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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 experts from Israel and the European Community

*to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its forty-second session, to be held in Angers, France, from September 14 to 18, 2009*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Gypsophila</i> 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.

* 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 varieties of *Gypsophila* L. of the family *Caryophyllaceae*.

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 rooted cuttings.

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

25 rooted cuttings.

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 a single growing cycle.

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 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 20 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 and all other observations should be made on all plants in the test.

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 95% and an acceptance probability of at least 1% should be applied. In the case of a sample size of 20 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.

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: basal branching (characteristic 1)
- (b) Plant: height (characteristic 2)
- (c) Inflorescence: pubescence (characteristic 17)
- (c) Flower: type (characteristic 23)
- (d) Petal: number of colors (characteristic 30)
- (e) Petal: main color (characteristic 31) with the following groups:
 - Gr.1: white
 - Gr.2: pink

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

(a)-(e) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.2

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)	Plant: basal branching					
QL	(a)	absent				1
		present				9
2. (*)	Plant: height					
QN	(b)	short			White Festival	3
		medium			Dangypmini	5
		tall			Dangypfun	7
3.	Stem: thickness of longest internode					
QN	(b)	thin			Dangypmini	3
		medium			Esmamerica	5
		thick			Dangypwhifa	7
4. (*) (+)	Stem: length of longest internode					
QN	(b)	short			Dangysha	3
		medium			Dangypwhifa	5
		long			Esmamerica	7
5.	Stem: anthocyanin coloration					
QN	(b)	absent or very weak			Dangypchrys	1
		weak			Barfast	3
		medium				5
		strong			Festival	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	Stem: number of internodes					
(+)						
QN	(b)	few			Dangysha	3
		medium			Dangypchrys	5
		many			Esmamerica	7
7.	Stem: color					
PQ	(b)	yellow green				1
		light green				2
		medium green				3
		dark green				4
		grayish green				5
8.	Leaf: shape					
(*)						
(+)						
QL	(c)	linear				1
		elliptic				2
		ovate				3
9.	Leaf: length					
(*)						
QN	(c)	short			Festival	3
		medium			Barfast	5
		long				7
10.	Leaf: width					
(*)						
QN	(c)	narrow			Snowflake	3
		medium			Hila	5
		broad			Mydah Pink	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
11.	Leaf: ratio length/width					
QN	(c) small					3
	medium					5
	large					7
12.	Leaf: position of largest width					
QL	(c) at the middle					1
	towards base					2
13.	Leaf: longitudinal axis					
QL	(c) straight				Dangypchrys	1
	incurved				Esmamerica	2
	recurved				Dangypmini	3
14.	Leaf: cross section					
(*)						
PQ	(c) straight				Dangypink	1
	concave					2
15.	Leaf: attitude of apex					
(+)						
PQ	(c) incurved				Dangysha	1
	straight				Dangypwhifa	2
	recurved					3
	rolled downwards					4
16.	Leaf: color of upper side					
(*)						
QL	(c) light green				Danfester	1
	medium green				Esmaustralia	2
	dark green					3
	grey green				Barfast	4

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
17. (*)	Inflorescence: pubescence					
QL	(b)	absent			Esmasia	1
		present			Dangysha	9
18.	Inflorescence: position of flowers					
QL	(d)	in upper part only				1
		along whole length				2
19.	Inflorescence: shape of upper part					
QL	(d)	flat			Blancanieves	1
		domed			New Face	2
20. (+)	Inflorescence: angle of side branch in relation to main stem					
QN	(b)	small			Dangypwhifa	3
		medium			Bristol Fairy	5
		large			Red Sea	7
21. (+)	Inflorescence: upward curvature of side branch					
QN	(b)	absent or very weak				1
		weak				3
		medium				5
		strong				7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota	
22.	<u>Only varieties with upward curvature:</u>						
(+)	Inflorescence: length of non-curved basal part						
QN	(a)					1	
						3	
						5	
						7	
23.	Flower: type						
(*)							
(+)							
PQ	(d)				Bregic	1	
					Dangypmini	2	
24.	Flower: diameter						
(*)							
QN	(d)					1	
					Dangypmini	3	
					Magic Golan	5	
					Dangyphappy	7	
					Anneke	9	
25.	Flower: number of petals (single flowered varieties excluded)						
QN	(d)				Dangyphappy	3	
					Magic Golan	5	
					Barfast	7	
26.	Flower: profile of upper part						
(*)							
QL	(d)				Dangypcrys	1	
					Dangypwhifa	2	

