

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Lilium L.

LILY

UPOV Code: LILIU

Adopted on 28/11/2012

Entry into force on 28/11/2012

I SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the requirement of Council Regulation (EC) N°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/59/7 dated 24/03/2010 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all 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 the respect to closing dates and submission requirements of plant material for technical examination of varieties can be found on the CPVO website (www.cpvo.europa.eu) in the special Issue of the S2 of the Official Gazette of the Office.

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.

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: attitude of perianth (excluding pedicel) (characteristic 15)
- b) Flower: shape of perianth (excluding pedicel) (characteristic 16)
- c) Flower: fragrance (characteristic 17)
- d) Tepal: main colour of central part (characteristic 24)
- e) Tepal: number of papillae and/or spots (characteristic 31)
- f) Tepal: colour of papillae and/or spots (characteristic 33)
- g) Time of flowering (characteristic 40)

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 varieties and 50 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.

Unless otherwise stated all observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants for vegetatively propagated varieties and 30 plants or parts taken from each of 30 plants for seed-propagated varieties 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.

For the assessment of uniformity of seed-propagated varieties recommendations for cross-pollinated varieties shall 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.

VI ENTRY INTO FORCE

The present protocol enters into force on **28.11.2012**. Any on-going DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the partially revised Technical Protocol. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for submitting of plant material for the first test period.

In cases where the Office requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process to be carried out at the moment of this request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

ANNEXES TO FOLLOW

ANNEX I

PAGE

List of characteristics to be used in DUS test and preparation of description..... 7

Legend:

- (+) See Explanations on the Table of characteristics
- (a)-(d) See Explanations on the Table of Characteristics
- G Grouping characteristics

Types of expression of characteristics:

- QL Qualitative characteristic
- QN Quantitative characteristic
- PQ Pseudo-qualitative characteristic

Type of observation of characteristics:

- MG Single measurement of a group of plants or parts of plants
- 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
- VS Visual assessment by observation of individual plants or parts of plants

Explanations on the table of characteristics.....16

Literature.....21

ANNEX II

Technical questionnaire.....22

ANNEX I

TABLE OF CHARACTERISTICS TO BE USED IN DUS-TEST AND PREPARATION OF DESCRIPTION

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
1.	1.		Plant: height		
(*)	(*)		short	Orange Pixie	3
QN	QN		medium	Casablanca	5
			tall	Golden Tycoon	7
2.	2.		Stem: anthocyanin coloration		
	(*)	(a)	absent or weak	Casa Blanca, White Europe, Zanlophator	1
QN	QN		medium		2
			strong	Conception, Tresor	3
3.	3.		Stem: number of leaves		
QN	QN	(a)	few		3
			medium		5
			many		7
4.	4.		Leaf: arrangement		
(*)	(*)		alternate	Casablanca	1
QL	QL		decussate	Aristo, Vedeá	2
			whorled	Kurumayuri	3
5.	5.		Leaf: length		
QN	QN	(a)	short	Denia, Peach Dwarf	3
			medium	Lorina, Mero Star, Vedeá	5
			long	White Europe, Zanlophator	7
6.	6.		Leaf: width		
(*)	(*)	(a)	narrow	Pink Pixie	3
QN	QN		medium	Golden Tycoon, White Europe	5
			broad	Acapulco, Helvetia	7

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
7.	7. (*)		Leaf: variegation		
QL	QL	(a)	absent	Acapulco	1
			present	Chotaro	9
8.	8.		Leaf: glossiness of upper side		
QN	QN	(a)	absent or very weak		1
			weak	Acapulco, Vede a	3
			medium	White Elegance	5
			strong	Golden Tycoon	7
			very strong		9
9.	9.		Leaf: cross section		
(+)	(+)	(a)	flat	Vede a	1
QL	QL		V-shaped	Da Vinci	2
10.	10.		Flower bud: main colour		
(+)	(+)		white		1
PQ	PQ		green		2
			yellow green		3
			yellow		4
			orange		5
			orange pink		6
			pink		7
			red		8
			purple red		9
			purple		10
			purple brown		11
11.	11. (*)		Inflorescence: type of branching		
(+)	(+)		only racemose	Helvetia, Vede a	1
QL	QL		umbellate and racemose	Pavia	2

