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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY
FOR
ORNAMENTAL PLANTS AND FOREST TREES**

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WORKING PAPER ON DRAFT TECHNICAL GUIDELINES FOR VARIETAL IDENTIFICATION
(*VERBENAL.*)

Document prepared by experts from the Netherlands

The attached document TG/VERBEN(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/VERBEN(proj.1) follows]

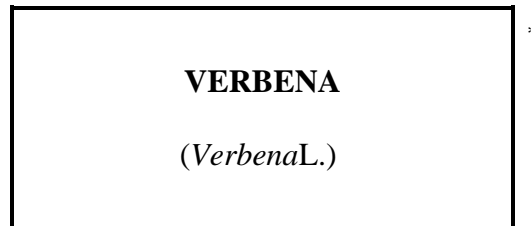


TG/VERBEN(proj.1)(TWO/35/6)

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
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**GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

Alternative Names: *

Latin	English	French	German	Spanish
<i>Verbena</i> L	Verbena, Vervain	Verveine	Verbene, Eisenkraut	Verbena

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 the 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 *Verbena* L. of the family Verbenaceae.

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 for vegetatively propagated varieties or seed for seed propagated varieties.

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

– vegetatively propagated varieties: 20 plants of normal commercial standard,

– seed propagated varieties: 5 gram seeds, germination capacity of at least 50%.

2.3.1 The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should be stated by the applicant.

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 *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 indicated, all observations should be made on fully grown, typical organs at the time of full flowering.

3.3.2. The following growing conditions are recommended:

- Sowing time: February
- Planting time: outdoors, April -May (Northern hemisphere)
- Planting distance: ca. 75 cm (in the open field)
- Soil: well-drained
- Fertilizer: well-balanced

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

- a All observations concerning the flower color should be made on the upper side of the 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 20 plants (vegetatively propagated varieties) or 100 plants (seed propagated varieties).

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

Unless otherwise indicated, all observations determined by measuring or counting should be made on 10 plants or part 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 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 Vegetatively propagated varieties: the acceptable number of off-types tolerated in a sample size of 20 plants is 1 on the basis of a population standard of 1% and an acceptance probability of 95%.

4.2.3 Seed propagated varieties: the assessment of uniformity for cross-pollinated varieties should be according to the recommendations in the General Introduction.

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 others 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 trials 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) Leaf: blade: incisions (characteristic 8)
- (c) Leaf: blade: depth of incisions (characteristic 9)
- (d) Flower: color pattern (excl. eye) (characteristic 23)
- (e) Flower: main color group (characteristic 24)

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
- (+) See Explanations on the Table of Characteristics in Chapter 8.
- (QL) Qualitative characteristic –see Section 6.3
- (QN) Quantitative characteristic –see Section 6.3
- (PQ) Pseudo-Qualitative characteristic –see Section 6.3

- a Method of Examination –see section 3.3.3

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tablades caracteres

Char. No.	MoE*	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.		Plant: growth habit					
		erect				sunvivapa	1
		semierect				blancena	2
		cespitose				sunvop	3
2.		Plant: diameter					
		small				kieversil	3
		medium					5
		large				escapadeburgundyII	7
3.		Stem: anthocyanin coloration					
		absent				blancena	1
		present				lanlightpur	9
4.		Leaf: petiole: length					
		short				lanpureeye	3
		medium				balazpima	5
		long					7
5.		Leaf: Blade: length					
		short					3
		medium				sunmaribisu	5
		long				sunvivaripi	7
6.		Leaf: Blade: width					
		narrow				sunmaribisu	3
		medium					5
		broad					7

* MoE=Method of Observation.

Char. No.	*MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7.		Leaf:Blade:shape					
		narrowelliptic					1
		elliptic				kieversil	2
		ovate				lanpureye	3
		broadovate					4
8.		Leaf:Blade: incisions					
		absent				sunmaribisu	1
		present				sunvop	9
9.		Leaf:Blade:depth ofincision					
(+)		shallow				balazplum	3
		medium					5
		deep				sunvop	7
10.		Leaf:Blade:typeof crenationofmargin					
(+)		crenate				sunvivaripi,balazlavi	1
		serrate				sumverb07	2
		serrate-dentate					3
11.		Leaf:coloronthe upperside					
		yellow-green					1
		green				lanpureye	2
		grey-green				sunmariribu, sumverb05	3

Char. No.	*MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.		Inflorescence: diameter up perside view					
		small					3
		medium				blancena	5
		large					7
13. (+)		Inflorescence: shape of side view					
		type1					1
		type2				lanpureye	2
		type3				blancena, sunmaribisu	3
14.		Flower: diameter of limb					
		small				vilena	3
		medium				blancena	5
		large				sunvivaripi, balazlavi	7
15.		Flower: Calyx: anthocyanin coloration					
		absent				kieversil	1
		present				balazplum	9
16.		Flower: Calyx: distribution of anthocyanin coloration					
		at the base					1
		distal part				sunmarisa	2
		teeth only				sunmaribisu	3
		whole calyx					4

