

UPOV

TG/HIBIS(proj.2)
 ORIGINAL: English
 DATE: August 22, 2005

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
 GENEVA

DRAFT

HIBISCUS

UPOV Code: HIBIS

Hibiscus L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Prepared by an expert from the Republic of Korea

*to be considered by the
 Technical Working Party for Ornamental Plants and Forest Trees
 at its thirty-seventh session,
 to be held in Seoul, Korea, from September 12 to 16, 2005*

Alternative Names:*

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Hibiscus L.</i>	Hibiscus Rose-mallow	Hibiscus	Hibiskus, Roseneibisch	Hibisco

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 *Hibiscus* L. of the genus *Malvaceae*. They have been developed on the basis of the following species: *H. moscheutos* L., *H. mutabilis* L., *H. rosa-sinensis* L., *H. syriacus* L. and *H. waimeae*.

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 young plants or rooted cuttings.

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

For plants grown in the open: 12 young plants

For pot types: 20 rooted cuttings, not pinched.

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. In particular, unless otherwise indicated, all observations should be made on fully grown, typical organs at the time of full flowering.

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 Garden types : each test should be designed to result in a total of at least 9 plants.

3.4.2 Pot types: each test should be designed to result in a total of at least 18 plants.

3.4.3 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*

3.5.1 Garden types: Unless otherwise indicated, all observations on single plants should be made on 9 plants or parts taken from each of 9 plants and any other observations made on all plants in the test.

3.5.2 Pot types: Unless otherwise indicated, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations 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 1% and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 9 plants, one off-type is allowed. In the case of a sample size of 18 plants, one 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) Flower: type (characteristic 19)
- (c) Flower: color group (characteristic 21)
 - Gr. 1 white or near white
 - Gr. 2 yellow
 - Gr. 3 orange
 - Gr. 4 pink
 - Gr. 5 light red
 - Gr. 6 medium red
 - Gr. 7 dark red
 - Gr. 8 brown
 - Gr. 9 purple
 - Gr. 10 violet blue

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)-(b) 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: growth habit					
(*)						
(+)						
QL	upright					1
	bushy					2
2.	Plant: height					
QN	short					3
	medium					5
	tall					7
3.	Plant: branching					
QN	sparse					3
	medium					5
	dense					7
4.	Branch: attitude					
QN	upright					1
	semi-upright					2
	horizontal					3
5.	Branch: color					
PQ	yellow green					1
	green					2
	greenish brown					3
	brown					4
	red					5
6.	Leaf blade: length					
QN (a)	short					3
	medium					5
	long					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
7.	Leaf blade: width					
QN (a)	narrow					3
	medium					5
	broad					7
8.	Leaf blade: green color of upper side					
PQ (a)	light					3
	medium					5
	dark					7
9.	Leaf blade: variegation					
QL (a)	absent					1
	present					9
10.	Leaf blade: color of variegation					
PQ (a)	white					1
	white and yellow					2
	yellow					3
	yellow green					4
	white and red					5
11.	Leaf blade: shape					
(+)						
PQ (a)	elliptic					1
	ovate					2
	obovate					3
	circular					4
	cordate					5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12.	Leaf blade: shape of base					
(+)						
PQ	(a)					1
					cuneate	
					truncate	2
					rounded	3
					cordate	4
13.	Leaf blade: shape of apex					
(+)						
PQ	(a)					1
					acute	
					obtuse	2
					rounded	3
14.	Leaf blade: lobing					
QL	(a)					1
					absent	
					present	9
15.	Leaf blade: intensity of lobing					
QN	(a)					3
					weak	
					medium	5
					strong	7
16.	Leaf blade: undulation of margin					
QN	(a)					1
					absent or weak	
					moderate	2
					strong	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
17.	Leaf blade: type of incisions of margin					
(+)						
PQ (a)	serrate					1
	biserrate					2
	dentate					3
	bidentate					4
	crenate					5
	bicrenate					6
18.	Leaf blade: depth of incisions of margin	to check				
QN (a)	shallow					3
	medium					5
	deep					7
19.	Flower: type					
(*)						
(+)						
QL (b)	single					1
	semi double					2
	double					3
	cluster type	to check				
20.	Flower: diameter					
QN (b)	small					3
	medium					5
	large					7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21.	Flower: main color					
(*)						
PQ (b)	white or near white					1
	yellow					2
	orange					3
	pink					4
	light red					5
	medium red					6
	dark red					7
	brown					8
	purple					9
	violet blue					10
22.	Flower: eye zone					
QL (b)	absent					1
	present					9
23.	Flower : type of eye zone					
(+)						
QL (b)	type 1					<u>1</u>
	type 2					<u>2</u>
	type 3					<u>3</u>
24.	Flower: size of eye zone					
QN (b)	small					<u>3</u>
	medium					<u>5</u>
	large					<u>7</u>
25.	Flower: color of eye zone					
PQ (b)	RHS Colour Chart (indicate reference number)					