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
12.	12.		Inflorescence: number of flowers		
QN	QN		very few		1
			few	Brindisi, Zanlophator	3
			medium	Golden Tycoon, Siberia	5
			many	Monte Negro	7
13.	13.		Inflorescence: pubescence		
QN	QN		absent or very weak	Val Di Sole, White Europe	1
			weak	Helvetia, Vedeo	3
			medium	Ceb Crimson	5
			strong	Tiny Scyline	7
			very strong		9
14.	14.		Flower: type		
(+)	(+)		single	Golden Tycoon	1
QN	QN		semi double		2
			double	Little Kiss	3
15.	15. (*)		Flower: attitude of perianth (excluding pedicel)		
(+)	(+)		erect	Tresor	1
QN	QN		erect to horizontal	Siberia, Stargazer	2
			horizontal (outward facing)	Casablanca, White Heaven	3
G			drooping	Galloway	4
16.	16. (*)		Flower: shape of perianth (excluding pedicel)		
(+)	(+)		trumpet	White Elegance	1
PQ	PQ		bowl	Siberia	2
			flat	Sugar Jewel	3
G			recurved	Belletti	4

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
17.	17.		Flower: fragrance		
	(*)				
QN	QN		absent or weak	Nemo	1
			medium	Jetaine	2
G			strong	Saltarello	3
18.	18.		Tepal: length		
QN	QN	(b)	short	Tresor, Val Di Sole	3
			medium	Casablanca, Siberia	5
			long	White Elegance, Zanolphator	7
19.	19.		Tepal: width		
QN	QN	(b)	narrow	Helvetia	3
			medium	Siberia, White Europe, White Lace	5
			broad	Zanolphator	7
20.	20.		Tepal: ribbing		
QN	QN	(d)	absent or weak		1
			medium		2
			strong		3
21.	21.		Tepal: undulation of margin		
(+)	(+)	(b)	absent or weak		1
QN	QN		weak		3
			medium		5
			strong	Vedea	7
			very strong		9
22.	22.		Tepal: type of undulation of margin		
(+)	(+)	(b)	fine only	Vedea	1
PQ	PQ		fine and coarse		2
			coarse only	Casablanca	3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
23.	23.		Tepal: degree of recurving		
QN	QN	(b)	weak		3
			medium	Vedea	5
			strong	Casablanca	7
24.	24.		Tepal: main colour of central part		
(+)	(*)				
	(+)				
PQ	PQ	(c)	RHS Colour Chart (indicate reference number)		
G					
25.	25.		Tepal: main colour of basal part		
(+)	(+)	(c)	RHS Colour Chart (indicate reference number)		
PQ	PQ				
26.	26.		Tepal: colour of zone bordering on nectar furrow		
(+)	(*)				
	(+)	(c)	white	Vedea	1
PQ	PQ		green	Brindisi	2
			yellow green	Val Di Sole	3
			yellow	Pavia	4
			orange	Tresor	5
			orange pink	Olina	6
			pink	Vedea	7
			red	Mero Star	8
			purple red	Cilagon	9
			purple	Take Five	10
			purple brown	Tiny Padhye	11
27.	27.		Tepal: main colour of distal part		
(+)	(*)				
	(+)	(c)	RHS Colour Chart (indicate reference number)		
PQ	PQ				

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
28.	28.		Tepal: main colour of marginal zone		
(*)	(*)				
(+)	(+)	(c)	RHS Colour Chart (indicate reference number)		
PQ	PQ				
29.	29.		Tepal: main colour of outer side of inner tepal		
(+)	(+)	(c)	RHS Colour Chart (indicate reference number)		
PQ	PQ				
30.	30.		Tepal: colour of nectar furrow		
(+)	(+)		white	Imperia, Pyramid	1
PQ	PQ		green	Helvetia, Vede	2
			yellow green	Double Surprise	3
			yellow	Mero Star	4
			orange	Tresor	5
			orange pink		6
			pink	Minerva, Vermeer	7
			red		8
			purple red		9
			purple		10
			purple brown		11
31.	31.		Tepal: number of papillae and/or spots		
(*)	(*)				
(+)	(+)	(d)	absent or very few	Siberia, White Europe	1
QN	QN		few	Vede, Vermeer	3
			medium	Purple Rain, Stargazer	5
G			many	Pink Mystery	7

