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TWO/35/18
ORIGINAL: English
DATE: November 1, 2002

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

Thirty-Fifth Session
Quito, November 18 to 22, 2002

WORKING PAPER ON DRAFT TEST GUIDELINES FOR ROSE

(*ROSA* L.)

Document prepared by experts from the Netherlands

The attached document TG/ROSE(proj.1) already incorporates the standard wording of document TGP/7.2, which was adopted by the Technical Committee at its thirty-eighth session in April 2002, and includes some additional standard wording from document TGP/7.1 Draft 1, also agreed at that session.

[Document TG/ROSE(proj.1) follows]

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TG/ROSE(proj.1) (TWO/35/18)
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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

ROSE

(*Rosa* L.) *

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

Latin	English	French	German	Spanish
Rosa L.	Rose	Rosier	Rose	Rosal

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as the "General Introduction") and its associated "TGP" documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Rosa* L. of the family *Rosaceae.*

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of plants with their own roots unless the variety does not grow on its own roots in which case budwood of the variety will be required.

2.3 In the case of material supplied as budwood, the applicant should indicate the rootstock that should be used.

2.4 The minimum quantity of plant material, to be supplied by the applicant, should be:

– varieties resulting from crossing: 9 plants

– varieties resulting from mutation: 18 plants

2.5 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.6 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 Duration of Tests

The minimum duration of tests should normally be a single growing cycle.

3.2 Testing Place

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

3.3 Conditions for Conducting the Examination

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. In particular, unless otherwise stated, all observations should be made at the time of full flowering.

3.3.2. The following growing conditions are recommended:

– Planting time:	at the beginning of February (Northern Hemisphere)
– Soil:	cocosfibre and ca. 3 litre of clay granulate for drainage
– Size of container:	9 liters
– Number of plants per container:	3
– Temperature:	day ca. 22 ºC; night ca. 18 ºC
– Light:	no artificial lights, shading cloth: 450-550 watt/m²
– RV:	ca. 65%-80%

3.3.3 Characteristics containing the following notes in the second column of the Table of Characteristics should be examined as indicated below:

a All observations on the young shoot should be made on the leaves of a ca. 20 cm long shoot.

b All observations on the leaves (incl. leaflet) and the prickles should be made on the middle third of the stem.

c All observations on the petal should be made on a petal from ca. 3rd whorl of the outer side.

d Unless otherwise indicated, all observations on the flower should be made on an exactly fully opened flower.

3.3.4 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

3.4 Test Design

3.4.1 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.4.2 Each test should be designed to result in a total of at least 9 plants in case the variety is made by crossing, or 18 plants in case the variety is a mutation.

3.5 Number of Plants / Parts of Plants to be Examined

All observations determined by measuring or counting should be made on 5 plants or parts taken from each of 5 plants. Unless otherwise stated, all visual observations should be made on at least 8 plants at the time of full flowering.

3.6 Additional Tests

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.2 Uniformity

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.2.2 Varieties Resulting from Crossing

The acceptable number of off-types tolerated in a sample size of 9 plants is 1 on the basis of a population standard of 1% and an acceptance probability of 95%.

4.2.3 Varieties Resulting from Mutation

The acceptable number of off-types tolerated in a sample size of 18 plants is 1 on the basis of a population standard of 1% and an acceptance probability of 95%.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness is aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 It is recommended that the competent authorities use the following classification according to Flower Color Groups for the grouping of varieties. The determination of the color group is based on the color on the inner side of an exactly fully opened flower:

characteristic 23	old state	expression	example variety	state
Flower: color group	1	white or near white	korcilmo	1
	-	green		2
	2,3	yellow	korflapei	3
	4	yellow blend	olijboni	4
		(includes varieties that are primarily yellow, but yet show some tones of other hues)		
	5,6	orange	prevano	5
	6,7	orange blend	schretulp	6
		(includes varieties that are primarily orange, but yet show some tones of other hues)		
	8,9	pink	interlis	7

characteristic 23	old state	expression	example variety	state
	10	pink blend (includes varieties that are primarily pink, but yet show some tones of other hues)		8
	11,12,13	red	meileeuw	9
	14	red blend (includes varieties that are primarily red, but yet show some tones of other hues)	tanjack	10
	15	mauve (varieties primarily lavender and purple)	ruilav	11
	16	russet (varieties primarily brown or tan in color)	meicofum	12

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 States of Expression and Corresponding Notes

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 Example Varieties

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 Legend

(*) Asterisked characteristic – see Section 6.1.2

(QL) Qualitative characteristic – see Section 6.3
(QN) Quantitative characteristic – see Section 6.3
(PQ) Pseudo-Qualitative characteristic – see Section 6.3

