CALIBRATION MANUAL

Harmonized with

Naktuinbouw and NCSS(/NARO)

DUS Test for Rose

(Cut-flower type)

Rosa L.

Established in November 24, 2017

Comply with UPOV TG/11/8 Rev.

CALIBRATION MANUAL
DUS Test for Rose

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1. **Purpose**

This Calibration Manual was established by collaborative activities between Naktuinbouw (Netherlands) and NCSS(/NARO) (Japan).
The purpose of this Calibration Manual for Rose cut flower type only is to harmonize technique of DUS examination in the two countries and use it also internationally.

2. Use of this Calibration Manual

This Calibration Manual indicates only methods of observation for morphological characteristics included in UPOV Test Guidelines

3. Growing types

In the first place, the collection should be divided according to the following growing types:

Cut-flower types (C)

Breeding is done in a limited gene pool. In general, such types of variety belong to the Hybrid Tea Roses and have the following features:

- not very tolerant to low temperatures: heated greenhouses required for good crop development in temperate zones;
- protection needed against sun or rain, in warm climates;
- disbudding, in order to produce one large flower per stem, always necessary by removing the laterals in the inflorescence and for spray varieties by removing the terminal flower;
- usually having less and smaller prickles than garden and pot rose types;
- most cut-flower types have double flowers, but are sometimes semi-double.

Garden types (G)

Breeding is done in a rather large gene pool, in most cases much broader and different from the other types. In general, such types of variety have the following features:

- tolerant of lower temperatures in general;
- type and size of prickles less or not important compared to cut-flower and pot types (breeding is sometimes focussed on large prickles often of a contrasting color);

- all flower types (single, semi- double and double) can be seen in garden types;
- growth habit varies from narrow bushy to creeping;
- includes container and patio roses.

Pot types (P)

Breeding is mainly done in a gene pool which is different from the cut-flower and garden types. In general, such types of variety have the following features:

- concern only types used as houseplants and produced in greenhouses or other sheltered conditions;
- plants with limited plant height and diameter;
- nearly always have semi-double or double flowers;
- do not include container and or patio roses, which should be treated as garden types.

4. Grouping characteristics:

The following have been agreed as useful grouping characteristics:

(a) Plant: growth type (characteristic 1) [G] and [P] only

(b) Flower: type (characteristic 21)

(c) Flower: color group (characteristic 23)

(d) Flower: diameter (characteristic 26)

(e) Petal: number of colors on inner side (basal spot excluded) (characteristic 40)

(f) Petal: main color on the outer side (only if clearly different from inner side) (characteristic 50) with the following groups:

Group 1: green

Group 2: light yellow

Group 3: medium yellow

Group 4: orange

Group 5: pink

Group 6: red

Group 7: purple red

Group 8: brown red

5. Disclaimer

The information contained in this Calibration Manual is for general information purposes only. The information is provided by Naktuinbouw and NCSS(/NARO) and while we endeavor to keep the information up to date and correct, we make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the Calibration Manual or the information contained on the Calibration Manual for any purpose. Any reliance you place on such information is therefore strictly at your own risk. The images (Char.5: Young shoot: intensity of anthocyanin coloration, Char.7: Prickles: predominant color(as for 6), Char.9: Leaf: intensity of green color (upper side), Char.11: Leaf: glossiness of upper side, Char.23: Flower: color group, Char.51: Outer stamen: predominant color of filament) serve only to illustrate the variation present in the varieties and should not be used as an absolute reference.

6. Method of Observation

Legend

Method of Observation

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

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

Types of Expression of Characteristics

To enable the appropriate use of characteristics in DUS testing, it is important to understand the different ways in which characteristics can be expressed. The following section identifies the different types of expression and considers their application in DUS testing.

QL: Qualitative Characteristics

"Qualitative characteristics" are those that are expressed in discontinuous states (e.g. sex of plant: dioecious female (1), dioecious male (2), monoecious unisexual (3), monoecious hermaphrodite(4)). These states are self-explanatory and independently meaningful. All states are necessary to describe the full range of the characteristic, and every form of expression can be described by a single state. The order of states is not important. As a rule, the characteristics are not influenced by environment.

QN: Quantitative Characteristics

"Quantitative characteristics" are those where the expression covers the full range of variation from one extreme to the other. The expression can be recorded on a one-dimensional, continuous or discrete, linear scale. The range of expression is divided into a number of states for the purpose of description (e.g. length of stem: very short (1), short (3), medium (5), long (7), very long (9)). The division seeks to provide, as far as is practical, an even distribution across the scale. The Test Guidelines do not specify the difference needed for distinctness. The states of expression should, however, be meaningful for DUS assessment.

PQ: Pseudo-Qualitative Characteristics

In the case of "pseudo-qualitative characteristics," the range of expression is at least partly continuous, but varies in more than one dimension (e.g. shape: ovate (1), elliptic (2), circular (3), obovate (4)) and cannot be adequately described by just defining two ends of a linear range. In a similar way to qualitative (discontinuous) characteristics – hence the term "pseudo-qualitative" – each individual state of expression needs to be identified to adequately describe the range of the characteristic.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
1. (*)	**[G] [P]**	**Plant: growth type**				
PQ		miniature	Korverlandus (G)			1
		dwarf	Taneidol (G)			2
		bed	Kolmag (G)			3
		shrub	Noasafa (G)			4
		climber	Meifafio (G)			5
		ground cover	Korverlandus (G)			6

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
2. (*) (+)	**[G] [P]**	**Excluding varieties with growth type climber: Plant: growth habit**				
QN		upright	Poulhi008 (P)			1
		semi upright	Tantasch (G); Korkallet (P)			3
		intermediate	Poulkrid (G); Evera107 (P)			5
		moderately spreading	Meibonrib (G)			7
		strongly spreading	Korkilgwen (G)			9

Remarks

Not applicable.

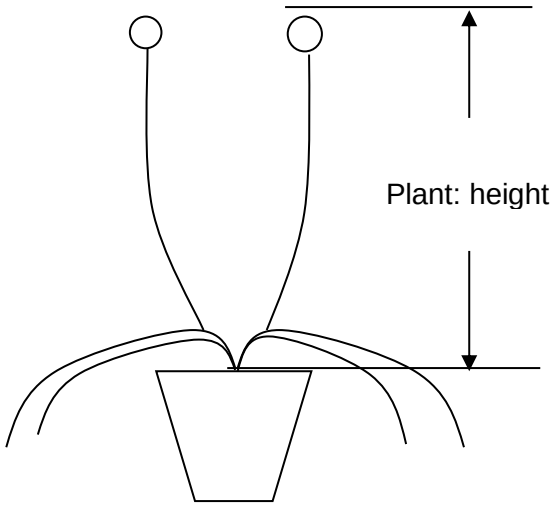
6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
3.	**[C] [G[**	**Plant: height (during second flush)**				
QN		very short	Lenwiga (G)			1
		short	Noason (G)			3
		medium	Macrexy (G); Ruiy5451 (C)			5
		tall	Seliron (C); Tanakinom (G)			7
		very tall	Macyefre (G)			9

Remarks

Stage of observation: Observations should be made on height of plants during second flush (second flowering period).