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27. (*)	Flower: presence of anthers					
QL	(d)	absent				1
		present				9
28. (+)	Flower: length of pedicel					
QN	(d)	short			Bregic	3
		medium			Mydah Sayo	5
		long			Dangypcrys	7
29. (*)	Petal: longitudinal axis					
QN	(e)	incurved			Danfesroy	3
		straight			Dangypwhifa	5
		recurved			Blancanieves	7
30. (*)	Petal: number of colors					
PQ	(e)	one				1
		two				2
31. (*) (+)	Petal: main color					
QL	(e)	white				1
		pink				2
32.	Petal: secondary color					
QL	(e)	white				1
		pink				2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
33.	Calyx: average number of calyx lobes					
PQ	(b)	5				1
		10				2
34.	Calyx: anthocyanin coloration					
QN	(b)	absent or very weak				1
		weak				2
		strong				3
35. (*) (+)	Calyx: shape in longitudinal section					
QL	(d)	parallel-sided			Bregic	1
		divergent-sided			Dangysha	2
		flattened			Mydah Sayo	3
36.	Calyx: size of lobe					
QN	(d)	small			Dangypmini	3
		medium			Dangypcrys	5
		large			Mydah Bal	7
37. (*)	Pistil: anthocyanin coloration					Afhankelijk van voorbeeldrassen
QN	(d)	absent				1
		present				9
38. (*)	Time of beginning of flowering					
QN	(b)	early			Gypso Queen	3
		medium			Esmeurope	5
		late			Mirabella	7

8. Explanations on the Table of Characteristics

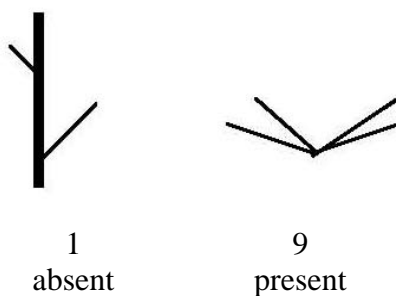
8.1 *Explanations covering several characteristics*

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

- (a) Time of observation: one to two months after planting.
- (b) Time of observation: beginning of flowering (first petals visible).
- (c) The leaf to be observed is the larger of the two leaves at the node from which the lowest flowering side branch arises at the beginning of flowering.
- (d) Time of observation: full flowering (at least 10% of flowers fully open).
- (e) To be observed at the petal of the outer whorl at full flowering (at least 10% of flowers fully open).

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: basal branching



Ad. 4: Stem: length of internode

Characteristic to be measured on the longest internode.

Ad. 6: Stem: number of internodes

Characteristic to be observed on the main stem from the tip on.

