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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

ROSEMARY *

UPOV Code: ROSMA_OFF

(Rosmarinus officinalis L.)

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Israel

*to be considered by the Technical Working Party for Vegetables (TWP)
at its fortieth session to be held in Guanajuato, Guanajuato State, Mexico,
from June 12 to 16, 2006*

Alternative Names: *

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Rosmarinus officinalis L.</i>	Rosemary	Romarin	Rosmarin	Romero, Rosmarino

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with 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 Test Guidelines

These Test Guidelines apply to vegetatively propagated varieties of *Rosmarinus officinalis* L.

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 young plants.

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

5 young plants.

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

2.5 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 *Number of Growing Cycles*

The minimum duration of tests should normally be two independent growing cycles.

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

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.

3.3.2 The recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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"

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 5 plants.

3.4.2 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.

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of 5 plants. For characteristics involving measurement of individual parts of plants (MS), 2 parts of each of 5 plants should be taken.

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 differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

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 For the assessment of uniformity, a population standard of 1 % and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 5 plants, no off-type is allowed.

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 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 are 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 The following have been agreed as useful grouping characteristics:

- (a) Plant: growth habit (characteristic 1)
- (b) Stem: position of long side branches (characteristic 5)
- (c) Flower: size (characteristic 19)
- (d) Flower: main blue color (characteristic 20)

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 Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3

QN: Quantitative characteristic – see Chapter 6.3

PQ: Pseudo-qualitative characteristic – see Chapter 6.3

MG: single measurement of a group of plants or parts of plants – see Chapter 3.3.1

MS: measurement of a number of individual plants or parts of plants – see Chapter 3.3.1

VG: visual assessment by a single observation of a group of plants or parts of plants – see Chapter 3.3.2

VS: visual assessment by observation of individual plants or parts of plants” – see Chapter 3.3.2

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

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. VG (*)	Plant: growth habit					
QN	erect				Barbecue	1
	semi-erect					2
	prostrate					3
2. VG (*)	Plant: height					
QN	short					3
	medium					5
	tall					7
3. VG (*)	Plant: density of foliage					
QN	sparse					3
	medium					5
	dense					7
4. VG (*) (+)	Plant: flower arrangement					
QL	opposite					1
	whorl					2
5. VG (*) (+)	Stem: position of long side branches					
QN	mainly lower third				Barbecue	1
	mainly middle third					2
	along whole stem					3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. MS	Stem: length of internode (average of 20 cm)					
(*)						
QN	(a)	short				3
		medium				5
		long				7
7. VG	Stem: number of inflorescences per node					
(*)						
(+)						
QN	(a)	few				3
		medium				5
		many				7
8. VG	Stem: thickness					
QN	(a)	thin				3
		medium				5
		thick				7
9. VG	Stem: anthocyanin coloration of young stem					
(*)						
QL	(a)	absent				1
		present				9
10. VG	Stem: waxiness					
(*)						
QN	(a)	absent or weakly expressed				1
		moderately expressed				2
		strongly expressed				3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
11.	MS	Leaf: length				
(*)						
QN	(b)	short				3
		medium				5
		long				7
12.	MS	Leaf: width				
QN	(b)	narrow				3
		medium				5
		broad				7
13.	VS	Leaf: variegation				
QL	(b)	absent				1
		present				9
14.	VG	Leaf: green color				
(*)						
QN	(b)	very light				1
		light				3
		medium				5
		dark				7
		very dark				9
15.	VS	Leaf: size of white spot at base				
(+)						
QN	(b)	small				3
		medium				5
		large				7
16.	VS	Leaf: surface of upper side				
QL	(b)	smooth				1
		rough				2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota	
17.	VS	Leaf: curvature of longitudinal axis					
QN	(b)	incurved					1
		straight					2
		recurved					3
18.	VS	Leaf: recurving of margin					
(*)							
QN	(b)	absent or very weak					1
		weak					3
		medium					5
		strong					7
		very strong					9
19.	VG	Flower: size					
(*)							
QN		very small					1
		small					3
		medium					5
		large					7
		very large					9
20.	VS	Flower: intensity of main blue color					
(*)							
QN		very light					1
		light					3
		medium					5
		dark					7
		very dark				Blue Lagoon	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21.	VS	Lower lip: size of white area (center of middle lobe)				
QN	small					3
	medium					5
	large					7
22.	VS	Lower lip: blue spots				
(*)						
QL	absent					1
	present					9
23.	VS	Lower lip: width of blue colored stripes				
QN	narrow					3
	medium					5
	broad					7
24.	VG	Calyx: size				
QN	small					3
	medium					5
	large					7
25.	VS	Calyx: shape				
(*)						
QL	funnel-shape					1
	campanulate					2
26	VS	Calyx: anthocyanin coloration				
(*)						
QL	absent					1
	present					9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27. VS	Calyx: pubescence					
QN	absent or very weak					1
	weak					3
	medium					5
	strong					7
	very strong					9
28. VS (*)	Calyx: shape of apex of lobe					
QL	acute					1
	rounded					2
29. VS	Style: length					
QN	short					3
	medium					5
	long					7
30. VS (*)	Style: length in relation to stamen					
QL	equal					1
	longer					2
31. (*)	Style: blue color					
QN	light					3
	medium					5
	dark					7
32. VS (*)	Flowering habit					
QL	not flowering					1
	seasonal					2
	continuous				Star	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
33.	VS	<u>Only varieties with seasonal flowering:</u>				
(*)		Time of beginning of flowering				
QN	very early					1
	early					3
	medium					5
	late					7
	very late					9
35.	MG	Etheric oils: total content	Propose to delete			
(+)						
QN	very low					1
	low					3
	medium					5
	high					7
	very high					9
36.	MG	Etheric oils: a-pine content	Propose to delete			
(+)						
QN	very low					1
	low					3
	medium					5
	high					7
	very high					9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
37	MG	Etheric oils: camphene content	Propose to delete			
(+)						
QN		very low				1
		low				3
		medium				5
		high				7
		very high				9
38.	MG	Etheric oils: b-pinene content	Propose to delete			
(+)						
QN		very low				1
		low				3
		medium				5
		high				7
		very high				9
40.	MG	Etheric oils: limonene content	Propose to delete			
(+)						
QN		very low				1
		low				3
		medium				5
		high				7
		very high				9
41.	MG	Etheric oils: 1,8-cineol content	Propose to delete			
(+)						
QN		very low				1
		low				3
		medium				5
		high				7
		very high				9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
42.	MG	Etheric oils: camphor content	Propose to delete			
(+)						
QN	very low					1
	low					3
	medium					5
	high					7
	very high					9
43.	MG	Etheric oils: borneol content	Propose to delete			
(+)						
QN	very low					1
	low					3
	medium					5
	high					7
	very high					9
44.	MG	Etheric oils: verbenone content	Propose to delete			
(+)						
QN	very low					1
	low					3
	medium					5
	high					7
	very high					9

