tepal	RHS Colour Chart (indicate reference number)		
22.	23.	Flower: type of coloration of <u>inner</u> side of <u>inner</u> tepal	self coloured	Eurovision, Pink Supreme	1
			bicoloured	Aladdin, Electric	2
23.	24.	<u>Single coloured varieties only</u>: Flower: colour distribution	lighter towards top	Peach Pixie, Vivaldi	1
			lighter towards base	Pyramid	2
			lighter towards base and top	Pink supreme	3

CPVO N°	UPOV N°	Characteristics	Examples	Note
24.	25.	<u>Bicoloured varieties only:</u> Flower: secondary colour	RHS Colour Chart (indicate reference number)	
25.	26.	<u>Bicoloured varieties only:</u> Flower: secondary colour at <u>margin</u>	absent present	Aladdin, Electric Avant Garde 1 9
26.	27.	<u>Bicoloured varieties only:</u> Flower: secondary colour on basal half	absent present	1 Avant Garde, Electric 9
27.	28.	Flower: colour of the nectar furrow	white green yellow green yellow orange orange pink pink rose red purple red purple purple brown	Imperia, Pyramid Marco Polo, Montreux Bon Gout Mero Star Rhumba Peach Pixie, Vivaldi 7 8 9 10 11
28.	29.	Tepal: spots on inner side	absent present	White Europe Marco Polo, Pyramid 1 9

CPVO N°	UPOV N°	Characteristics	Examples	Note	
29.	30.	Tepal: number of spots on inner side	few	Marco Polo	3
			medium	Purple Rain	5
			many	Pyramid	7
30.	31.	Tepal: size of spotted area on inner side	small	Pink Supreme	3
			medium	Marco Polo, Minerva	5
			large	Purple Rain	7
31.	32.	Tepal: spots on papillae	absent	Pink Supreme	1
			present	Marco Polo, Minerva	9

CPVO N°	UPOV N°	Characteristics	Examples	Note	
32.	33.	Tepal: colour at the base of the main vein (excluding nectar furrow)	white	Marco Polo	1
			green		2
			yellow green		3
			yellow	Bon Gout, Esperanto	4
			orange	Rhumba	5
			orange pink	Peach Pixie	6
			pink	Pyramid, Vivaldi	7
			red	Mero Star	8
			purple red	Cartouche	9
			purple		10
			purple brown		11
33.	34.	Tepal: texture of inner side	smooth	White Europe	1
			ribbed	Maremma	2
			papillose	Pyramid	3
			ribbed and papillose	Minerva, Montreux	4
34.	35.	Tepal: undulation of margin	absent or very weak	Aristo, Pink Supreme	1
			weak	Montreux	3
			medium	Isadore	5
			strong	Marco Polo	7
			very strong	Alliance, Pyramid	9

CPVO N°	UPOV N°	Characteristics	Examples	Note	
35.	36.	Tepal: type of undulation of margin	fine only	Marco Polo, Minerva	1
			coarse only	Aristo, Casa Blanca	2
			fine and coarse	Pyramid, Top Choise	3
36.	37.	Tepal: recurved part	tip only	Montreux, White Europe	1
			distal part only	Aristo, Casa Blanca	2
			whole tepal	Gardenja	3
37.	38.	Tepal: degree of recurving	weak	Montreux	3
			medium	Marco Polo	5
			strong	Casa Blanca	7
38.	39.	Stamen: length	short	Adelina	3
			medium	Chamonix, Mero Star	5
			long	Casa Blanca, Osnat	7
39.	40.	Stamen: main colour of filament	white	Mascotte, Verdi	1
			green	Casa Blanca, White Europe	2
			yellow green		3
			yellow	Lino	4
			orange	Aristo	5
			orange pink	Jaguar	6
			pink	Minerva, Van Gogh	7
			red	Pimpernel	8
			purple red		9
			purple		10
purple brown		11			

CPVO N°	UPOV N°	Characteristics	Examples	Note	
40.	41.	Stamen: colour of anther	orange brown	Pink Supreme, Minerva	1
			reddish brown	Aristo	2
			brown	Verdi, Toronto	3
			purple	Imperia, Mero Star	4
41.	42.	Pollen: colour	light yellow		1
			yellow		2
			orange	Imperia, Pink Supreme	3
			light brown	Mascotte, Tanneron	4
			orange brown	Casa Blanca, Minerva	5
			reddish brown	Aristo, pyramid	6
			dark brown	Lino	7
42.	43.	Style: main colour	white	Assisi	1
			green	Casa Blanca, White Europe	2
			yellow green	Pink Supreme	3
			yellow	Lino	4
			orange	Aristo	5
			orange pink		6
			pink	Toronto	7
			red	Pimpernel	8
			purple red		9
			purple		10
			purple brown		11

