

UPOV

TG/HYPERI(proj.2)

ORIGINAL: English

DATE: September 9, 2003

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

DRAFT

SAINT JOHN'S WORT *

(Hypericum L.)

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its thirty-sixth session,
to be held in Niagara Falls, Canada, from September 22 to 26, 2003*

Alternative Names: *

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Hypericum L.</i>	Saint John's Wort, Rose of Sharon	Millepertuis	Johanniskraut	Corazoncillo, Hierba de San Juan

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 Test Guidelines

These Test Guidelines apply to all varieties of *Hypericum hircinum* L., *H. androsaemum* L. and *H. x inodorum* Mill., non Willd., of the family *Clusiaceae* including hybrids of the species concerned.

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:

10 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 *Duration of Tests*

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

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 observed 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.

3.3.2 The test should be carried out in the field under the following growing conditions:

- Planting time: the second half of May (Northern hemisphere)
- Soil: well-drained fertile soil
- Planting distance: 4 plants per m²
- Irrigation: according to need

3.3.3 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 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 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.

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 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 The following have been agreed as useful grouping characteristics:

- (a) Plant: habit (characteristic 1)
- (b) Berry : maximum diameter (characteristic 31)
- (c) Berry: shape in longitudinal section (characteristic 32)

(d) Berry: color group (characteristic 36)

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

(a) – (g) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 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: habit					
QN	(a)	upright				1
		moderately spreading				2
		strongly spreading				3
2. (*)	Plant: height					
QN	(a)	short				3
		medium				5
		tall				7
3. (*)	Plant: width					
QN	(a)	narrow				3
		medium				5
		broad				7
4. (*)	Plant: reddish or brownish coloration of branches of current years's growth					
QL	(a)	absent				1
		present				9
5. (*)	Plant: intensity of coloration of branches of current year's growth					
QN	(a)	weak				3
		medium				5
		strong				7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (*)	Leaf: length					
QN	(a)	short				3
		medium				5
		long				7
7. (*)	Leaf: width					
QN	(a)	narrow				3
		medium				5
		broad				7
8. (*)	Leaf: intensity of green color					
QN	(a)	light				3
		medium				5
		dark				7
9.	Leaf: variegation					
QL	(a)	absent				1
		present				9
10. (*)	Young leaf: reddish or brownish coloration					
QL	(a)	absent				1
		present				9
11. (*)	Young leaf: intensity of coloration					
QN	(a)	weak				3
		medium				5
		strong				7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	Leaf: profile					
QL	(a)	convex				1
		flat				2
		concave				3
13.	Leaf: angle with branches					
PQ	(a)	acute				1
		right-angle				2
14.	Leaf: shape of base					
PQ	(a)	cordate				1
		truncate				2
		rounded				3
15. (*)	Leaf: shape of apex					
PQ	(a)	acute				1
		rounded				2
16.	Leaf: odor					
QL	(a)	absent				1
		present				2
17. (*)	Inflorescence: density					
QN	(b)	loose				3
		medium				5
		dense				7
18. (*)	Inflorescence: length					
QN	(b)	short				3
		medium				5
		long				7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
19. (*)	Inflorescence: width					
QN	(b)	narrow				3
		medium				5
		broad				7
20. (*) (+)	Inflorescence: profile of distal part					
QL	(b)	concave				1
		flat				2
		convex				3
21. (*) (+)	Flower: diameter					
QN	(a)	small				3
		medium				5
		large				7
22.	Sepals: length of largest					
QN	(b)	short				3
		medium				5
		long				7
23.	Sepals: width of largest					
QN	(b)	narrow				3
		medium				5
		broad				7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.		Sepals: presence of reddish or brownish coloration					
	(*)						
QL	(b)	absent					1
		present					9
25.		Sepals: intensity of coloration					
QN	(b)	weak					3
		medium					5
		strong					7
26.		Sepals: curvature					
QN	(b)	absent or weakly curved					1
		moderately curved					2
		strongly curved					3
27.		Corolla: size					
(*)							
QN	(a)	small					3
		medium					5
		large					7
28.		Anthers: color					
(*)							
PQ	(a)	yellow					1
		orange					2
29.		Style: length					
QN	(a)	short					3
		medium					5
		long					7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30.	Inflorescence: number of berries					
QN	few					3
	medium					5
	many					7
31. (*)	Berry: maxium diameter					
QN	(b)	small				3
		medium				5
		large				7
32. (*)	Berry: shape in longitudinal section					
PQ	(b)	narrow elliptic				1
		elliptic				2
		broad elliptic				3
		round				4
		narrow ovate				5
		ovate				6
		broad ovate				7
33. (*) (+)	Berry: shape in cross section					
PQ	(b)	round				1
		triangular				2
34. (*)	Berry: indentation of apex					
QL	(b)	absent				1
		present				9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35. (*)	Berry: surface (apex excluded)					
PQ (b)	smooth					1
	grooved					2
	indented					3
36. (*)	Berry: color group					
PQ (b)	white					1
	cream colored					2
	green					3
	brownish green					4
	yellow					5
	orange					6
	light pink					7
	pink					8
	dark pink					9
	red pink					10
	orange red					11
	light red					12
	red					13
	dark red					14
	red purple					15
	red brown					16
	purple brown					17
	brown					18
	grey brown					19