Method of observation: Visual observation or Measurement**.**
Assessment: VG:The plant of height, which represents the variety, is measured and converted into a note. (NL) MS:The average value is determined by measurement of a number of individual plants or parts of plants and converted into a note based on assessment table.(JP)



6. Method of observation (example of characterization)

	English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
4. **(+)**	**Young shoot: anthocyanin coloration**				
QL	absent	Poulans (G); Poulra019 (P)			1
	present	Ruirovingt (C); Taneidol (G); Ruiy1549 (P)			9

Remarks
Stage of observation: at the time of young shoot before flowering.
Method of observation: Visual observation.
Observations should be made on the distal third of a shoot with a length of approximately 20cm.
The leaves should be included in the observations.

1 absent

9 present

6. Method of observation (example of characterization)

	English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
5. **(+)**	**Young shoot: intensity of anthocyanin coloration**				
QN	very weak	Presur (C); Poulen003 (G); Poulpollo (P)			1
	weak	Ruirovingt (C); Baipeace (G); Ruitrot (P)			3
	medium	Schetroje (C); Noala (G); Delpajor (P)			5
	strong	Selaurum (C); Korozon (G); Korbigman (P)			7
	very strong	Pekcoujenny (C); TAN96051 (G)			9

Remarks
Stage of observation: at the time of young shoot before flowering.
Method of observation: Visual observation.
Observations should be made on the distal third of a shoot with a length of approximately 20cm. The leaves should be included in the observations.

3 weak

5 medium

7 strong

6. Method of observation (example of characterization)

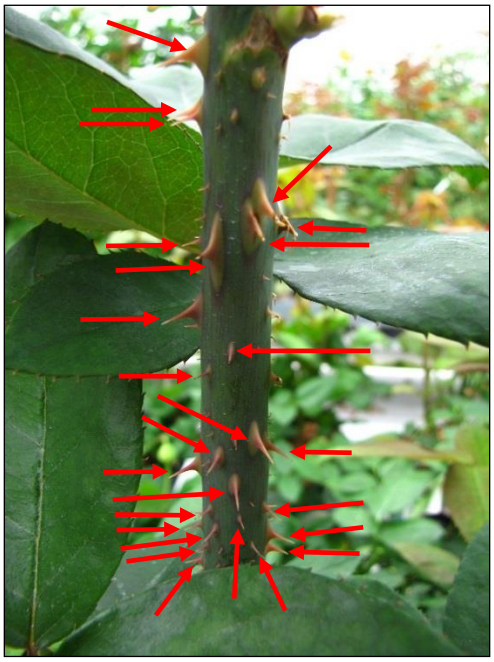
	English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
6.	**Stem: number of prickles (excluding very small and hair-like prickles)**				
QN	absent or very few	Ruiorg (G); Meibegil (P)			1
	few	Schremma (C); Kortionza (G); Poulcolop (P)			3
	medium	Selaurum (C); Bokramar (G); Kormisso (P)			5
	many	Meineble (G); Evera105 (P)			7
	very many	Deljam (G)			9

Remarks

Stage of observation: on a just fully “opened”flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on the middle third of the stem. Very small and hair-like prickles are excluded.



The prickles counted is indicated by the arrow.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
7.		**Prickles: predominant color (as for 6)**				
PQ	**(a)**	greenish	Presur (C); Kolmag (G); Poulcar (P)			1
		yellowish	Ruiy0775 (P)			2
		reddish	Bokrarug (G); Delpajor (P)			3
		purplish	Kornairol (G); Evera102 (P)			4

Remarks

Stage of observation: on a just fully “opened”flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on the middle third of the stem. Very small and hair-like prickles are excluded.

1 greenish

2 yellowish

3 reddish

4 purplish

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
8.		**Leaf: size**				
QN	**(a)**	small	Predesplen (C); Kordenzen (G); Ruibrei (P)			3
		medium	Pekcoujenny (C); Tantasch (G); Korrecalam (P)			5
		large	Poultime (G); Poulhi018 (P)			7

Remarks

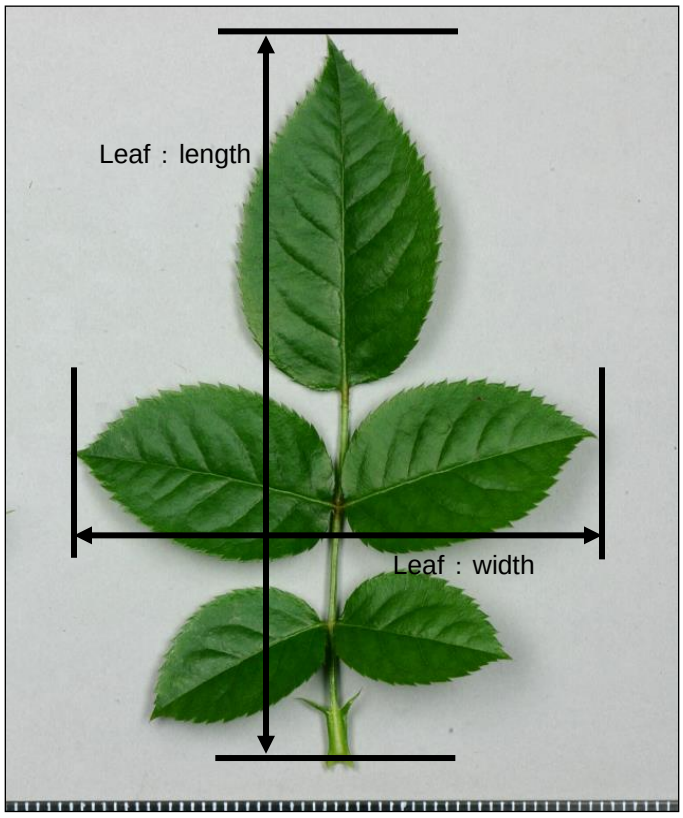
Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation or Measurement.

Measurement of length and width to determine leaf size.

Observations should be made on the leaf in the middle third of the stem.

Assessment: VG:The size of leaf, which represents the variety, is measured and converted into a note. (NL) MS:The average value is determined by measurement of a number of individual plants or parts of plants and converted into a note based on assessment table.(JP)



6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
9.		**Leaf: intensity of green color (upper side)**				
QN	**(a)**	light	Interlis (C); Tanjuwe (G); Evergreen (P)			3
		medium	Korflapei (C); Poulrus (G); Korrecalam (P)			5
		dark	Korparesni (G); Poulflag (P)			7

Remarks

Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on mature leaves in the middle third of the stem.

3 light

5 medium

7 dark

correct stage(5 medium)

young leaves

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
10.	**[G] [P]**	**Leaf: anthocyanin coloration**				
QL	**(a)**	absent	Poulac005 (G); Meikilaylo (P)			1
		present	Kornairol (G); Evera102 (P)			9

Remarks

Not applicable.

6. Method of observation (example of characterization)

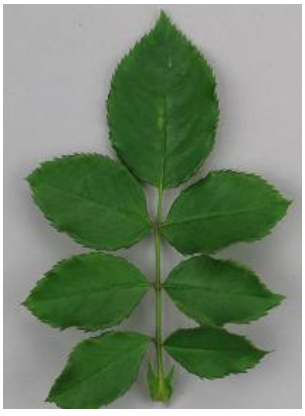
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
11. (*)		**Leaf: glossiness of upper side**				
QN	**(a)**	absent or very weak	Somnip (G); Evera105 (P)			1
		weak	Korcilmo (C); Meilauron (G); Korscherki (P)			3
		medium	Interlis (C); Dicmoust (G); Ruiy0775 (P)			5
		strong	Pekcoujenny (C); Wekpaltlez (G); Poulhi008 (P)			7
		very strong	Somnip (G); Evera105 (P)			9

Remarks

Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on mature leaves in the middle third of the stem.