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
32.	32.		Tepal: size of area with papillae and/or spots		
(+)	(+)	(d)	absent or very small		1
QN	QN		small	Pink Supreme	3
			medium	Minerva, Vedeá	5
			large	Purple Rain	7
33.	33.		Tepal: colour of papillae and/or spots		
(+)	(+)	(d)	white	Siberia	1
PQ	PQ		yellow	Conca D'Or	2
			brown yellow	Windsor	3
			brown	Fenice	4
			red brown	Pirandello	5
			pink	Camaiore	6
			red	Nippon	7
G			purple red	Dizzy	8
34.	34.		Stamen: length		
QN	QN		short	Fangio	3
			medium	Mero Star	5
			long	Casablanca	7

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
35.	35.		Stamen: main colour of filament		
	(*)				
(+)	(+)		white	Verdi, Zanlophator	1
PQ	PQ		green	Casablanca, White Europe	2
			yellow green	Yelloween	3
			yellow	Golden Tycoon	4
			orange	Tresor	5
			orange pink	Olina	6
			pink	Vermeer	7
			red	Marianne Timmer	8
			purple red	Red Alert	9
			purple	Tamburo	10
			purple brown	Original Love	11
36.	36.		Stamen: colour of anther		
	(*)				
PQ	PQ		orange yellow	Premium Blond	1
			orange brown	Landini	2
			reddish brown	Paradero	3
			brown	Etosha	4
			purple	Mero Star	5
			purple red	Bacardi	6
37.	37.		Pollen: colour		
PQ	PQ		light yellow		1
			medium yellow		2
			orange	Pink Supreme	3
			light brown		4
			medium brown	Zanlophator	5
			orange brown	Casablanca, Sorbonne	6
			red brown	Brindisi	7
			dark brown	Fangio	8

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
38.	38.		Style: main colour		
	(*)				
PQ	PQ		white	Litouwen	1
			green	Casablanca, White Europe	2
			yellow green	Pink Supreme	3
			yellow	Golden Tycoon	4
			orange	Brindisi	5
			orange pink	Amateras	6
			pink	Arbatex	7
			red	Marianne Timmer	8
			purple red	Red Alert	9
			purple	Landini	10
			purple brown	Orfeo	11
39.	39.		Stigma: colour		
PQ	PQ		grey	D'Oleron	1
			grey green		2
			green	White Europe	3
			yellow		4
			orange		5
			purple red	Casablanca	6
			purple		7
			dark purple		8
			brown		9
40.	40.		Time of flowering		
	(*)				
(+)	(+)		very early		1
QN	QN		early		3
			medium	Bonsoir, Vedeá	5
			late	Acapulco	7
G			very late	Mero Star, Rousseau	9

EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

Explanations covering several characteristics

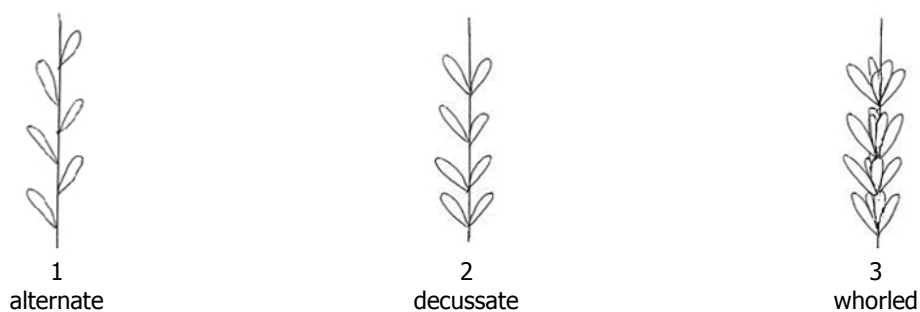
- (a) To be examined on middle third of the stem.
- (b) Observations should be made on outer tepals.
- (c) Observations on colour should be made on the inner side of the inner tepal, excluding papillae, spots and nectar furrow.
- (d) Observations on papillae and/or spots and ribbing should be made on the inner side of the inner tepal.

Explanations for individual characteristics

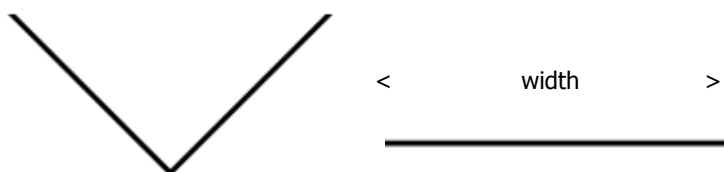
Ad. 1: Plant: height

To be observed from the soil level to the top of the inflorescence.