(+) See Explanations on the Table of Characteristics in Chapter 8.

a - **d** – Method of Examination - see Section 3.3.3

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	MoE°	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.		**Plant: height (during second flush)**					
		short					3
		medium					5
		tall					7
2.	**a**	**Young shoot: anthocyanin coloration**					
		absent					1
		present				meicofum	9
3.	**a**	**Young shoot: hue of anthocyanin coloration**					
		red-brown				ruirovingt	1
		purple				pekcoujenny	2
4.	**a**	**Young shoot: intensity of anthocyanin coloration**					
		very weak				presur	1
		weak				febesa	3
		medium				falbala	5
		strong				ruidriko	7
		very strong				preraclim	9
5.	**b**	**Short prickles**					
		absent				ruidy	1
		present				olijeur	9

° MoE = Method of Examination

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	**b**	**Long prickles**					
		absent				ruidy	1
		present				pekcoujenny	9
7.	**b**	**Long prickles: number**					
		very few					1
		few				presur	3
		medium				pekcoujenny	5
		many				gaprim	7
		very many					9
8. **(+)**	**b**	**Long prickles: predominant shape**					
		type 1					1
		type 2					2
		type 3					3
		type 4					4
9.	**b**	**Long prickle: predominant color**					
		greenish					1
		yellowish					2
		reddish					3
10.	**b**	**Leaf: length**					
		short				presur, korcrisett	3
		medium				ruirovingt, korcilmo	5
		long				tanrelcig	7

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11.	b	**Leaf: width**					
		narrow				korcrisett	3
		medium				pekcoujenny	5
		broad				roo2748, roo2792	7
12.	b	**Leaf: color**					
		light green				kororco	1
		medium green				presur, spekra	2
		dark green				febesa	3
13.	b	**Leaf: glossiness of upper side**					
		absent or very weak					1
		weak				kororco, lexplut	3
		medium				spekra	5
		strong				intersneeuw	7
		very strong				selfortune	9
14.	b	**Leaflet: undulation of margin**					
		absent or very weak				intersneeuw	1
		weak				tanaledev, briana	3
		medium				febesa	5
		strong				ruidusty	7
		very strong					9
15.	b	**Terminal leaflet: shape**					
		small elliptic					1
		elliptic					2
		ovate					3
		round					4

	MoE°	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. **(+)**	b	**Terminal leaflet: shape of base**					
		wedge-shaped				febesa, intersneeuw	1
		obtuse				lexplut	2
		rounded				presur	3
		cordate				ruivonk	4
17.	b	**Terminal leaflet: shape of top**					
		acuminate					1
		acute					2
		obtuse					3
		rounded					4
18.	d	**Flowering shoot: number of flowers**					
		very few				nirpholgold, lexplut	1
		few				tanaledev	3
		medium				kororco, febesa	5
		many				intersneeuw	7
		very many				white lydia	9
19.	d	**Flower pedicel: hairs**					
		absent					1
		present					9
20.	d	**Flower pedicel: prickles**					
		absent					1
		present					9

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	**d**	**Flower pedicel: number of prickles**					
		very few					1
		few					3
		medium					5
		many					7
		very many					9
22.		**Flower bud: shape (just before separation of sepals)**					
		elliptic					1
		ovate				presur, spekra	2
		broad ovate				lexplut, nirpholgold	3
		obovate					4
		round				selfortune	5

	MoE°	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23.	**d**	**Flower: color group**					
						Old note	
		white or near white				**1**	1
		green				**-**	2
		yellow				**2+3**	3
		yellow blend (includes varieties that are primarily yellow, but yet show some tones of some other hues)				**4**	4
		orange				**5+6**	5
		orange blend (includes varieties that are primarily orange, but yet show some tones of some other hues)				**6+7**	6
		pink				**8+9**	7
		pink blend (includes varieties that are primarily pink, but yet show some tones of some other hues)				**10**	8
		red				**11+12+13**	9
		red blend (includes varieties that are primarily red, but yet show some tones of some other hues)				**14**	10
		mauve (varieties primarily lavender and purple)				**15**	11
		russet (varieties primarily brown or tan in color)				**16**	12

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	**d**	**Flower: number of petals**					
		very few					1
		few				korcilmo, presur	3
		medium				interlis	5
		many				roo2746, roo2784	7
		very many				olijbut, lexora	9
25.	**d**	**Flower: diameter**					
		very small					1
		small				interlis	3
		medium				korcilmo, pekcoujenny	5
		large				olijara	7
		very large					9
26.	**d**	**Flower: view from above**					
		round				intersneeuw, lexplut	1
		irregularly rounded				ruiroug, meicobuis	2
		star-shaped				presur, korflapei	3
27.	**d**	**Flower: reflexing of margin**					
		absent or very weak					1
		weak				nirpholgold	3
		medium				ruiroug, meicobuis	5
		strong				febesa	7
		very strong				korkameel	9

