

TG/GYPSO(proj.2)
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## INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

DRAFT

#### **GYPSOPHILA**

UPOV Code: GYPSO

*Gypsophila* L.

#### **GUIDELINES**

#### FOR THE CONDUCT OF TESTS

#### FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the Israel

to be considered by the Technical Working Party for Ornamental Plants and Forest Trees at its thirty-ninth session, to be held in Fortaleza, Ceará State, Brazil, from August 28 to September 1, 2006

Alternative Names.\*

Botanical name	English	French	German	Spanish
Gypsophila L.	Baby's Breath, Gyp, Gypsophila	Gypsophile	Gipskraut, Schleierkraut	Gipsófila

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.

<sup>\*</sup> 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 all vegetatively propagated varieties of *Gypsophila* L. of the family *Caryophyllaceae*.

#### 2. <u>Material Required</u>

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

15 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"

#### 3.3.3 Observation of color by eye

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 Each test should be designed to result in a total of at least 10 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 10 plants or parts taken from each of 10 plants."

#### 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 10 plants, 1 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.

#### 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: height (characteristic 1)
  - (b) Flower: type (characteristic 15)
  - (c) Flower: color (characteristic ...)
- 5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

#### 6. <u>Introduction to the Table of Characteristics</u>

#### 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
- PO: Pseudo-qualitative characteristic see Chapter 6.3
- MG, MS, VG, VS: see Chapter 3.3.1
- (a)- $\{x\}$  See Explanations on the Table of Characteristics in Chapter 8.1
- (+) See Explanations on the Table of Characteristics in Chapter 8.2

## 7. <u>Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres</u>

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*)	MS	Plant: height					
QN	(a)	short					3
		medium					5
		tall					7
2.	VS	Stem: thickness					
QN	(a)	thin					3
		medium					5
		thick					7
3. (*)	MS	Stem: length of longest internode					
QN	(a)	short					3
		medium					5
		long					7
4. (*)	VG	Stem: anthocyanin coloration	1				
QL	(a)	absent					1
		present					9
5.	VG	Stem: intensity o anthocyanin coloration	f				
QN	(a)	weak					3
		medium					5
		strong					7

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	MS	Stem: number of internodes on 60cm					
QN	(a)	few					3
		medium					5
		many					7
7. (*)	VG	Branch: pubescence					
QL		absent					1
		present					9
8. (*)	VG	Leaf: shape					
QL	(b)	elliptic					1
		ovate					2
9. (*)	MS	Leaf: length					
QN	(b)	short					3
		medium					5
		long					7
10. (*)	MS	Leaf: width					
QN	(b)	narrow					3
		medium					5
		broad					7
11.	VG	Leaf: longitudina axis	1				
QL		straight					
		incurved					
12. (*)	VG	Leaf: cross section	n				
PQ		straight					1
		concave					2

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
13.	VG	Leaf: attitude of apex	NEW				
QL		straight					1
		incurved					2
		rolled downwards					2
14. (*)	VG	Leaf: color oupper side	of				
QL		green					1
		grey-green					2
15. (*)	VG	Flower: type	NEW				
PQ		single					1
		double					2
16. (*)	MS	Flower: diameter					
QN		small					3
		medium					5
		large					7
17.	VG	Only varieties with double flowers: Flower: number of petals	<u>h</u> of				
QN		few					3
		medium					5
		many					7
18.	MS	Flower: length of pedicel					
QN		short					3
		medium					5
		long					7

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. (*)	VG	Flower: profile upper part	of				
QL		flat					1
		convex					2
20. (*)	VG	Petal: longitud axis	inal				
PQ		concave					3
		straight					5
		convex					7
21. (*)	VG	Calyx: shape					
QL		cup-shaped					1
		bowl-shaped					2
		flat					3
22. (*)	VG	Calyx: numbe lobes	r of				
QN		about five					
		about ten					
23.	VG	Calyx: size of le	obe				
QN		small					3
		medium					5
		large					7
24. (*)	VG	Petal: number of colors	of NEW				
PQ		one					
		two					
25. (*)	VG	Petal: main colo	or				
QL		white					1
		pink					3

