CPVO · OCVV
Community Plant Variety Office
Office Communautaire des Variétés Végétales

PROTOCOL FOR TESTS ON DISTINCTNESS, UNIFORMITY AND STABILITY

Hebe Comm. ex Juss.

HEBE

UPOV Code: HEBEE

Adopted on 19/03/2014

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1. SUBJECT OF THE PROTOCOL AND REPORTING

1.1 Scope of the technical protocol

This Technical Protocol applies to all varieties of ***Hebe* Comm. ex Juss**.

The protocol describes the technical procedures to be followed in order to meet the requirements of Council Regulation 2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on documents agreed by the International Union for the Protection of New Varieties of Plants (UPOV), such as the General Introduction to DUS (UPOV Document TG/1/3 http://www.upov.int/en/publications/intro_dus.htm), its associated TGP documents (http://www.upov.int/en/publications/tgp/) and the relevant UPOV Test Guideline TG/286/1 dated 20/03/2013 (http://www.upov.int/edocs/tgdocs/en/tg286.pdf) for the conduct of tests for Distinctness, Uniformity and Stability.

1.2 Entry into Force

The present protocol enters into force on **19.03.2014**. Any on-going DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the Technical Protocol. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for submitting of plant material for the first test period.

In cases where the Office requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process to be carried out at the moment of this request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

1.3 Reporting between Examination Office and CPVO and Liaison with Applicant

1.3.1 Reporting between Examination Office and CPVO

The Examination Office shall deliver to the CPVO a preliminary report ("the preliminary report") no later than two weeks after the date of the request for technical examination by the CPVO.

The Examination Office shall also deliver to the CPVO a report relating to each growing period ("the interim report") and, when the Examination Office considers the results of the technical examination to be adequate to evaluate the variety or the CPVO so requests, a report relating to the examination ("the final report").

The final report shall state the opinion of the Examination Office on the distinctness, uniformity and stability of the variety. Where it considers those criteria to be satisfied, or where the CPVO so requests, a description of the variety shall be added to the report. If a report is negative the Examination Office shall set out the detailed reasons for its findings.

The interim and the final reports shall be delivered to the CPVO as soon as possible and no later than on the deadlines as laid down in the designation agreement.

1.3.2 Informing on problems in the DUS test

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior permanent agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

1.3.3 Sample keeping in case of problems

If the technical examination has resulted in a negative report, the CPVO shall inform the Examination Office as soon as possible in case that a representative sample of any relevant testing material shall be kept.

2. MATERIAL REQUIRED

2.1 Plant material requirements

Information with respect to the agreed closing dates and submission requirements of plant material for the technical examination of varieties can be found on http://www.cpvo.europa.eu/main/en/home/documents-and-publications/s2-gazette in the special issue S2 of the Official Gazette of the Office. General requirements on submission of samples are also to be found following the same link.

2.2 Informing the applicant of plant material requirements

The CPVO informs the applicant that

- he is responsible for ensuring compliance with any customs and plant health requirements.
- the plant material supplied should be visibly healthy, not lacking in vigour, nor affected by any important pest or disease.
- 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.

2.3 Informing about problems on the submission of material

The Examination Office shall report to the CPVO immediately in cases where the test material of the candidate variety has not arrived in time or in cases where the material submitted does not fulfil the conditions laid down in the request for material issued by the CPVO.

In cases where the examination office encounters difficulties to obtain plant material of reference varieties the CPVO should be informed.

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"
http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_9_1.pdf.

3.3 Conditions for Conducting the Examination

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.

Because daylight varies, colour determinations made against a colour 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. The colour chart and version used should be specified in the variety description.

3.4 Test design

3.4.1 Each test should be designed to result in a total of at least 8 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 Additional tests

In accordance with Article 83(3) of Council Regulation No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, an additional test may be undertaken providing that a technically acceptable test procedure can be devised.

Additional tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characters listed in the protocol.

3.6 Constitution and maintenance of a variety collection

The process for the constitution and the maintenance of a variety collection can be summarized as follows:

Step 1: Making an inventory of the varieties of common knowledge

Step 2: Establishing a collection ("variety collection") of varieties of common knowledge which are relevant for the examination of distinctness of candidate varieties

Step 3: Selecting the varieties from the variety collection which need to be included in the growing trial or other tests for the examination of distinctness of a particular candidate variety.