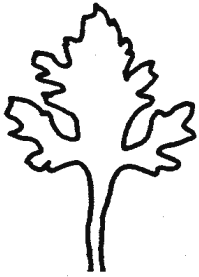
Char. No.	*MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17.		Flower:Corolla - tube:length					
		short				balazpima	3
		medium				kieversil	5
		long				sunmariribu	7
18.		Flower:Corolla - tube:coloroftopof hairsprotrudingthe limb					
		white				balazpima	1
		lightgreen -yellow				sunmaribisu	2
		pink					3
		red					4
		purple				sunvivabupan	5
		grey-purple				balazplum	6
		lightgrey				sunmariribu	7
19.		Flower:Limb: positionofpetals withregardtoeach other					
		separate					1
		touching					2
		overlapping					3
20.		Flower:Limb: longitudinalaxis					
		incurved				lanlightpur	1
		horizontal				sunmariribu	2
		recurved				blancena	3

Char. No.	*MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
21.		Flower:Limb: undulation					
		weak				lanpureye	3
		medium				balazplum,balazdapi	5
		strong					7
22.	a	Flower:numberof colors(excl.ey)					
		one				sunmaribisu	1
		two				kieverstar	2
		morethantwo					3
23.	a	Flower:color pattern(excl.ey)					
		self-colored				sunmaribisu	1
		star-shaped				kieverstar	2
		speckled					3
		speckledandstriped				kieversil	4
24.	a	Flower:maincolor group					
		white				blancena	1
		yellow					2
		green					3
		orange					4
		lightpink				sunmarisa	5
		pink				sunvivaripi	6
		red				sunmaribisu	7
		red-purple				rapburg	8
		blue-purple				sunvivabupan	9
		lightpurple				luxena	10

Char. No.	*MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25.	a	Flower:maincolor RHSColourChart					
26.	a	Flower:secondary color RHSColourChart					
27.		Flower:eye absent present				duplena balazlavi	1 9
28.		Flower:diameterof eye small medium large				kieverstar sumverb09	3 5 7
29.	a	Flower:colorofeye white-greenish green-yellow lightpink lightred greyish-purple				sunvivaripi vertis,balazlavi balazpima QuHa237V Balazdapi	1 2 3 4 5
30.	a	Flower;changingof colorwithage fading stable darkening				balazlavi blancena,lobena	1 2 3

8. ExplanationsontheTableofCharacteristics

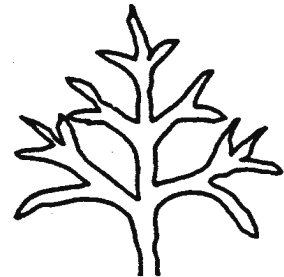
Ad.9:Leaf:blade:depthofincision



3
shallow



5
medium

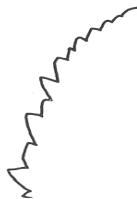


7
deep

Ad10:Leaf:blade:typeofcrenationofmargin



1
crenate



2
serrate



3
serrate-dentate

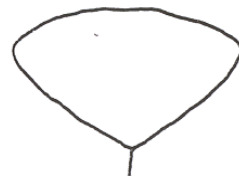
Ad13:Inflorescence:shapeofsideview



1
type1



2
type2



3
type3

9. Literature

10. TechnicalQuestionnaire

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
		Applicationdate: (nottobefilledinbytheapplicant)
TECHNICALQUESTIONNAIRE tobecompletedinconnectionwithanapplicationforplantbreeders'rights		
1. SubjectoftheTechnicalQuestionnaire		
1.1 Genus		
1.1.1 <i>Latin Name</i>	<input type="text" value="VerbenaL."/>	
1.1.2 CommonName	<input type="text" value="VERBENA,VERVAIN"/>	
1.2 Species(pleasecomplete)		
1.2.1 <i>LatinName</i>	<input type="text"/>	
1.1.2 CommonName	<input type="text"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
TelephoneNo.	<input type="text"/>	
FaxNo.	<input type="text"/>	
E-mailaddress	<input type="text"/>	
Breeder(ifdifferentfromapplicant)	<input type="text"/>	

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
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3. Proposeddenominationandbreeder'sreference

Proposeddenomination (ifavailable)

Breeder'sreference

4. Informationonthebreedingschemeandpropagationofthevariety

4.1 BreedingScheme

4.1.1 Varietyresultingfrom:

(a) controlledcross
(pleasestateparentvarieties)

(b) partiallyunknowncross
(pleasestateknownparentvariety(ies))

(c) totallyunknowncross

4.1.2 Mutation
(pleasestateparentvariety)

4.1.3 Discovery
(pleasestatewhere,whenandhowdeveloped)

4.1.4 Other
(pleaseprovidedetails)

4.2 MethodofPropagatingtheVariety

4.2.1 Vegetativepropagation

(a) cuttings

(b) *invitro* propagation

(c) other(statemethod)

4.2.2 Seedpropagated

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
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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 one which best corresponds).

Characteristics	Example Varieties	Note
5.1 Plant: growth habit (1)		
erect	sunvivapa	1
semierect	blancena	2
cespitose	sunvop	3
5.2 Leaf: Blade: incisions (8)		
absent	sunmaribisu	1
present	sunvop	9
5.3 Leaf: Blade: depth of incision (9)		
shallow	balazplum	3
medium		5
deep	sunvop	7
5.4 Flower: color pattern (excl. eye) (23)		
self-colored	sunmribisu	1
star-shaped	kieverstar	2
speckled		3
speckled and striped	kieversil	4

TECHNICALQUESTIONNAIRE	Page {x} of {y}	ReferenceNumber:
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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]