CPVO N°	UPOV N°	Characteristics	Examples	Note	
43.	44.	Flower: position of stigma in relation to anthers	below	1	
			same level	Minerva	2
			above	Marco Polo, Pyramid	3
44.	45.	Stigma: colour	grey	d'Oleron	1
			green	Pyramid, White Europe	2
			orange	Van Gogh	3
			purple red	Casa Blanca	4
			purple	Imperia, Minerva	5
			dark purple	Bosporus	6
			brown		7
45.	46.	Time of flowering	very early		1
			early	Pronto	3
			medium	Marco Polo, Pink Supreme	5
			late	Pyramid	7
			very late	Chamonix, Mero Star	9

EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

No specific explanation

LITERATURE

- LESLIE, A.C., 1982: "The International Lily Register," RHS, London, GB, and yearly supplements [First (1983) to Twentieth (2002)]
- FELDMAIER, C., MC RAE, J., 1982: "Lilien," Eugen Ulmer, Stuttgart, DE

ANNEX II



European Union
Community Plant Variety Office

TECHNICAL QUESTIONNAIRE

to be completed in connection with an application for Community Plant Variety Rights
Please answer all questions. A question without any answer will lead to a non-attribution
of an application date. In cases where a field / question is not applicable, please state so.

- 1. Botanical taxon:** Name of the genus, species or sub-species to which the variety belongs and common name

Lilium L.

LILY

Species (indicate)

- 2. Applicant(s):** Name(s) and address(es), phone and fax number(s), Email address, and where appropriate name and address of the procedural representative

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- 3. Variety denomination**

a) Where appropriate proposal for a variety denomination:

.....

b) Provisional designation (breeder's reference):

.....

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

(a) Seedling (indicate parent varieties)... []

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(b) Mutation (indicate parent variety)..... []

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(c) Discovery (indicate where, when
and how the variety has been developed): []

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.....

(d) Other (please specify) []

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4.2 Method of propagation

(a) Scales..... []

(b) *In vitro* propagation..... []

(c) Seed..... []

(d) Other (please specify): []

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.....

4.3 Other information

In the case of seed propagated varieties: method of production:

(a) Self-pollinated[]

(b) Cross-pollinated (please give details).....[]

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.....
.....

(c) Hybrid (please give details).....[]

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4.4 Geographical origin of the variety: the region and the country in which the variety was bred or discovered and developed.

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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in CPVO protocol; please mark the state of expression which best corresponds).

Characteristics	Example Varieties	Note
<p>5.1 Flower: main colour of inner side of inner tepal (20)</p> <p>RHS colour chart (indicate reference number)</p> <p>.....</p>		
<p>5.2 Flower: type of coloration of inner side of inner tepal (23)</p>	<p>self coloured</p> <p>bicoloured</p>	<p>1 []</p> <p>2 []</p>

Characteristics	Example Varieties	Note	
5.3 Bicoloured varieties only: (25) Flower: secondary colour RHS Colour Chart (indicate reference number) 			
5.4 Tepal: spots on inner side (29) absent 1 [] present 9 []			
5.5 Hybrid group Asiatic hybrid 1 [] Oriental hybrid 2 [] Longiflorum 3 [] Longiflorum x Asiatic hybrids 4 [] Longiflorum x Oriental hybrids 5 [] Longiflorum x Trumpet hybrids 6 [] Other (specify) 7 []			
6. Similar varieties and differences from these varieties			
Denomination of similar variety	Characteristic in which the similar variety is different ¹⁾	State of expression of similar variety	State of expression of candidate variety
¹⁾ In the case of identical states of expressions of both varieties, please indicate the size of the difference.			

7. Additional information which may help to distinguish the variety

A representative printed-out colour photo of the variety **must** be added to the Technical Questionnaire.

7.1 Resistance to pests and diseases

.....

7.2 Special conditions for the examination of the variety

7.2.1 Plant use:

Cut flower

Pot plant

Other, please indicate:

7.2.2 Other conditions:

YES, please specify:

NO

7.3 Other information

YES, please specify:

NO

8. GMO-information required

The variety represents a Genetically Modified Organism within the meaning of Article 2(2) of Council Directive 2001/18/EC of 12/03/2001.

YES

NO

If yes, please add a copy of the written attestation of the responsible authorities stating that a technical examination of the variety under Articles 55 and 56 of the Basic Regulation 2100/94 does not pose risks to the environment according to the norms of the above-mentioned Directive.