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26. (*)	VG	Petal: secondary color	NEW				
QL		white					
		pink					
27. (*)	VG	Time of beginning of flowering					
QN		early					3
		medium					5
		late					7
A		Plant: angle of side branch with main stem	NEW				
		small					3
		medium					5
		large					7
В		Plant: curvature of side branch	<b>NEW</b>				
		weak					3
		medium					5
		strong					7
C		Varieties with curved side branch only: length of non curved basal part					
		short					3
		medium					5
		long					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
D	Stem: color	NEW				
	light green					
	yellow green					
	dark green					
	grayish green					
	dark green					
E	Stem: woodiness	NEW				
	absent/herbaceous					
	present/woody					
F	Inflorescence: shape of upper part	NEW				
	flat					
	doomed					
G	Inflorescence: position of flowers	NEW				
	in upper part only					
	along whole length					
Н	Inflorescence: anthocyanin coloration of node	NEW				
	absent or very weak					
	weak					
	strong					

#### ADDITIONAL CHARACTERISTICS

- Inflorescence: number of flowers of terminal unit- few, medium, many (i)
- Flower: number of pistils- none, three or four (ii)
- Flower: presence of anthers- absent, present (iii)
- Petal: shape- triangular, obovate (iv)
- **(v)**
- Petal: dentation of apex- absent, present
  Calyx: anthocyanin coloration- absent or very weak, weak, strong (vi)

#### 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) Time of observation: beginning of flowering
- (b) The leaf to be observed is the largest of the two leaves at the node from which the lowest flowering side branch arises.
- 8.2 Explanations for individual characteristics

## 9. <u>Literature</u>

{ GN 30 - Literature }

## 10. <u>Technical Questionnaire</u>

	1								
TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:							
Application date: (not to be filled in by the applicant)									
TEC	HNICAL QUESTION	NAIDE							
		on for plant breeders' rights							
rights, and where the parent lines are variety, this Technical Questionnal	"In the case of hybrid varieties which are the subject of an application for plant breeders' rights, and where the parent lines are to be submitted as a part of the examination of the hybrid variety, this Technical Questionnaire should be completed for each of the parent lines, in addition to being completed for the hybrid variety."								
1. Subject of the Technical Ques	tionnaire								
1.1 Botanical name	Botanical name }								
	Common name}								
(a) In the case of Test Guidelin be added in the following format:	es covering more than	one species, additional boxes should							
"1. Subject of the Tech	nical Questionnaire (pl	ease indicate the relevant species):							
1.1.1 Botanical r 1.1.2 Common n	L I								
1.2.1 Botanical r 1.2.2 Common n	L 1								
etc.									
(b) If the Test Guidelines cover a genus or a large number of species, question 1 should be presented as follows:									
"1. Subject of the Technical Questionnaire (please complete):									
<ul><li>1.1 Botanical name</li><li>1.2 Common name"</li></ul>									
with the boxes left blank for completion by the applicant.									
2. Applicant									

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TEC	HNICAL QUESTIONNAII	RE	Page {x} of {y}	Reference Number:	
					Ī
	Name				
	Address				
	Telephone No.				
	Fax No.				
	E-mail address				
	Breeder (if different from	appli	icant)		_
3.	Proposed denomination an	d bre	eeder's reference		
	Proposed denomination (if available)				
	Breeder's reference				

TECHNICAL QU	JESTIONNAIRE	Page {x} of {y}	Reference Numb	er:					
#4. Information	<sup>#</sup> 4. Information on the breeding scheme and propagation of the variety								
4.1 Breedi	ng scheme								
ASW 15									
(a) Alternat	tive 1								
"Varie	ty resulting from:								
"4.1.1	Crossing								
	"(a) controlled cr (please state	ross parent varieties)	]	]					
	"(b) partially kno (please state	wn cross known parent variety(	ies))	]					
	"(c) unknown cro	OSS	[	]					
"4.1.2	Mutation (please state paren	t variety)	[	]					
"4.1.3	Discovery and dev (please state where and how developed	e and when discovered		]					
"4.1.4	Other (please provide de	tails)"	[	]"					