Ad. 8: Leaf: shape

To be provided

Ad. 15: Leaf: attitude of apex

To be provided

Ad. 20: Inflorescence: angle of side branch in relation to main stem

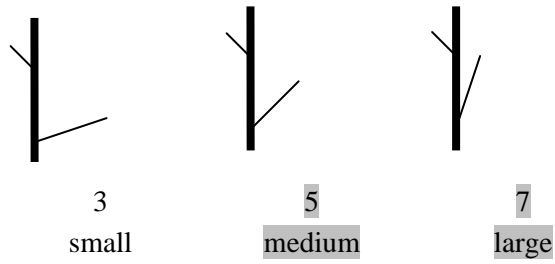
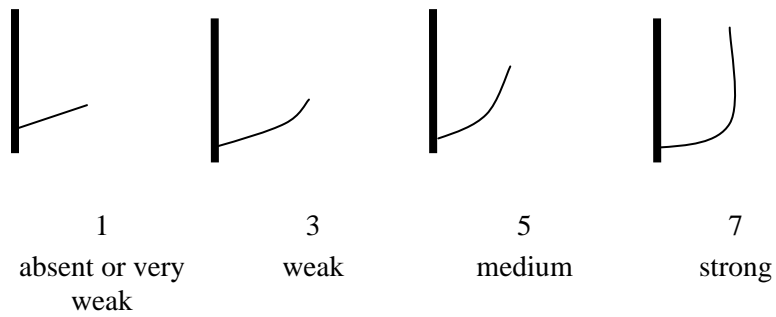
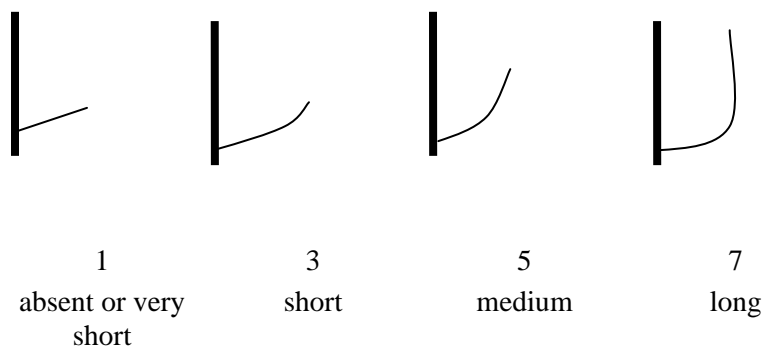


Illustration to
be reversed or
improved

Ad. 21: Inflorescence: upward curvature of side branch



Ad. 22: Inflorescence: length of non-curved basal part



To amend illustration for state 3

Ad. 23: Flower: type

Single varieties have on average 5 petals; double varieties have on average more than 5 petals per flower.

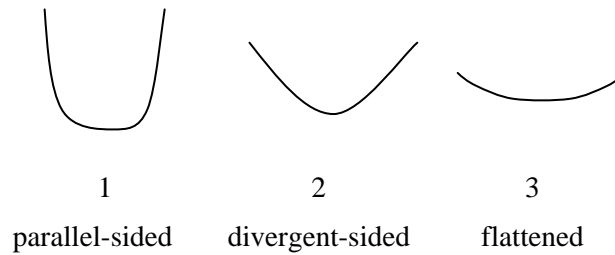
Ad. 28: Flower: length of pedicel

Characteristic to be observed on the terminal flower.

Ad. 31: Petal: main color

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

Ad. 35: Calyx: shape in longitudinal section



9. Literature

[to be provided]

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Application date: (not to be filled in by the applicant)
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TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1.1 Botanical name

1.1.2 Common name

1.2.1 Species (indicate) []

1.2.2 Hybrid (indicate species used in the crossing) []

2. Applicant

Name

Address

Telephone No.

Fax No.

E-mail address

Breeder (if different from applicant)

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

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

- (a) cuttings []
- (b) in vitro propagation []
- (c) other (state method) []

4.2.2 Seed []

4.2.3 Other []
(please provide details)

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:
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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 Plant: basal branching (1)		
absent		1 []
present		9 []
5.2 Plant: height (2)		
short	White Festival	3 []
medium	Dangypmini	5 []
tall	Dangypfun	7 []
5.3 Flower: type (23)		
single	Bregic	1 []
double	Dangypmini	2 []
Please fill in point (i) if possible, otherwise point (ii)		
5.5(i) Petal: main color (31)		
RHS Colour Chart (indicate reference number)		
5.5(ii) Petal: main color (31)		
white		1 []
pink		2 []
other color (indicate)		3 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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	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>[to be provided]</i>	<i>[to be provided]</i>	<i>[to be provided]</i>
Comments:			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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 Are there any special conditions for growing the variety or conducting the examination?

Yes [] No []

(If yes, please provide details)

7.3 Other information

7.3.1 Main use

(a) garden plant	[]
(b) pot plant	[]
(c) cut-flower	[]
(d) other	[]

(please provide details)

7.3.2 A representative color photograph of the variety should accompany the Technical Questionnaire.

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.

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:
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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. 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 [] |

Please provide details for where you have indicated "yes".

.....

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]