3.6.1 Forms of variety collection
The variety collection shall comprise variety descriptions and may comprise living plant material. The variety description shall be produced by the examination office unless special cooperation exists between examination offices and the CPVO. The descriptive and pictorial information produced by the examination office shall be held and maintained in a form of a database.

3.6.2 Living Plant Material
The examination office shall obtain living plant material of reference varieties as and when those varieties need to be included in growing trials or other tests.

3.6.3 Making an inventory of varieties of common knowledge for inclusion in the variety collection
The inventory shall include varieties protected under National and Community PBR and varieties in trade or in commercial registers.
In addition to the above, the inventory shall be extended to the appropriate to

- any commercial document in which varieties are marketed as propagating or harvested material, especially when there is no official registration system;
- any list including varieties which are publicly available within plant collections (varieties included in genetic resource collections, collection of old varieties, etc.);
- information provided by relevant plant experts;
- relevant example varieties referred to in the technical protocols for the examination of distinctness.

4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY

The prescribed procedure is to assess distinctness, uniformity and stability in a growing trial.

4.1 Distinctness

4.1.1 General recommendations
It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 9 'Examining Distinctness' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_9_1.pdf) prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in this Technical Protocol.

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 Technical Protocols are familiar with the recommendations contained in the UPOV-General Introduction to DUS prior to making decisions regarding distinctness.

4.1.4 Number of plants/parts of plants to be examined
Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 7 plants or parts taken from each of 7 plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

4.1.5 Method of observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the third column of the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation 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

Type of observation: visual (V) or measurement (M)
"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. colour charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)
For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness."

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

4.2 Uniformity

It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 10 'Examining Uniformity' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_10_1.pdf) prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in this Technical Protocol.

Uniformity assessment by off-types
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 8 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 It is of particular importance for users of this Technical Protocol to consult the UPOV-General Introduction to DUS (link in chapter 1 of this document) and TGP 11 'Examining Stability' (http://www.upov.int/export/sites/upov/en/publications/tgp/documents/tgp_11_1.pdf)
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 further examined by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the initial 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: habit (characteristic 1)

b) Leaf blade: width (characteristic 15)

c) Leaf blade: main colour (characteristic 22) with the following groups:

white
yellowish white
yellow
yellow green
green
yellow brown
reddish brown
reddish purple
purple
purplish black

d) Leaf blade: secondary colour (characteristic 24) with the following colour groups:

none
white
yellowish white
yellow
yellow green
green
yellow brown
reddish brown
reddish purple
purple
purplish black

e) Inflorescence: shape in profile (characteristic 31)

f) Corolla lobe: colour of inner side (characteristic 37) with the following groups:

white
pink
pink red
purple
violet
blue

5.4 If other characteristics than those from the TP are used for the selection of varieties to be included into the growing trial, the examination office shall inform the CPVO and seek the prior consent of the CPVO before using these characteristics.

6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS

6.1 Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the table of characteristics. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted or by specific legislation on plant health. In the latter case, the CPVO should be informed.
The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation N°874/2009, to insert additional characteristics and their expressions in respect of a variety.

States of expression and corresponding notes

In the case of qualitative and pseudo-qualitative characteristics, all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2 Example Varieties

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.3 Legend

For the CPVO N° column:

G	Grouping characteristic	– see Chapter 5
MG, MS, VG, VS		– see Chapter 4.1.5
QL	Qualitative characteristic	
QN	Quantitative characteristic	
PQ	Pseudo-qualitative characteristic	

For the UPOV N° column:

The numbering of the characteristics is provided as a reference to the ad hoc UPOV guideline.

(*) UPOV Asterisked characteristic – Characteristics that are important for the international harmonization of variety descriptions.