<sup>&</sup>lt;sup>#</sup> Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNIC	CAL QU	ESTIONNAIRE	Page {x} of {y}	Reference Num	nber:
(b) A		y resulting from:			
	"4.1.2	"(b) partially kno (please state "(c) unknown cro	parent varieties) own cross known parent variety( oss velopment e and when discovered	ies))	[ ] [ ] [ ]
	"4.1.3	Other (please provide de	tails)"		[ ]"

TECHNICAL QI	UESTIONNAIRE	Page {x} of {y}	Reference Number:			
4.2 Method of propagating the variety						
GN 31	GN 31					
	The examples below indicate how this section can be formatted and some appropriate terms which can be used:					
Example 1						
"4.2.15	Seed-propagated var	rieties				
٠	"(a) Self-pollinatio	n	[ ]			
c	"(b) Cross-pollinat (i) population (ii) synthetic v	1	[]			
	"(c) Hybrid {see GN 32	for example}	[ ]			
	"(d) Other (please provide	e details)"	[ ]			
"4.2.2 Vegetatively propagated varieties						
{see Example 2} []						
"4.2.3 Other [ ]" (please provide details)"						

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:			
Example 2					
"4.2.1 Vegetative propagation					
"(a) cuttings	"(a) cuttings				
"(b) in vitro propag	"(b) in vitro propagation				
"(c) other (state me	"(c) other (state method)				
"4.2.2 Seed		[ ]			
"4.2.3 Other (please provide de	tails)"	[ ]"			
	ŕ				
GN 32					
"In the case of hybrid varieties the production scheme for the hybrid should be provided on a separate sheet. This should provide details of all the parent lines required for propagating the hybrid e.g.					
"Single Hybrid					
"( female parent) x ( male parent)					
"Three-Way Hybrid					
"( female line) x ( male line)					
"=> single hybrid used as female parent x ( male parent)					
"and should identify in particular:					
"(a) any male sterile lines "(b) maintenance system of male sterile lines."					

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				
GN 13.4 Relationship betwe characteristics	naire (TQ) characterist					

TECHNICAL QUESTI	ONNAIRE	Page {x} o	of {y}	Reference Nu	ımber:
6. Similar varieties and differences from these varieties  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.					
Denomination(s) of variety(ies) similar to your candidate variety	Characteri which your variety diffe similar var	candidate rs from the	of the cha	the expression aracteristic(s) he <b>similar</b> hety(ies)	Describe the expression of the characteristic(s) for <b>your</b> candidate variety
GN 33 Example	[e.g. Flowe	r color]	[e.g. o	orange]	[e.g. orange red]
Comments:					

TECHNICAL QUESTIONNAI	RE Page {x}	of {y} Refere	nce Number:				
<sup>#</sup> 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 deta	ails)						
7.2 Are there any special cond	2 Are there any special conditions for growing the variety or conducting the examination?						
Yes [ ]	No [	]					
(If yes, please provide deta	(If yes, please provide details)						
7.3 Other information							
GN 34 7.3.1 Main use							
<ul><li>(a) garden</li><li>(b) pot pla</li><li>(c) cut-flow</li><li>(d) other</li><li>(please provident</li></ul>	nt wer		[ ] [ ] [ ]				
"A representative color pho Questionnaire."	tograph of the	e variety should	accompany the Technical				
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 authorizati	on been obtaine	d?					
Yes [ ]	No	[ ]					
If the answer to (b) is yes, please attach a copy of the authorization.							

 $<sup>^{\#}</sup>$  Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:				
9. Information on plant material to be examined or submitted for examination.  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.						
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:						
(a) Microorganisms (e.g. vir	us, bacteria, phytoplasi	ma) Yes [ ] No [ ]				
(b) Chemical treatment (e.g.	growth retardant, pesti	icide) Yes [ ] No [ ]				
(c) Tissue culture	(c) Tissue culture Yes [ ] No [					
(d) Other factors		Yes [ ] No [ ]				
Please provide details for wher	e you have indicated "	yes".				
45W 17						
"9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?						
Yes [ ]						
(please provide details as specified by the Authority)						
No [ ]"						
10. 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]