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

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

- (a) Stem: all observations should be made at middle third of stem
- (b) Leaf: all observations should be made on fully grown leaves

8.2 *Explanations for individual characteristics*

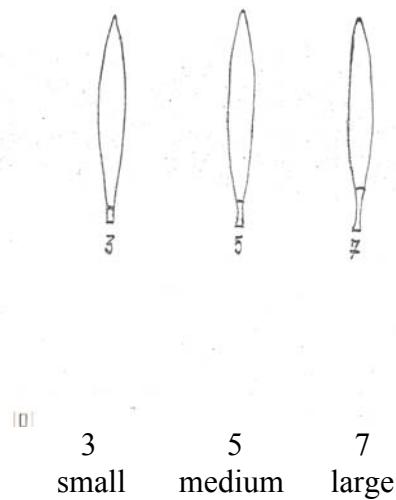
Ad. 5: Stem: position of long side branches

[to be provided]

Ad. 7: Stem: number of inflorescences per node

[to be provided]

Ad. 15: Leaf: size of white spot at base



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 Botanical name	<input type="text" value="Rosmarinus officinalis L."/>	
1.2 Common name	<input type="text" value="Rosemary"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
#4. Information on the breeding scheme and propagation of the variety		
4.1 Breeding scheme		
Variety resulting from:		
4.1.1 Crossing		
(a) controlled cross (please state parent varieties)	[]	
(b) partially known cross (please state known parent variety(ies))	[]	
(c) unknown cross	[]	
4.1.2 Mutation (please state parent variety)	[]	
4.1.3 Discovery and development (please state where and when discovered and how developed)	[]	
4.1.4 Other (please provide details)	[]	
<div style="border: 1px solid black; width: 450px; height: 30px; margin: 20px auto;"></div>		

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
4.2 Method of propagating the variety		
4.2.1 Vegetative propagation		
(a) cuttings	[]	
(b) <i>in vitro</i> propagation	[]	
(c) other (state method)	[]	
4.2.2 Seed	[]	
4.2.3 Other	[]	
(please provide details)		

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
<p>6. Similar varieties and differences from these varieties</p> <p><i>Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.</i></p>			
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
<i>Example</i>	<i>Plant: growth habit</i>	<i>semi-erect</i>	<i>erect</i>
<p>Comments:</p>			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:												
<p>#7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>Main use</p> <table><tr><td>(a) garden plant</td><td>[]</td></tr><tr><td>(b) pot plant</td><td>[]</td></tr><tr><td>(c) industrial (etheric oils)</td><td>[]</td></tr><tr><td>(d) fresh consumption</td><td>[]</td></tr><tr><td>(e) dried aromatic</td><td>[]</td></tr><tr><td>(f) other</td><td>[]</td></tr></table> <p>(please provide details)</p> <p>A representative color photograph of the variety should accompany the Technical Questionnaire. [to be discussed]</p>			(a) garden plant	[]	(b) pot plant	[]	(c) industrial (etheric oils)	[]	(d) fresh consumption	[]	(e) dried aromatic	[]	(f) other	[]
(a) garden plant	[]													
(b) pot plant	[]													
(c) industrial (etheric oils)	[]													
(d) fresh consumption	[]													
(e) dried aromatic	[]													
(f) other	[]													
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [] No []</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [] No []</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>														

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:												
<p>9. Information on plant material to be examined or submitted for examination.</p> <p>9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.</p> <p>9.2 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 the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">(a) Microorganisms (e.g. virus, bacteria, phytoplasma)</td> <td style="width: 15%;">Yes []</td> <td style="width: 15%;">No []</td> </tr> <tr> <td>(b) Chemical treatment (e.g. growth retardant, pesticide)</td> <td>Yes []</td> <td>No []</td> </tr> <tr> <td>(c) Tissue culture</td> <td>Yes []</td> <td>No []</td> </tr> <tr> <td>(d) Other factors</td> <td>Yes []</td> <td>No []</td> </tr> </table> <p>Please provide details for where you have indicated “yes”.</p> <p>.....</p>			(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []	(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []	(c) Tissue culture	Yes []	No []	(d) Other factors	Yes []	No []
(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []												
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []												
(c) Tissue culture	Yes []	No []												
(d) Other factors	Yes []	No []												
<p>10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant's name <input style="width: 550px; height: 25px;" type="text"/></p> <p>Signature <input style="width: 350px; height: 25px;" type="text"/> Date <input style="width: 180px; height: 25px;" type="text"/></p>														

[End of document]