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37. (*)	Berry: main color					
PQ	(b)	RHS Colour Chart (indicate reference number)				
38. (*)	Berry: width of whitish or greenish band at base					
QN	(b)	absent or narrow				1
		medium				2
		broad				3
39. (*)	Berry: glossiness					
QN	(b)	weak				1
		medium				2
		strong				3

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) characteristics which should be observed at full flowering.
- (b) characteristics which should be observed when the berries are at their full color (harvest time).

8.2 *Explanations for individual characteristics*

Ad. 20: Inflorescence: profile of distal part [to be added]

Ad. 21: Flower: diameter [to be added]

Ad. 33: Berry: shape in cross section [to be added]

9. Literature

H.J. van Laar. Hypericum - Hertshooi, het in Nederland gekweekte sortiment, Dendroflora Nr 33, 1996, pag. 27- 56. Printed by: Koninklijke Vereniging voor Boskoopse Culturen & Nederlandse Dendrologische Vereniging. ISSN: 0374-7247

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

1.1.1 <i>Latin Name</i>	<input type="text" value="Hypericum hircinum L."/>	
1.1.2 Common Name	<input type="text"/>	[]
1.2.1 <i>Latin Name</i>	<input type="text" value="Hypericum and Rosaemum L."/>	
1.2.2 Common Name	<input type="text"/>	[]
1.3.1 <i>Latin Name</i>	<input type="text" value="Hypericum x inodorum Mill."/>	
1.3.2 Common Name	<input type="text"/>	[]
1.4.1 <i>Latin Name</i>	<input type="text" value="Hybrid species"/>	
	(Please provide details)	

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"/>

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

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) 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

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: habit		
(1)			
	upright		1[]
	moderately spreading		2[]
	strongly spreading		3[]
5.2	Berry: maximum diameter		
(31)			
	small		3[]
	medium		5[]
	large		7[]
5.3	Berry: shape in longitudinal section		
(32)			
	narrow elliptic		1[]
	elliptic		2[]
	broad elliptic		3[]
	round		4[]
	narrow ovate		5[]
	ovate		6[]
	broad ovate		7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5.3 (36)	Berry: color group	
	white	1[]
	cream colored	2[]
	green	3[]
	brownish green	4[]
	yellow	5[]
	orange	6[]
	light pink	7[]
	pink	8[]
	dark pink	9[]
	red pink	10[]
	orange red	11[]
	light red	12[]
	red	13[]
	dark red	14[]
	red purple	15[]
	red brown	16[]
	purple brown	17[]
	brown	18[]
	grey brown	19[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

Please use the table, and space provided for comments, below 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>Plant: height</i>	<i>e.g. note 3</i>	<i>note 7</i>
		<i>e.g. short</i>	<i>tall</i>
		<i>e.g. 90 cm</i>	<i>130 cm</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 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.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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9. Information on plant material to be examined.

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 or pesticide) | Yes [] | No [] |
| (c) Tissue culture | Yes [] | No [] |
| (d) Other factors | Yes [] | No [] |

Please provide details of 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]