3 weak

5 medium

7 strong

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
12. (*)		**Leaflet: undulation of margin**				
QN	**(a)**	absent or very weak	Poulaksel (G); Poulyn (P)			1
		weak	Korcilmo (C); Meihecluz (G); Delpajor (P)			3
		medium	Ruirovingt (C); Korkilgwen (G); Korbigman (P)			5
		strong	Predepass (C); Noatraum (G); Ruiz0123 (P)			7
		very strong	Poulaksel (G); Poulyn (P)			9

Remarks

Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on mature leaves in the middle third of the stem.

7 strong

6. Method of observation (example of characterization)

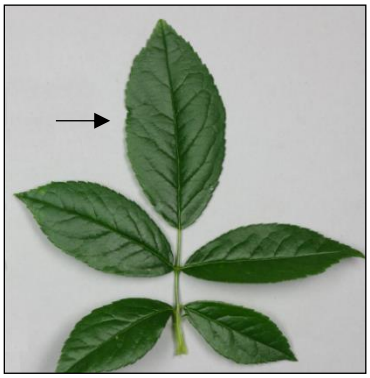
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
13. (*)		**Terminal leaflet: shape of blade**				
PQ	**(a)**	narrow elliptic	Korverlandus (G); Ruiz29924 (P)			1
		medium elliptic	Korflapei (C); Meihuterb (G); Ruiz14914 (P)			2
		ovate	Interlis (C); Noahan (G); Evera102 (P)			3
		circular	Poulna (G)			4

Remarks

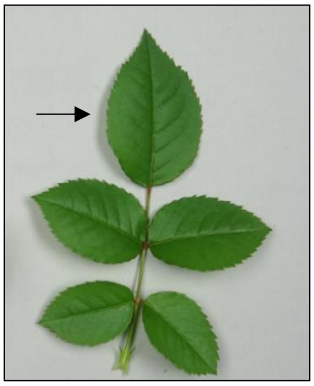
Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

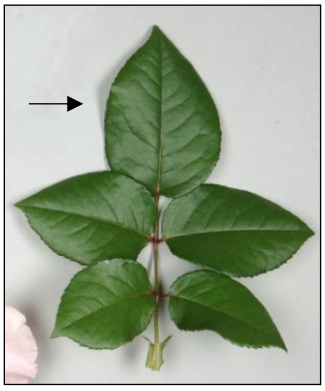
Observations should be made on mature leaves in the middle third of the stem.



1 narrow elliptic



2 medium elliptic



3 ovate

See scheme of systematic figures of shapes.

6. Method of observation (example of characterization)

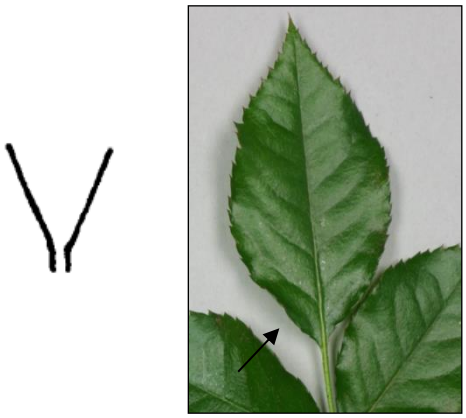
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
14. **(+)**	**[C]**	**Terminal leaflet: shape of base of blade**				
PQ	**(a)**	acute	Tanotika (C)			1
		obtuse	Schetroje (C)			2
		rounded	Korcilmo (C)			3
		cordate				4

Remarks

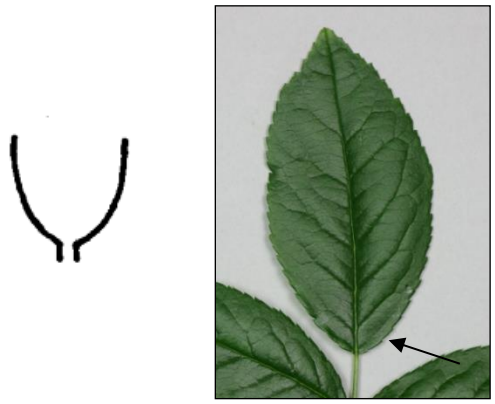
Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

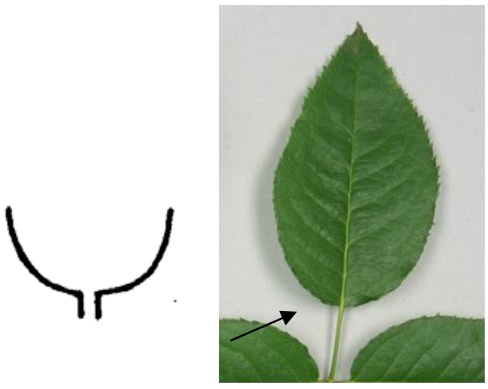
Observations should be made on mature leaves in the middle third of the stem.



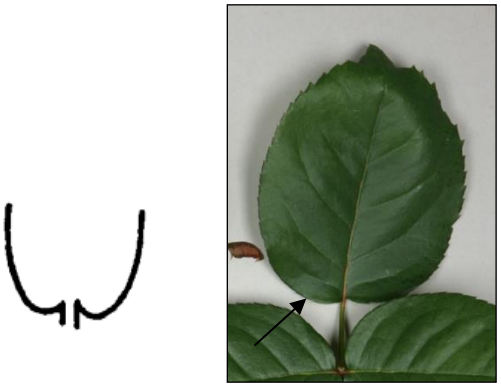
1 acute



2 obtuse



3 rounded



4 cordate

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
15. **(+)**		**Terminal leaflet: shape of apex of blade**				
PQ	**(a)**	acuminate	Meihuterb (G); Poulberty (P)			1
		acute	Interlis (C); Heleva (G); Kormutric (P)			2
		obtuse	Pekcourofondu (G)			3
		rounded	Ruirovingt (C); Tantumleh (G)			4

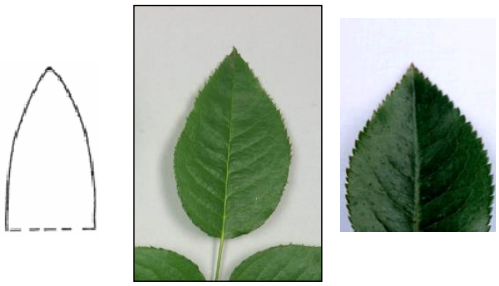
Remarks

Stage of observation: the beginning of flowering until just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations should be made on mature leaves in the middle third of the stem.