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.	**c** **d**	**Flower: undulation of petals**					
		absent or very weak					1
		weak				febesa	3
		medium				spekra, tanaledev	5
		strong				selmolybdeen	7
		very strong				korkameel	9
29. **(+)**	**c** **d**	**Flower: attitude of outer petals**					
		concave (-45º / 0º)					1
		flat (0º)					2
		flattened convex (0º / +45º)					3
		convex (+45º)					4
30. **(+)**	**d**	**Flower: side view of upper part**					
		flat				intersneeuw	1
		flattened convex				presur, spekra	2
		convex					3
31. **(+)**	**d**	**Sepal: extensions**					
		absent or very weak				interkaag	1
		weak				intersneeuw	3
		medium				spekra, pretraner	5
		strong				briyell	7
		very strong				ruiroug	9

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32.	**c**	**Petal: length**					
	d						
		very short				interlis	1
		short				korflapei	3
		medium				selaurum	5
		long				selruthenium	7
		very long					9
33.	**c**	**Petal: width**					
	d						
		very narrow				interlis, intermalai	1
		narrow				korcrisett	3
		medium				intergrowi	5
		broad				olijara, lexmei	7
		very broad					9
34.	**c**	**Petal: shape**					
	d						
		elliptic					1
		obovate					2
		obcordate					3
		rounded					4
35.	**c**	**Petal: number of colors on inner side (macule excluded)**					
	d						
		one					1
		two or more					2

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36.	**c** **d**	**Petal: color distribution of the main color on the inner side**					
		even					1
		self-colored					2
37.	**c** **d**	**Self-colored varieties only:** **Petal: color distribution**					
		lighter towards the base					1
		lighter towards the top					2
38.	**c** **d**	**Petal: main color on the inner side**					
		RHS Colour Chart (indicate reference number)					
39.	**c** **d**	**Multi-colored varieties only:** **Petal: secondary color**					
		white					1
		green					2
		light yellow					3
		yellow					4
		orange					5
		pink					6
		red					7
		brown-red					8
		purple					9

	MoE°	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40.	**c**	**<u>Multi-colored varieties only</u>:**					
	d	**Petal: position of second color**					
		at the base					1
		at the top					2
		at marginal zone					3
		as a flush covering whole petal					4
		as segments distributed on whole petal					5
		as speckles, scattered on whole petal					6
41.	**c**	**Petal: macule on the inner side**					
	d						
		absent				tanaledev, briyell	1
		present				meicobuis, briana	9
42.	**c**	**Petal: size of macule on the inner side**					
	d						
		very small				intersneeuw	1
		small				predemol	3
		medium				febesa	5
		large				interchat	7
		very large				meileeuw	9
43.	**c**	**Petal: color of macule on the inner side**					
	d						
		RHS Colour Chart (indicate reference number)					

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
44.	**c** **d**	**Petal: main color on the <u>outer</u> side** RHS Colour Chart (indicate reference number)					
45.	**d**	**Outer stamen: predominant color of filament**					
		white				intersneeuw	1
		green					2
		light yellow					3
		yellow					4
		orange				meicobuis	5
		pink				ruiroug	6
		red				spekra	7
		brown-red					8
		purple				meiparos	9

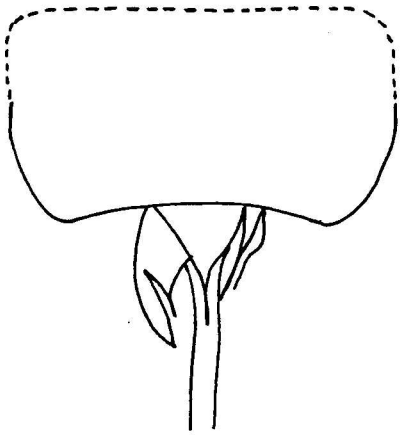
8. Explanations on the Table of Characteristics