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26.	<u>Only varieties with single and semi-double</u>					
(+)	<u>flowers:</u> Flower: overlapping of petals					
QN	(b)	absent or very weak				1
		weak				3
		medium				5
		strong				7
		very strong				9
27.	Petal: length					
QN	(b)	short				3
		medium				5
		long				7
28.	Petal: width					
QN	(b)	narrow				3
		medium				5
		broad				7
29.	Petal: shape					
(+)						
PQ	(b)	type 1				1
		type 2				2
		type 3				3
30.	Petal : number of colors					
(*)	(excluding eye zone)					
QL	(b)	one				1
		two				2
		more than two				3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
31.	Petal: main color of upper side					
(*)						
PQ	(b)	RHS Colour Chart (indicate reference number)				
32.	<u>Only varieties with multicolored petals:</u> Petal: secondary color					
PQ	(b)	RHS Colour Chart (indicate reference number)				
33.	Petal: pattern					
(+)						
PQ	(b)	spotted				1
		blotched				2
		streaked				3
		margined				4
		banded				5
		flushed				6
34.	Petal: main color of lower side					
PQ	(b)	RHS Colour Chart (indicate reference number)				
35	Petal: serration					
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
36.	Petal: undulation of margin					
QN	(b) absent or very weak					1
	weak					3
	medium					5
	strong					7
37.	Petal: fading of color					
QL	absent					1
	present					9
38.	Staminal column: length					
QN	(b) short					3
	medium					5
	long					7
39.	<u>Only varieties with single and semi-double flowers</u> : Staminal column: main color					
PQ	(b) white					1
	yellow					2
	orange					3
	pink					4
	red					5
	purple					6
40.	<u>Only varieties with single and semi-double flowers</u>: Staminal column: color at base compared to main color					
PQ	(b) identical					1
	darker					2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
41.	Stigma pad: color					
PQ (b)	yellow					1
	orange					2
	medium red					3
	dark red					4
	purple					5
42.	Time of beginning of flowering					
QN	very early					1
	early					3
	medium					5
	late					7
	very late					9

8. Explanations on the Table of Characteristics

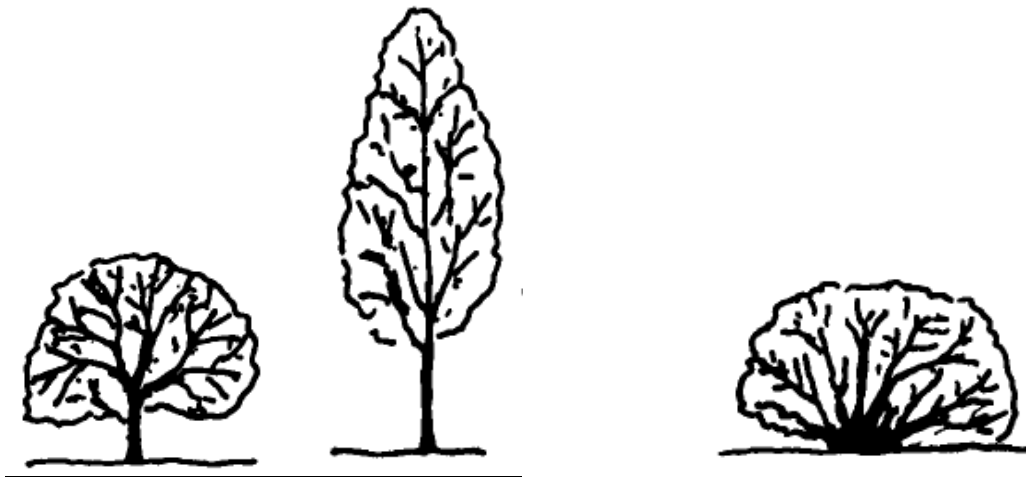
8.1 *Explanations covering several characteristics*