Ad. 4: Leaf: arrangement

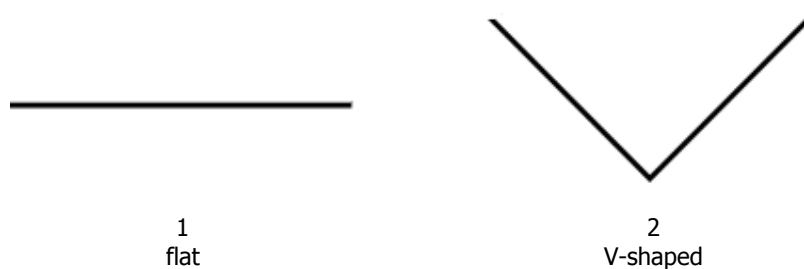


Ad. 6: Leaf: width



The width of V-shaped leaves should be observed when held flat

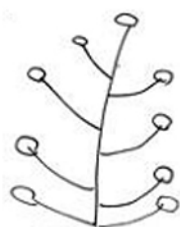
Ad. 9: Leaf: cross section



Ad. 10: Flower bud: main colour

The main colour is the colour with the largest surface area. The main colour should be observed just before the opening of the flower.

Ad. 11: Inflorescence: type of branching



1
only racemose



2
umbellate and racemose

In the case of varieties with umbellate and racemose branching (note 2), the first (lowest) branches are umbellate and the upper (higher) branches are racemose.

Ad. 14: Flower: type

- 1 ≤ 6 tepals should be described as single
- 7 ≤ 11 tepals should be classified as semi-double
- ≥ 12 tepals should be described as double

Ad. 15: Flower: attitude of perianth (excluding pedicel)



1
erect



2
erect to horizontal

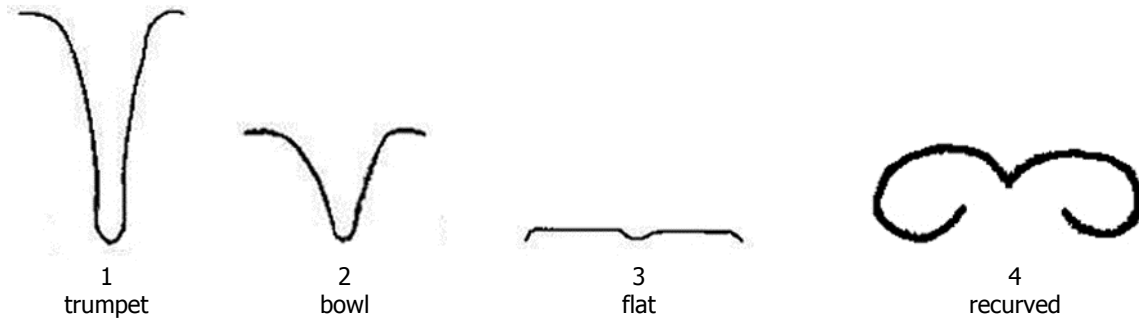


3
horizontal (outward facing)



4
drooping

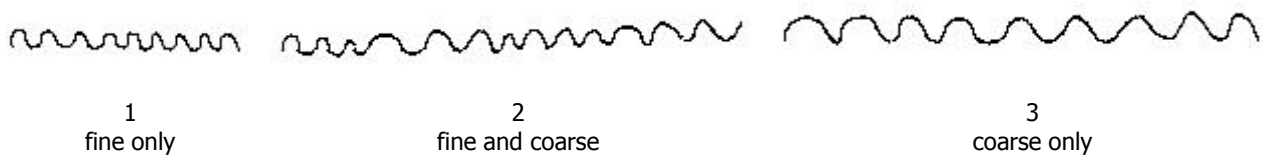
Ad. 16: Flower: shape of perianth (excluding pedicel)