Ad. 8: Long prickle: predominant shape

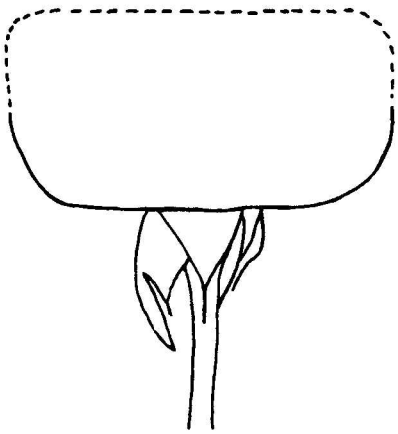
Ad. 16: Terminal leaflet: shape of base

1	2	3	4
wedge-shaped	obtuse	rounded	cordate

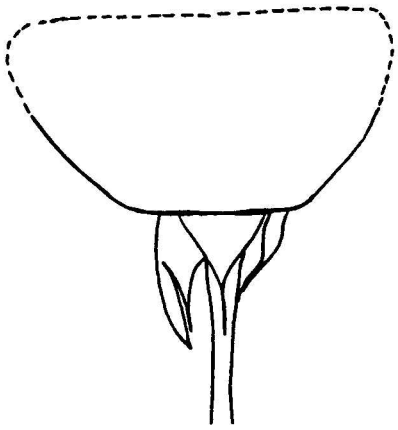
Ad. 29: Flower: attitude of outer petals



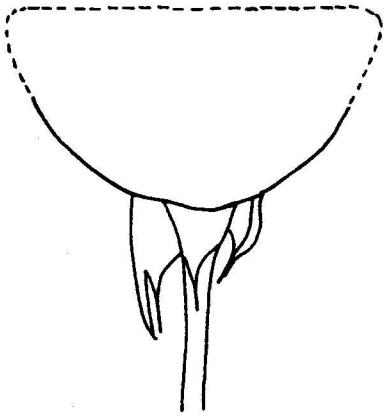
1
concave



2
flat

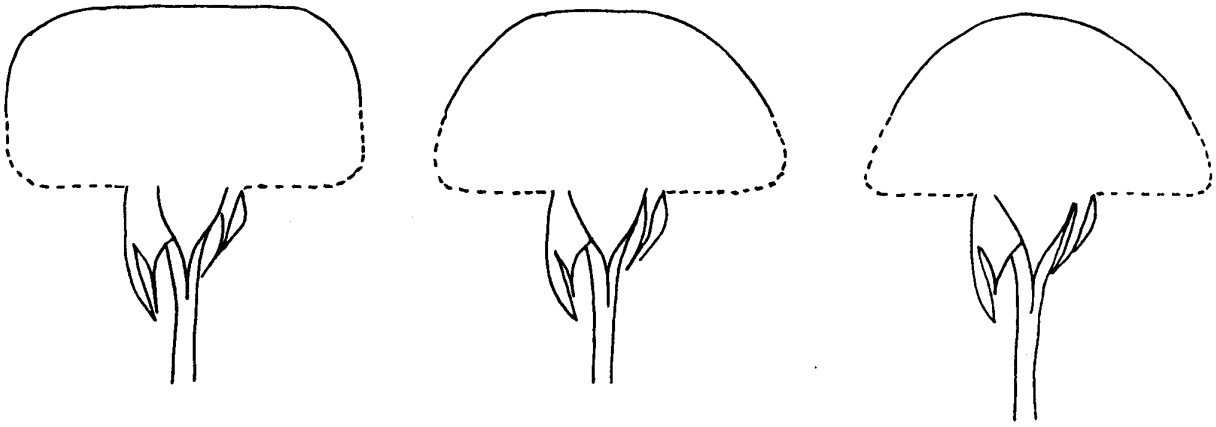


3
flattened convex



4
convex

Ad. 30: Flower: side view of upper part (fully opened flower)