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

- (a) Observations on the leaves should be made on fully developed leaves in the middle third of the stem.
- (b) Observations on the flower and flower parts should be made on a fully opened flower.

8.2 *Explanations for individual characteristics*

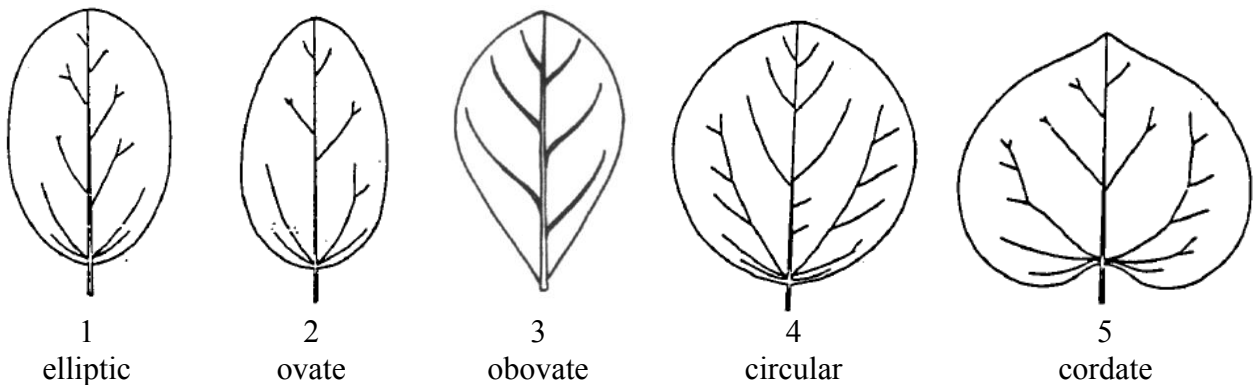
Ad. 1. Plant: growth habit



1
upright

2
bushy

Ad. 11. Leaf blade : shape



1
elliptic

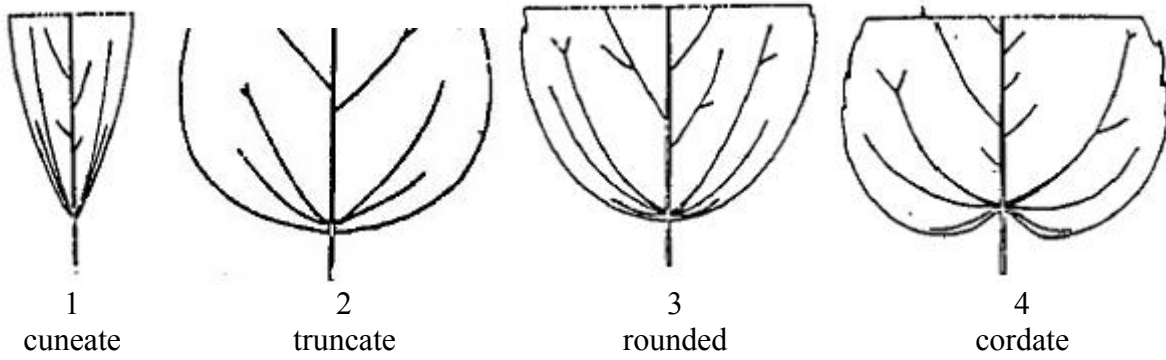
2
ovate

3
obovate

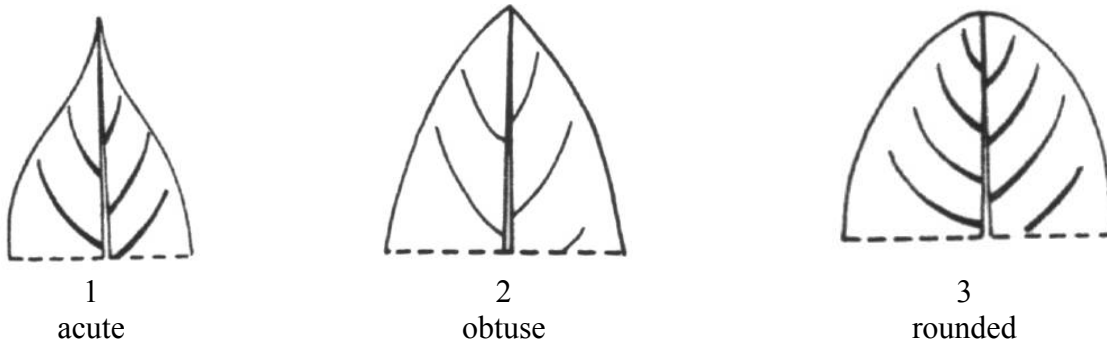
4
circular

5
cordate

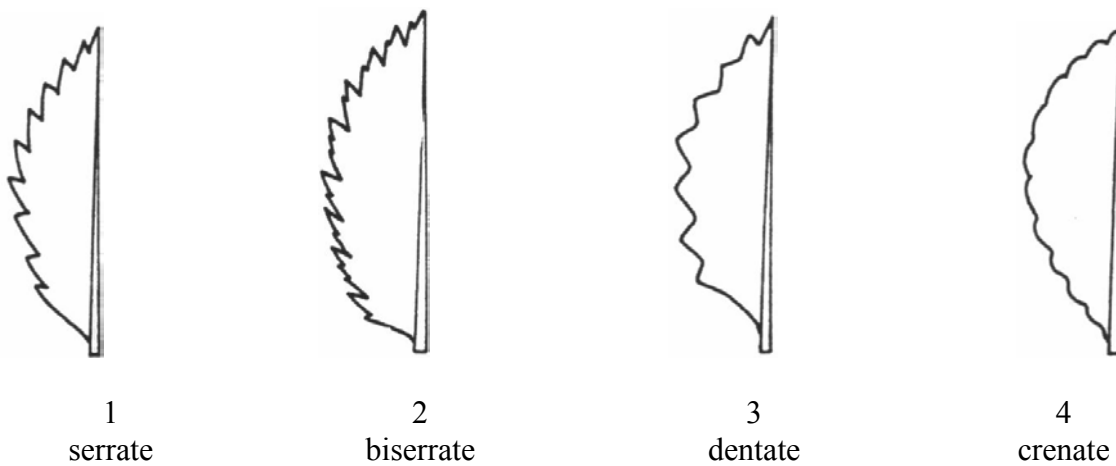
Ad. 12. Leaf blade : shape of base



Ad. 13. Leaf blade : shape of apex

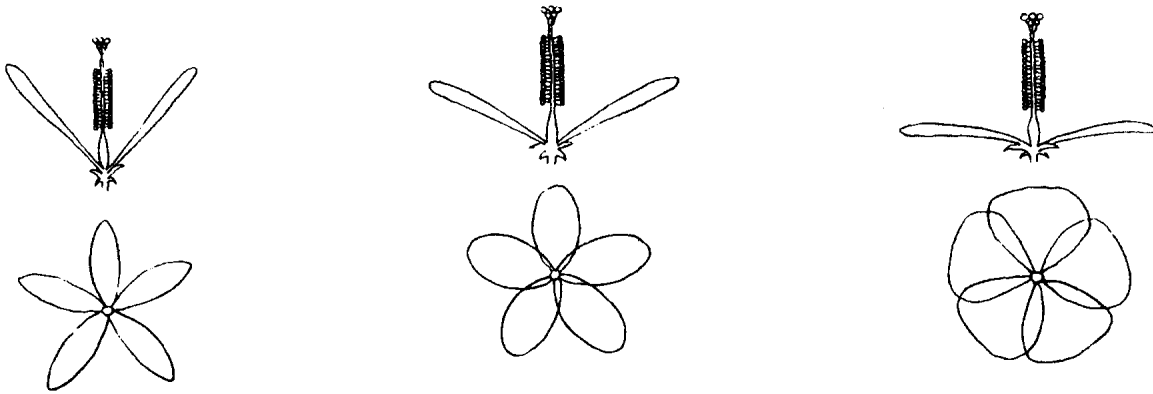


Ad. 17. Leaf blade : type of incisions of margin

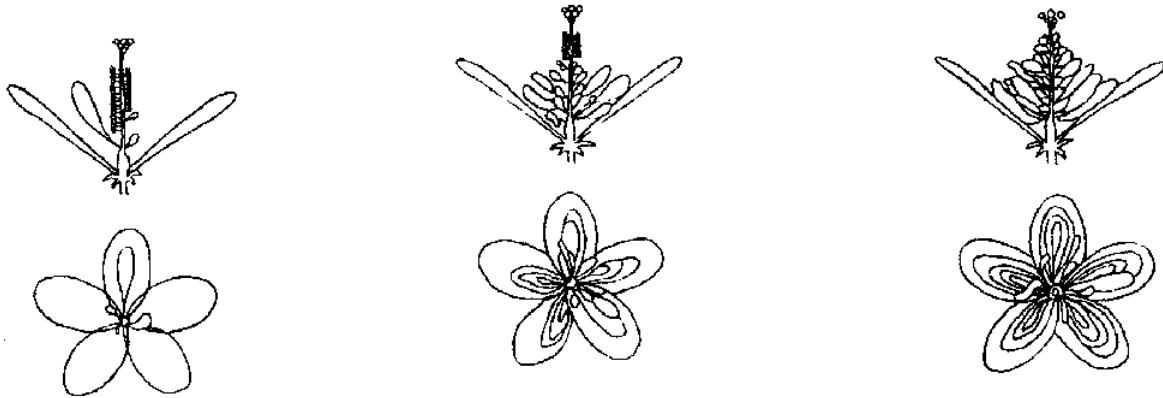


Ad. 19. Flower: type