1 acuminate



2 acute

3 obtuse

4 rounded

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
16. (+)	**[G] [P]**	**Flowering shoot: flowering laterals**				
QL		absent				1
		present				9

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
17. **(+)**	**[G] [P]**	**Flowering shoot: number of flowering laterals**				
QN		very few	Tanidrak (G); Poulra022 (P)			1
		few	Dicentice (G); Poulhi019 (P)			3
		medium	Korgazell (G); Ruiy0775 (P)			5
		many	Korglolev (P)			7
		very many	Tanidrak (G); Poulra022 (P)			9

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
18. **(+)**	**[G] [P]**	**Only varieties with no flowering laterals: Flowering shoot: number of flowers**				
		very few	Donatello, Verpia			1
		few	Dorée de printemps			3
		medium				5
		many	Celtuce, Du bon jardinier			7
		very many	Lollo rossa, Revolution, Rosa (see also Ad. 18)			9

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
19. **(+)**	**[G] [P]**	**<u>Only varieties with flowering laterals</u>: Flowering shoot: number of flowers per lateral**				
QN		very few	Somnip (G); Ruiklinko (P)			1
		few	Noaley (G); Korselug (P)			3
		medium	Poulanlis (G); Poulbao (P)			5
		many	TAN97274 (G); Ruitween (P)			7
		very many	Noamet (G); Poulra017 (P)			9

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
20. **(+)**	**[G] [P]**	**Flower bud: shape in longitudinal section**				
PQ		elliptic	Ruivierneg (G); Poulra021 (P)			1
		medium ovate	Noasafa (G); Evergreen (P)			2
		broad ovate	Meisardan (G); Korstrunek (P)			3

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
21. (*) (+)	**[G] [P]**	**Flower: type**				
QN	**(b)**	single	Noastrauss (G)			1
		semi-double	Poulfiry (G); Poulnil (P)			2
		double	TAN97103 (G); Korlobea (P)			3

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
22. (*)		**Flower: number of petals**				
QN	**(b)**	very few	Noala (G); Delmitaf (P)			1
		few	Predesplen (C); Tananilov (G); Korbersoma (P)			3
		medium	Ruiy5451 (C); Poulscots (G); Ruiklinko (P)			5
		many	Lexani (C); Ruiharl (G); Meiraktas (P)			7
		very many	Meiroupis (G); Poulwen (P)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation or Measurement.
Assessment: VG:The number of petals of a flower, which represents the variety, is measured and converted into a note. (NL) MS:The average value is determined by measurement of a number of individual plants or parts of plants and converted into a note based on assessment table.(JP)

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
23. (*)		**Flower: color group**				
(+)						
PQ	**(b)**	white or near white	Korcilmo (C); Meilontig (G); Poulra022 (P)			1
		white blend	Speclown (C); TAN98505 (C); TAN97123 (G); Rush (G)			2
		green	Nirpgreenl (C); Korewala (P)			3
		yellow	Korflapei (C); Poulyc004 (G); Delmitaf (P)			4
		yellow blend	TAN00125 (C); Rumba (G); Ruiabri (P)			5
		orange	Alsever (P); Tanoranbon (G)			6
		orange blend	Presur (C); Meishulo (P)			7
		pink	Schremeen3001 (C); Noasia (G); Korfonsova (P)			8
		pink blend	Schremma (C); Korfeining (G); Poulmeno (P)			9
		red	Predepass (C); Noafeuer (G); Ruikenre (P)			10
		red blend	Meilambra (C); Interuspa (G); Delmigre (P)			11
		red purple	Nirpillpro (C); Poulac016 (P)			12

purple	Olyung (C); Stebigpu (G)	13
violet blend	Scholtec (C); Korflieder (P)	14
brown blend	Simcho (G)	15
multicolored	Delmitaf (P)	16

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.

Blend means a smooth transition between colors. For multicolored varieties there are sharply

defined contrasting zones.

2: white blend: includes varieties which are primarily white, but show some tones of some

other hues (like pink, red, red pink, purple)

5: yellow blend: includes varieties which are primarily yellow, but show some tones of some

other hues (like pink, red, red pink).

7: orange blend: includes varieties which are primarily orange, but show some tones of some

other hues (like yellow, purple).

9: pink blend: includes varieties which are primarily pink, but show some tones of some

other hues (like orange, yellow, purple)

11: red blend: includes varieties which are primarily red, but show some tones of some other

hues (like yellow, orange).

14: violet blend: includes varieties which are primarily violet but show some tones of some

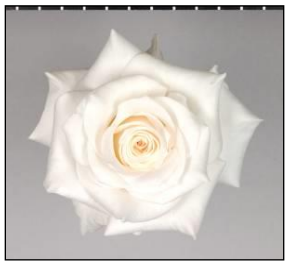
other hues (like mauve and/or lavender).

15: brown blend: includes varieties which are primarily brown but show some tones of some

other hues (like red)

16: multicolored: varieties with more than one color in sharply defined contrasting zones (not blend colors).

23 Flower: color group

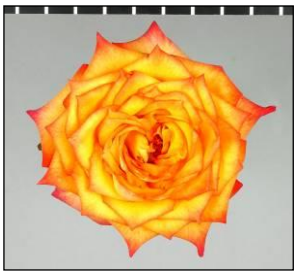



1 white or near white


2 white blend


3 green


4 yellow




5 yellow blend


6 orange


7 orange blend


8 pink

23 Flower: color group

9 pink blend

10 red

11 red blend

12 red purple

13 purple

14 violet blend

15 brown blend

16 multicolored

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
24. (+)	**[G]**	**Only varieties with flower type: double: Flower: color of center**				
PQ	**(b)**	green	Divina, Du bon jardinier			1
		yellow	Elsa, Fiorella			2
		orange				3
		pink				4
		red	Feria, Sunrise			5
		purple	Ibis, Noisette			6

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
25.	**[G] [P]**	**<u>Only varieties with flower type: double</u>: Flower: density of petals**				
QN	**(b)**	very loose	Interladru (G)			1
		loose	Meitrainaz (G)			3
		medium	Ausencart (G); Poulhi017 (P)			5
		dense	Interladru (G)			7

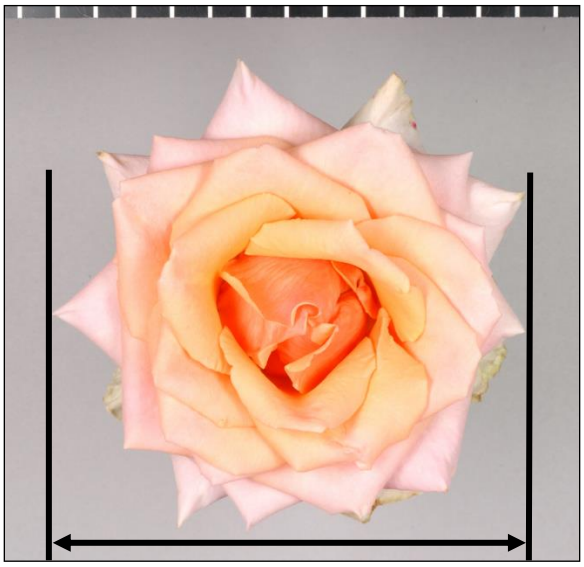
Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
26. (*)		**Flower: diameter**				
QN	**(b)**	very small	Noastrauss (G); Poulset (P)			1
		small	Interlis (C); Clb.canibo 82 (G); Meiraktas (P)			3
		medium	Schremma (C); Poulberg (G); Ruiz1491 (P)			5
		large	Selaurum (C); Adesmanod (G); Korewala (P)			7
		very large	Koranderer (G); Evera116 (P)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation or Measurement.
Assessment: VG:The diameter of a flower, which represents the variety, is measured and converted into a note. (NL) MS:The average value is determined by measurement of a number of individual plants or parts of plants and converted into a note based on assessment table.(JP)



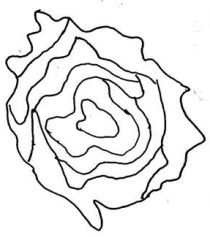
6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
27. (*) (+)		**Flower: shape**				
PQ	**(b)**	round	Ruirovingt (C); Meiouscki (G); Evera101 (P)			1
		irregularly rounded	Ruyi5451 (C); Kormarec (G); Korkallet (P)			2
		star-shaped	Predesplen (C); Anakissi (G); Poulra023 (P)			3

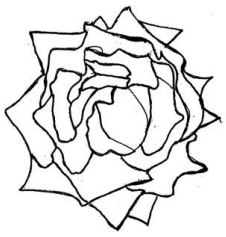
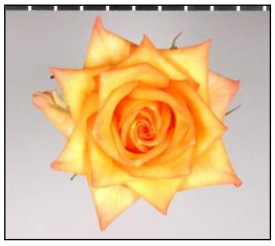
Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.