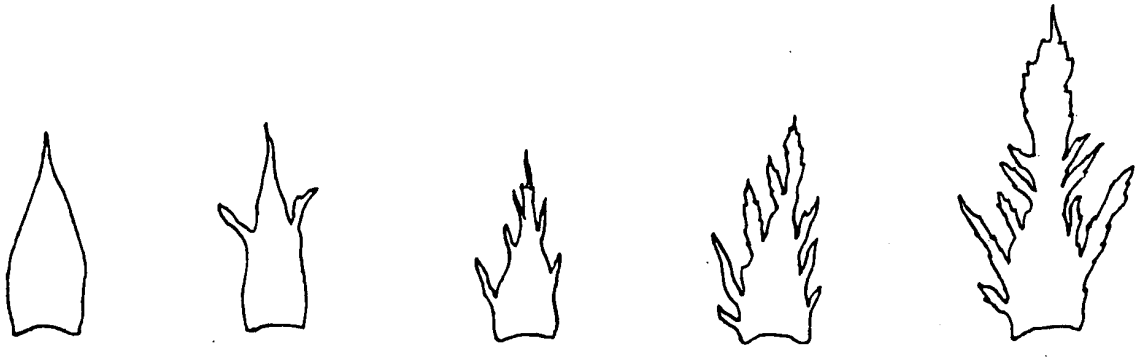


1
flat

2
flattened convex

3
convex

Ad. 31: Sepal: extensions



1
absent or
very weak

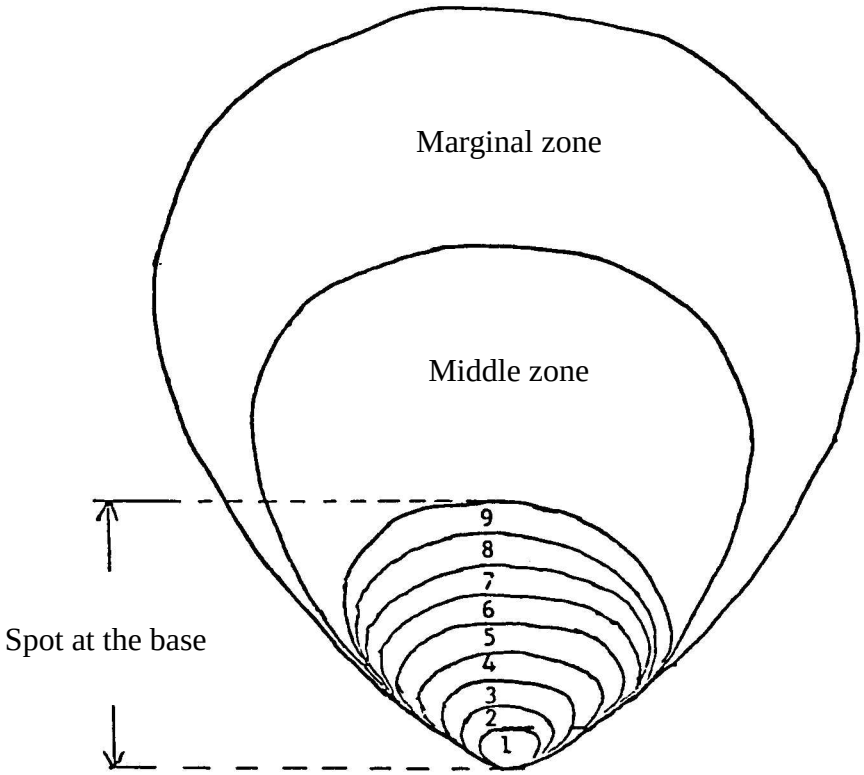
3
weak

5
medium

7
strong

9
very strong

Ad. 42: Petal: size of macule



9. Literature

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

	Application date: (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1 Species

1.1.1 *Latin Name*	*Rosa* L.
1.1.2 Common Name	ROSE

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	

Breeder (if different from applicant)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

3. Proposed denomination and breeder's reference

Proposed denomination (if available) [ ]

Breeder's reference [ ]

4. Information on the breeding scheme and propagation of the variety

4.1 Breeding Scheme

4.1.1 Variety resulting from:

(a) controlled cross [ ]
(please state parent varieties)

(b) partially unknown cross [ ]
(please state known parent variety(ies))

(c) totally unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery [ ]
(please state where, when and how developed)

4.1.4 Other [ ]
(please provide details)

4.2 Method of Propagating the Variety

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (please provide details) [ ]

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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

	Characteristics	Example Varieties	Note
5.1 (23)	**Flower: color group**		
	white or near white		1
	green		2
	yellow		3
	yellow blend (includes varieties that are primarily yellow, but yet show some tones of some other hues)		4
	orange		5
	orange blend (includes varieties that are primarily orange, but yet show some tones of some other hues)		6
	pink		7
	pink blend (includes varieties that are primarily pink, but yet show some tones of some other hues)		8
	red		9
	red blend (includes varieties that are primarily red, but yet show some tones of some other hues)		10
	mauve (varieties primarily lavender and purple)		11
	russet (varieties primarily brown or tan in color)		12

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6. Similar varieties and differences from these varieties

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the **similar** variety(ies)	Describe the expression of the characteristic(s) for **your** candidate variety
(Example)	*Plant: height*	*e.g. note 3*	*note 7*
		e.g. short	*tall*
		e.g. 90 cm	*130 cm*

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7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [ ] No [ ]

(If yes, please provide details)

7.2 Special conditions for the examination of the variety

7.2.1 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

7.2.2 If yes, please give details:

7.3 Other information

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

If the answer to (b) is yes, please attach a copy of the authorization.

9. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature Date

[End of document]