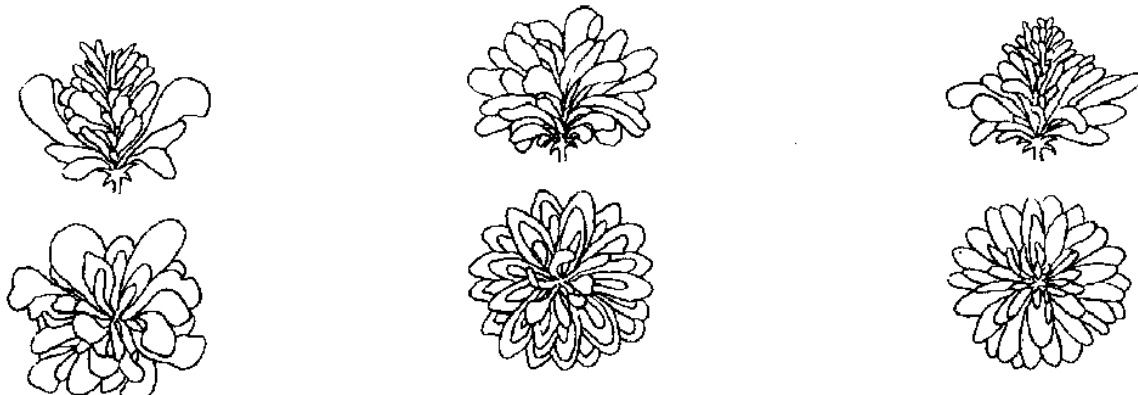
1. single



2. semi-double

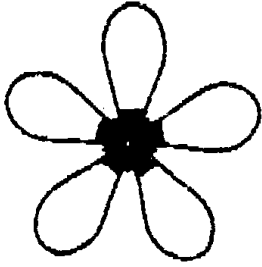


3. double

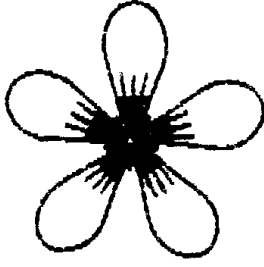


4. cluster type [to be provided]

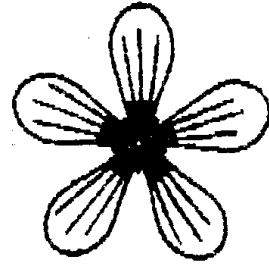
Ad. 23: Flower: type of eye zone



Type 1

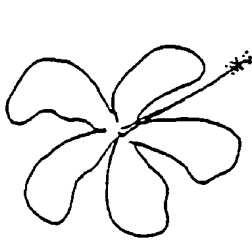


Type 2



Type 3

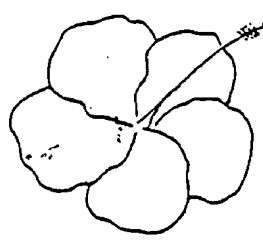
Ad. 26: Only varieties with single and semi-double flowers: Flower: overlapping of petals



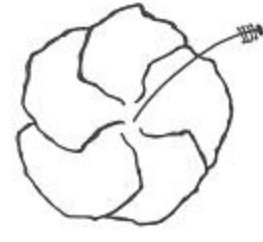
1
absent or very weak



3
weak



5
medium

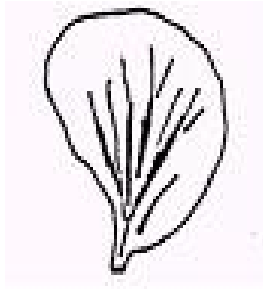


7
strong

Ad 29: Petal : shape



1
type 1



2
type 2



3
type 3

Ad 33: Petal : pattern



1
spotted



2
blotched



3
streaked



4
margined



5
banded



6
flushed

9. Literature

[to be provided]

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>		