1 round



2 irregularly rounded

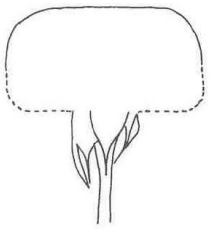



3 star-shaped

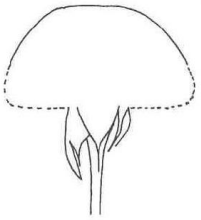
6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
28. (+)	**[C] [G]**	**Flower: profile of upper part**				
PQ	**(b)**	flat	Ausmol (G); Interlis (C)			1
		flattened convex	Pekcoujenny (G); Ruyi5451 (C)			2
		convex	Jacakor (G)			3

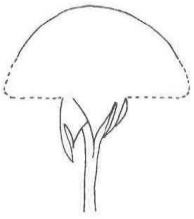
Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.



1 flat



2 flattened convex

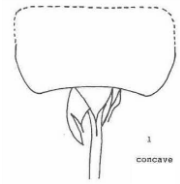


3 convex

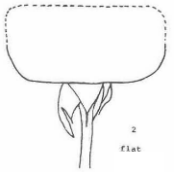
6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
29. (*) (+)	**[C] [G]**	**Flower: profile of lower part**				
PQ	**(b)**	concave	Aushunter (G); Selaurum (C)			1
		flat	Meitonje (G); Predesplen (C)			2
		flattened convex	Korflapei (C); Meironsse (G)			3
		convex	Jacare (G)			4

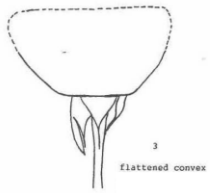
Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.



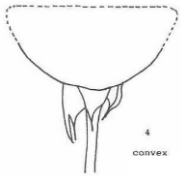
1 concave



2 flat



3 flattened convex



4 convex

6. Method of observation (example of characterization)

29 Flower: profile of lower part

Observations should be made on the flower of correct stage, which is made on a just fully “opened”flower (at the time of anther dehiscence).

Left flower: too early (convex)

Middle flower: correct stage (flat)

Right flower: too late (concave)

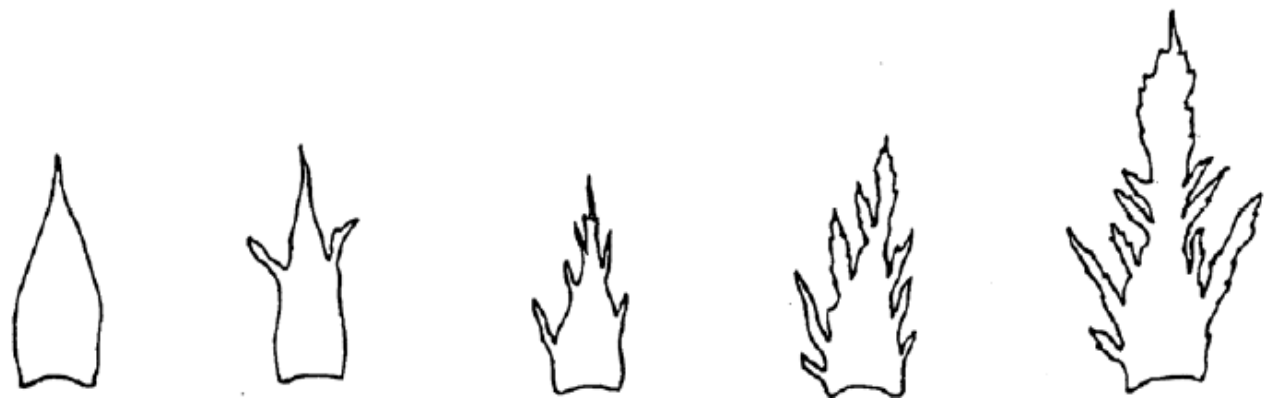
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
30.		**Flower: fragrance**				
QN	**(b)**	absent or weak	Predesplen (C); Ruimats (G); Evera107 (P)			1
		medium	Poulsolo (G); Korduftoro (P)			2
		strong	Tananilov (G)			3

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
It is observed by smelling.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
31. (*) (+)		**Sepal: extensions**				
QN	**(b)**	absent or very weak	Pouldron (G); Ruirowho (P)			1
		weak	Interlis (C); Ruiharl (G); Everos (P)			3
		medium	Predesplen (C); Tankissi (G); Ruiklinko (P)			5
		strong	Spekes, Pekcoujenny (C); Meipeluj (G); Koranalafi (P)			7
		very strong	Pouldron (G); Ruirowho (P)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.



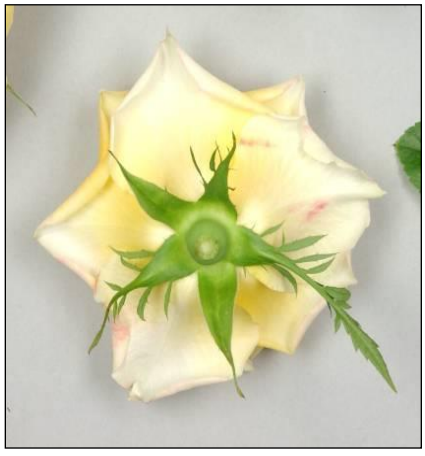
1 absent or very weak | 3 weak | 5 medium | 7 strong | 9 very strong

31 Sepal: extensions

1 absent or very weak

3 weak

5 medium



7 strong

9 very strong

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
32. **(+)**		**Petals: reflexing of petals one-by-one**				
QL	**(b)**	absent	Meidonets (G); Poulberty (P)			1
	(c)	present	Baipeace (G); Korpidanz (P)			9

Remarks
Stage of observation: Observations on the flower should be made from the beginning of flowering to the full flower.
Method of observation: Visual observation.

Time

1 absent

Example over a period of time of a variety where the petals open simulatenously, i.e. petals reflexing one-by-one is absent.

Time

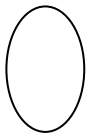
9 present

Example over a period of time of a variety where the petals reflex one-by-one.

6. Method of observation (example of characterization)

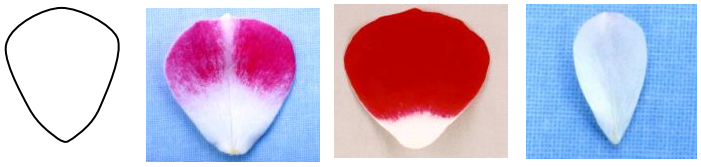
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
33. (*)		**Petal: shape**				
PQ	**(b)**	elliptic	Selaurum (C)			1
	(c)	transverse elliptic	Korcilmo (C)			2
		obovate				3
		obcordate	Schremma (C); Meihecluz (G); Poulac002 (P)			4
		rounded	Selaurum (C)			5

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl .
Semi double flowers: on a petal from the middle whorl.