Ad. 21: Tepal: undulation of margin

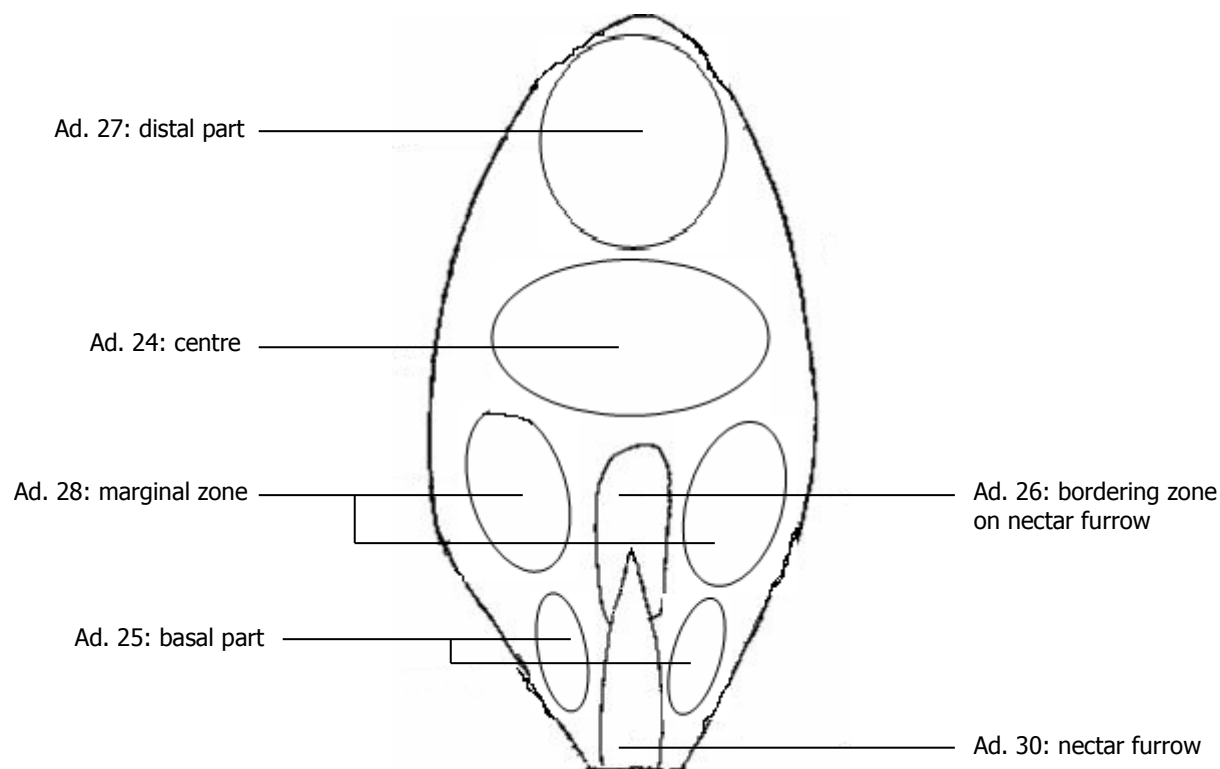


Ad. 22: Tepal: type of undulation of margin



- Ad. 24: Tepal: main colour of central part
- Ad. 25: Tepal: main colour of basal part
- Ad. 26: Tepal: colour of zone bordering on nectar furrow
- Ad. 27: Tepal: main colour of distal part
- Ad. 28: Tepal: main colour of marginal zone
- Ad. 29: Tepal: main colour of outer side of inner tepal
- Ad. 30: Tepal: colour of nectar furrow

The main colour of a part or zone is the colour with the largest surface area on the part or zone concerned.



- Ad. 31: Tepal: number of papillae and/or spots
- Ad. 32: Tepal: size of area with papillae and/or spots
- Ad. 33: Tepal: colour of papillae and/or spots

Papillae: pimpled, with small, rounded, soft to firm, unequal bumps.



Spots: small areas of another colour than the background colour.



Ad. 35: Stamen: main colour of filament

The main colour is the colour with the largest surface area.

Ad. 40: Time of flowering

The time of flowering is when 50% of the plants have at least one open flower.

LITERATURE

- Tsukamoto, Y., 1991: The Grand Dictionary of Horticulture. Volume 5, The Shogakukan Ltd., Tokyo, JP, pp.198 to 211.
- Kunishige, M., 1993: Lily: Breeding and Cultivation. The Seibundo-Shinkou Ltd., Tokyo, JP.
- Shimizu, M., 1987: The Lilies of Japan: Species and Hybrid. The Seibundo-Shinkou Ltd., Tokyo, JP.
- Tukamoto, Y., 1978: The Color Dictionary of Horticulture. The Hoiku Ltd., Tokyo, JP, pp. 93 to 125.
- Leslie, A.C., 1982: The International Lily Register. RHS, London, GB, and yearly supplements [First (1983) to Twentieth (2002)].
- Victoria Matthews: The International Lily Register and Checklist 2007, RHS, London, GB.
- Feldmaier, C., McRae, J., 1982: Lilien. Eugen Ulmer, Stuttgart, DE.

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/059/3