<p>1. Subject of the Technical Questionnaire</p> <p>1.1 Botanical Name <input type="text" value="Hibiscus L."/></p> <p>1.2 Common Name <input type="text" value="Hibiscus"/></p> <p>1.3 Species Name (Please complete) <input type="text"/></p>		
<p>2. Applicant</p> <p>Name <input type="text"/></p> <p>Address <input type="text"/></p> <p>Telephone No. <input type="text"/></p> <p>Fax No. <input type="text"/></p> <p>E-mail address <input type="text"/></p> <p>Breeder (if different from applicant) <input type="text"/></p>		

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) 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

- (a) grafting []
- (b) cuttings []
- (c) 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 : growth habit		
(1) upright		1[]
bushy		2[]
5.2 Flower : type		
(19) single		1[]
semi-double		2[]
double		3[]
5.3 Flower: main color		
(21) white or near white		1[.]
yellow		2[.]
orange		3[.]
pink		4[.]
light red		5[.]
medium red		6[.]
dark red		7[.]
brown		8[.]
purple		9[.]
violet blue		10[.]
5.3 Petal: number of colors (excluding eye zone)		
(30) one		1[.]
two		2[.]
more than two		3[.]
5.4 Petal: main color of upper side		
(31)		
RHS Colour Chart (indicate reference number)	

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>Plant: height</i>	<i>short</i>	<i>tall</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 Use:

(a) grown in the open: garden type []

(b) grown under glass or other protection : pot type []

7.4 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.

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

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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]