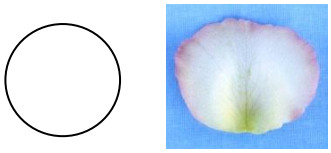
1 elliptic

2 transverse elliptic



3 obovate

4 obcordate



5 rounded

See scheme of systematic figures of shapes.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
34.		**Petal: incisions**				
QN	**(b)**	absent or very weak	TAN98130 (G)			1
	(c)	weak	Selaurum(C); Poulac008 (G); Poulneto (P)			3
		medium	Ruirovingt (C); Reubis (G)			5
		strong	Interladru (G)			7
		very strong	TAN98130 (G)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl .
Semi double flowers: on a petal from the middle whorl.

3 weak

5 medium

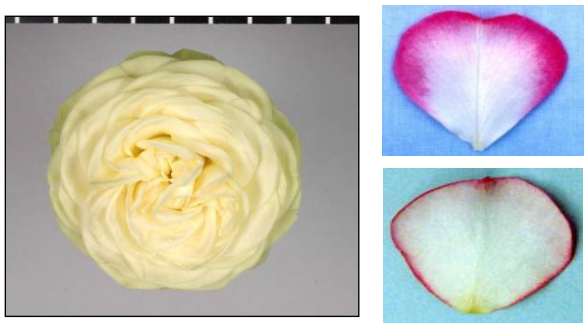
7 strong

6. Method of observation (example of characterization)

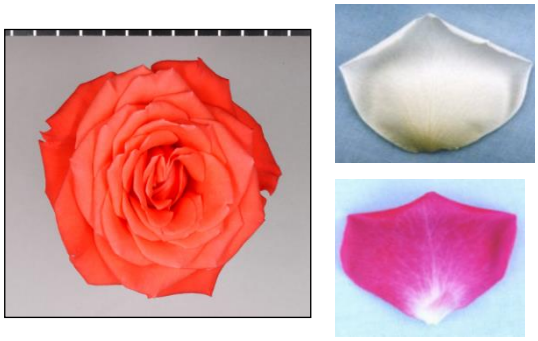
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
35.		**Petal: reflexing of margin**				
QN	**(b)**	absent or very weak	Ausjame (C); Noaheim (G); Asia (P)			1
	(c)	weak	Koretyal (C); Kortwente (G); Delpajor (P)			3
		medium	Schremma (C); Poulduce (G); Ruiklinko (P)			5
		strong	Predesplen (C); Ruivierneg (G); Poulra023 (P)			7
		very strong	Selaurum (C); Tanziewsim (G); Korduftoro (P)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl .
Semi double flowers: on a petal from the middle whorl.

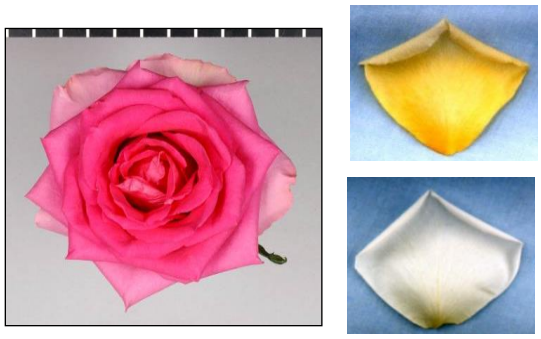
35 Petal: reflexing of margin



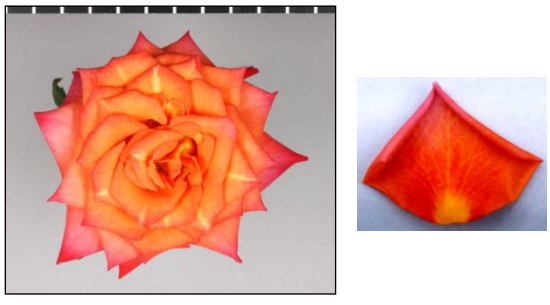
1 absent or very weak



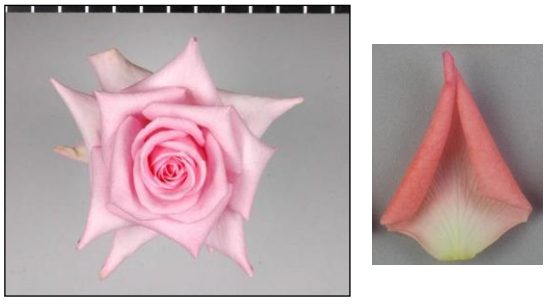
3 weak



5 medium



7 strong



9 very strong

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
36.		**Petal: undulation**				
QN	**(b)**	absent or very weak	Ausjame (C); Ruisjkol (G); Poulbao (P)			1
	(c)	weak	Ruiy5451 (C); Meilauron (G); Ruirowho (P)			3
		medium	Schremma (C); Poulgelb (G); Evera101 (P)			5
		strong	Koretyal (C); Delpabra (G); Poulra023 (P)			7
		very strong	Korbraufo (G)			9

Remarks

Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations on the petal which should be made on:

Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
37. (*)	**[G] [P]**	**Petal: size**				
QN		very small	Poulemb (G)			1
	(b)	small	Ruibleu (G); Meishulo (P)			3
	(c)	medium	Tanweisa (G); Korbigman (P)			5
		large	Meimucas (G); Evera116 (P)			7
		very large	Pekcoufeudor (G)			9

Remarks

Not applicable.

6. Method of observation (example of characterization)

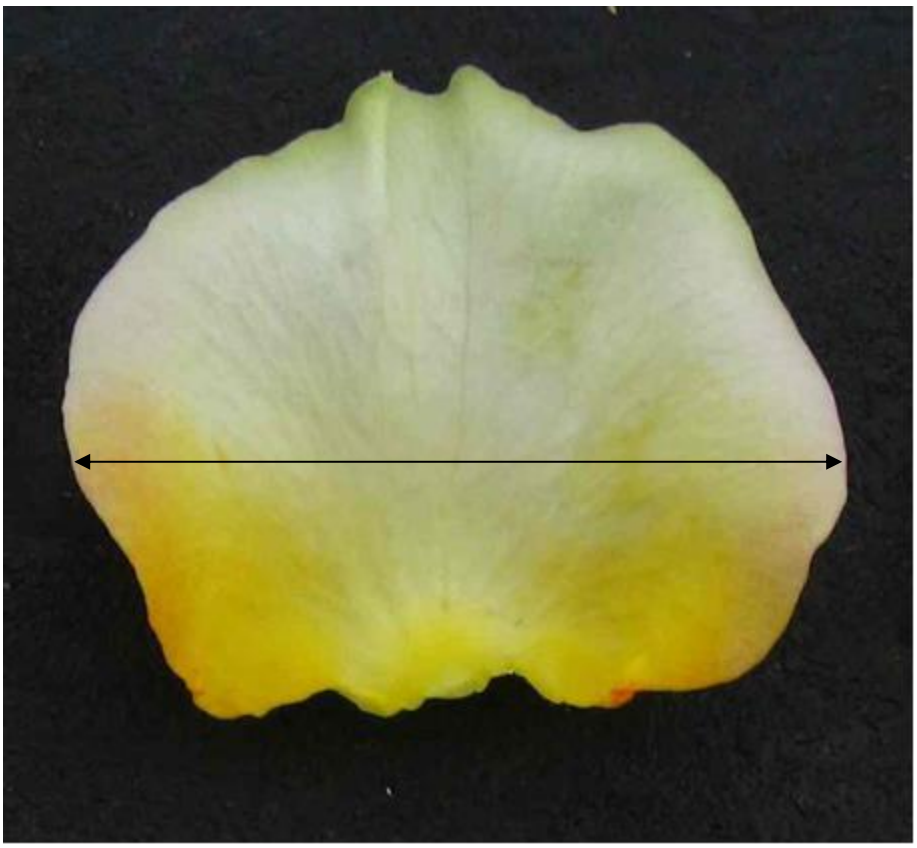
		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
38. (*)	**[C]**	**Petal: length**				
QN	**(b)**	very short				1
	(c)	short	Interlis (C)			3
		medium	Predesplen (C)			5
		long	Selaurum (C)			7
		very long				9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
39. (*)	**[C]**	**Petal: width**				
QN	**(b)**	very narrow				1
	(c)	narrow	Interlis (C)			3
		medium	Predesplen (C)			5
		broad	Selaurum (C)			7
		very broad				9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.

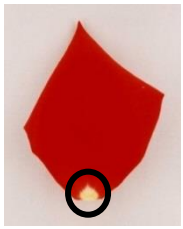
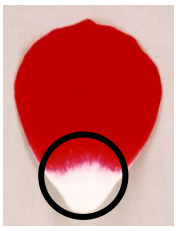
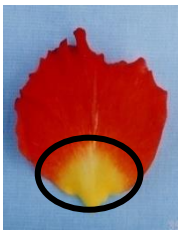
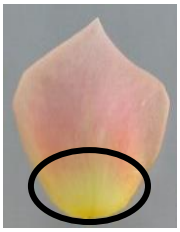


6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
40. (*)		**Petal: number of colors on inner side (basal spot excluded)**				
QL	**(b)**	one	Selaurum (C); TAN98130 (G); Ruibrei (P)			1
	(c)	two	Baipeace (G); Delki (P)			2
		more than two	Delstrisang (G)			3

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.
basal spot excluded.



1 one

40 Petal: number of colors on inner side (basal spot excluded)

2 two

3 more than two

6. Method of observation (example of characterization)

40 Petal: number of colors on inner side (basal spot excluded)

In bud, this is even yellow. While during opening of the flower, the margin of petals fades to white. In this case, it is one color.

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
41. (*)		**Only varieties with one color on inner side of petal: Petal: intensity of color (basal spot excluded)**				
QN	**(b)**	lighter towards the base	Interlis (C); Poulen012 (G); Ruiz29924 (P)			1
	(c)	even	Selaurum (C); Tan98130 (G); Poulra017 (P)			2
		lighter towards the top	Predesplen (C); Orasoglo (G); Poulhi002 (P)			3

Remarks

Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

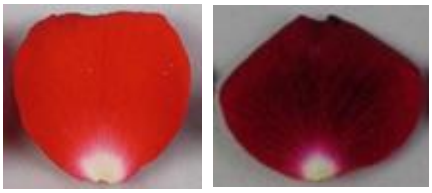
Observations on the petal which should be made on:

Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.

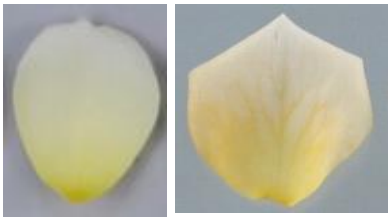
1

lighter towards the base



2

even



3

lighter towards the top

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
42. (*)		**Petal: main color on the inner side (main color is that with largest surface area)**				
PQ	**(b)** **(c)**	RHS Colour Chart (indicate reference number)				

Remarks

Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations on the petal which should be made on:

Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.

The main color is the color with the largest surface area. The secondary color is the color with the second largest area. In cases where the areas of the main and secondary color are too similar to reliable decide which color has the largest area, the darkest color is considered to be the main color. In cases where the areas of the secondary and tertiary color are approximately the same, the darkest color will be the secondary color.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
43. (*)		**Only varieties with two or more colors on inner side of petal: Petal: secondary color (basal spot excluded)**				
PQ	**(b)**	RHS Colour				
	(c)	Chart (indicate reference number)				

Remarks

Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations on the petal which should be made on:

Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.

The main color is the color with the largest surface area. The secondary color is the color with the second largest area. In cases where the areas of the main and secondary color are too similar to reliable decide which color has the largest area, the darkest color is considered to be the main color. In cases where the areas of the secondary and tertiary color are approximately the same, the darkest color will be the secondary color.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
44.		**Only varieties with more than two colors on inner side of petal: Petal: tertiary color (basal spot excluded)**				
PQ	**(b)**	white				1
	(c)	green				2
		light yellow				3
		medium yellow	Delstrisang (G)			4
		orange				5
		pink				6
		red				7
		purple red				8
		brown red				9
		purple				10

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.
The main color is the color with the largest surface area. The secondary color is the color with the second largest area. In cases where the areas of the main and secondary color are too similar to reliable decide which color has the largest area, the darkest color is considered to be the main color. In cases where the areas of the secondary and tertiary color are approximately the same, the darkest color will be the secondary color.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
45. (*) (+)		**<u>Only varieties with two or more colors on inner side of petal</u>: Petal: distribution of secondary color on inner side (basal spot excluded)**				
PQ	**(b)**	at base				1
	(c)	at apex				2
		at marginal zone	Panhurem (G); Korbuntea (P)			3
		as a flush	Wekquaneze (G)			4
		as segments or stripes	Delstrisang (G): Delmigre (P)			5
		as speckles				6

Remarks

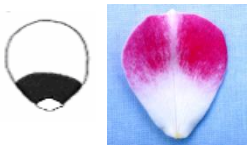
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations on the petal which should be made on:

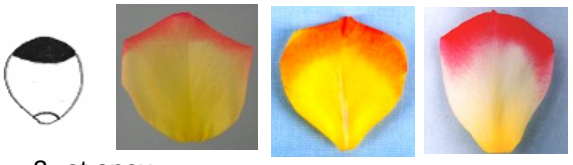
Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.

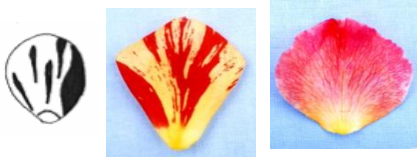


1 at base

4 as a flush



2 at apex



5 as segments or stripes

3 at marginal zone

6 as speckles

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
46. **(+)**		**Only varieties with more than two colors on inner side of petal: Petal: distribution of tertiary color on inner side (basal spot excluded)**				
PQ	**(b)**	at base				1
	(c)	at apex				2
		at marginal zone				3
		as a flush				4
		as segments or stripes	Delstrisang (G)			5
		as speckles				6

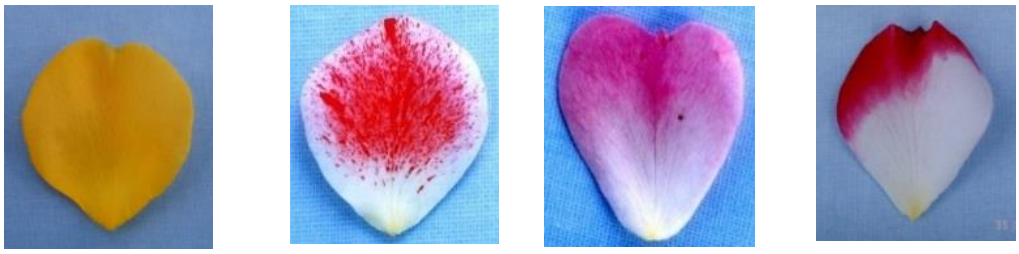
Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.

See characteristics 45.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
47. (*)		**Petal: basal spot on the inner side**				
QL	**(b)**	absent	Korflapei (C); Pouldom (G); Korewala (P)			1
	(c)	present	Ruirovingt (C); Meipeluj (G); Poulper029 (P)			9

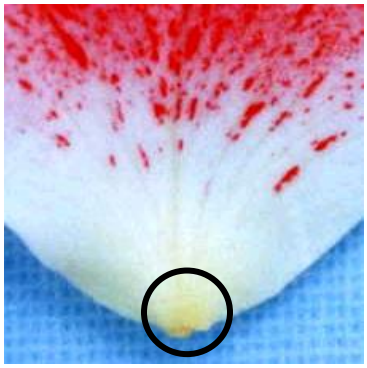
Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.
When it is more than 1/3 of the petal length, it is not considered as basal spot.
Only if the boundary between the basal spot and the middle zone can be observed almost clearly, it is observed as a basal spot.
The coalesced part (claw) is not observed as a basal spot.



1 absent

9 present

47 Petal: basal spot on the inner side

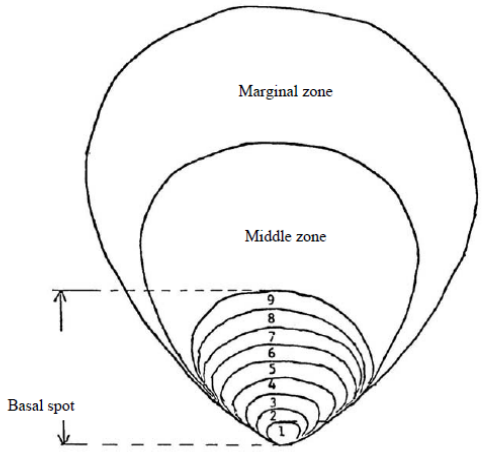


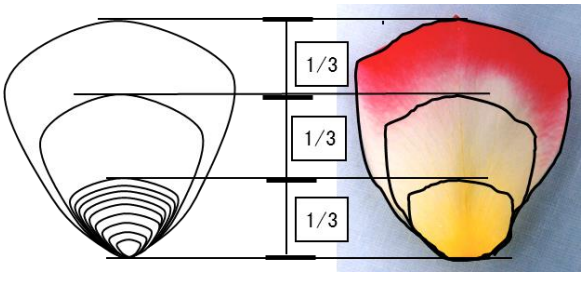
The coalesced part (claw) is not observed as a basal spot.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
48. (*) (+)		**Petal: size of basal spot on inner side**				
QN	**(b)**	very small	Seliron (C); Evera104 (P)			1
	(c)	small	Ruiy5451 (C); Noawel (G); Korrovino (P)			3
		medium	Presur (C); Kordenzen (G); Poulhi008 (P)			5
		large	Poulmanti (G); Koranalafii (P)			7
		very large	Tanispil (G)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.
When it is more than 1/3 of the petal length, it is not considered as basal spot.
Only if the boundary between the basal spot and the middle zone can be observed almost clearly, it is evaluated as a basal spot.





6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
49. (*)		**Petal: color of basal spot on inner side**				
PQ	**(b)**	white	Seliron (C); Speruge (G); Ruiz0206 (P)			1
	(c)	greenish	Interlis (C); Korkopap (G); Poulra002 (P)			2
		light yellow	Schremma (C); Poulerry (G); Korpidanz (P)			3
		medium yellow	Ruiy5451 (C); Stebigpu (G); Korbever (P)			4
		orange yellow	Selaurum (C); Korsetag (G); Poulnil (P)			5
		orange	Tanziewsim (G); Poulfio (P)			6

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.
Observations on the petal which should be made on:
Double flowers: on a petal from the 3rd outer whorl.
Semi double flowers: on a petal from the middle whorl.
When it is more than 1/3 of the petal length, it is not considered as basal spot.
Only if the boundary between the basal spot and the middle zone can be observed almost clearly, it is evaluated as a basal spot.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
50. (*)		**Petal: main color on the outer side (only if clearly different from inner side)**				
PQ	**(b)**	RHS Colour				
	(c)	Chart (indicate reference number)				

Remarks

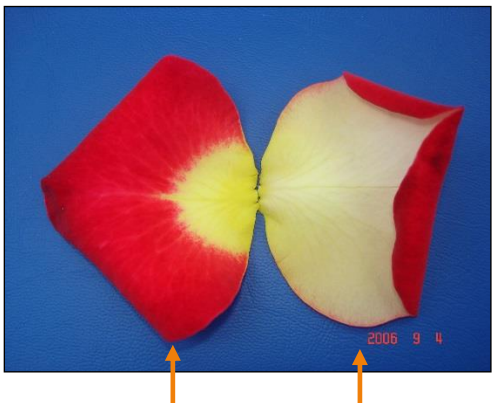
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).

Method of observation: Visual observation.

Observations on the petal which should be made on:

Double flowers: on a petal from the 3rd outer whorl.

Semi double flowers: on a petal from the middle whorl.



6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
51.		**Outer stamen: predominant color of filament**				
PQ	**(b)**	white	Helklewi (G); Koralbavan (P)			1
		green	Interlis (C); Kornemuta (G); Kornemut (P)			2
		light yellow	Pouljill (G)			3
		medium yellow	Korflapei (C); Meikrotal (G); Meirosfon (P)			4
		orange	Ruiy5451 (C); Ruiskopoul (G); Everrom (P)			5
		pink	Korfasso (G); Ruiowko (P)			6
		red	Predesplen (C); Pekoucan (G); Espever (P)			7
		brown red	Schweizer Woche (G)			8
		purple	Heltscher (G); Ruiovat (P)			9

Remarks
Stage of observation: on a just fully “opened” flower (at the time of anther dehiscence).
Method of observation: Visual observation.

51 Outer stamen: predominant color of filament

1
white

2
green

4
medium yellow

5
orange

6
pink

7
red

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
52.	**[G]**	**Seed vessel: size (at petal fall)**				
QN		very small				1
		small	Poulemb (G)			3
		medium	Kolmag (G)			5
		large	Super Dagmar (G)			7
		very large				9

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
53. **(+)**	**[G]**	**Hip: shape in longitudinal section**				
PQ		funnel-shaped	Meidrason (G)			1
		pitcher-shaped	Korparesni (G)			2
		pear-shaped	Tanzahde (G)			3

Remarks

Not applicable.

6. Method of observation (example of characterization)

		English	UPOV Example Varieties	Netherlands Example Varieties	Japan Example Varieties	Note
54. (+)	**[G]**	**Hip: color (at mature stage)**				
PQ		yellow				1
		orange				2
		red				3
		brown				4
		black				5

Remarks

Not applicable.

6. Method of observation (example of characterization)

(Reference)

This diagram will be refered for the following characteristics.

13.Terminal leaflet: shape of blade

33. Petal: shape