(a)-(f)	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

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
1.	**1. (*)**	**VG**	**Plant: habit**		
(+)		**(a)**	upright	Sandra Joy, Turkish Delight	1
PQ			semi-upright	Beverley Hills	2
			spreading	Orphan Annie, Pretty N Pink	3
G			horizontal	First Light, Hartii	4
2.	**2. (*)**	**VG/MG**	**Plant: height**		
QN		**(a)**	very short	Hartii	1
			short	Orphan Annie, Rosie	3
			medium	Beverley Hills, Nicola's Blush	5
			tall	Eveline, Wiri Desire	7
			very tall	Andersonii	9
3.	**3.**	**VG**	**Plant: density of foliage**		
QN		**(a)**	sparse	Sandra Joy, Wiri Prince	3
			medium	Champseiont, First Light	5
			dense	Wiri Mist	7
4.	**4. (*)**	**VG**	**Young shoot: anthocyanin coloration**		
QN		**(b)**	absent or very weak	Champseiont	1
			weak	Rosie	2
			medium	Wiri Desire	3
			strong	Turkish Delight	4
			very strong	Orphan Annie	5
5.	**5. (*)**	**VG**	**Young shoot: pubescence**		
QL		**(b)**	absent	Champseiont	1
			present	Orphan Annie	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
6.	**6.**	**VG**	**Young shoot: density of pubescence**		
QN		**(b)**	very sparse	First Light	1
			sparse	Rosie	2
			medium	Orphan Annie	3
			dense		4
7.	**7. (*)**	**VG**	**Young stem: colour**		
PQ		**(b)**	yellow green	Lavender Lace, Oratia Beauty	1
			green	Wiri Mist	2
			yellow brown	Diosmifolia Minor	3
			greenish brown	Pagei	4
			brown	Gina Maree	5
			reddish brown	Mary Antoinette, Wiri Prince	6
			reddish purple	Pretty N Pink	7
			purple	Santa Monica	8
			purplish black	Pascal	9
8.	**8. (*)**	**VG/MG**	**Stem: length of internodes**		
QN		**(c)**	very short	Karo Golden Esk	1
			short	Beverley Hills	3
			medium	Wiri Desire	5
			long	Moonlight	7
9.	**9.**	**VG**	**Stem: anthocyanin coloration of internodes**		
QN		**(c)**	absent or very weak	Champseiont	1
			weak	Beverley Hills	3
			medium	Wiri Vogue	5
			strong	Rosie	7

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
10.	**10. (*)**	**VG**	**Leaf bud: presence of sinus**		
(+)			absent	Orphan Annie	1
QL			present	Beverley Hills	9
11.	**11. (*)**	**VG**	**Leaf: presence of petiole**		
QL		**(d)**	absent	Oratia Beauty, Red Edge	1
			present	Ohakea, Wiri Desire	9
12.	**12. (*)**	**VG**	**Leaf: length of petiole**		
QN		**(d)**	short	Champseiont, Wiri Desire	1
			medium	Lavender Lace, Sandra Joy	2
			long	Otari Delight, Silver Queen	3
13.	**13.**	**VG**	**Leaf: attitude**		
(+)		**(d)**	adpressed	Karo Golden Esk	1
QN			erect	Silver Queen	2
			semi-erect	Wiri Mist	3
			horizontal	Pagei	4
			downwards		5
14.	**14. (*)**	**VG/MS**	**Leaf blade: length**		
QN		**(d)**	very short	Greensleeves, Hartii	1
			short	Headfortii, Orphan Annie	3
			medium	La Seduisante, Wiri Vogue	5
			long	Sandra Joy, Wiri Prince	7
			very long	Eveline	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
15.	**15. (*)**	**VG/MS**	**Leaf blade: width**		
QN		**(d)**	very narrow	Karo Golden Esk	1
			narrow	Mary Antoinette, Silver Queen	3
			medium	Eveline, Wiri Desire	5
G			broad	Andersonii, La Seduisante	7
16.	**16. (*)**	**VG/MS**	**Leaf blade: ratio length/width**		
(+)		**(d)**	very low	Silver Queen	1
QN			low	Turkish Delight	3
			medium	Sunstreak	5
			high		7
			very high	Lavender Lace	9
17.	**17. (*)**	**VG**	**Leaf blade: shape**		
(+)		**(d)**	lanceolate	Orphan Annie	1
PQ			ovate		2
			oblong	Beverley Hills	3
			elliptic	First Light	4
			oblanceolate	Moonlight	5
			obovate		6
18.	**18. (*)**	**VG**	**Leaf blade: position of broadest part**		
QN		**(d)**	towards base	Orphan Annie	1
			in middle	Beverley Hills	2
			towards apex	Moonlight	3
19.	**19.**	**VG**	**Leaf blade: shape of apex**		
(+)		**(d)**	acuminate		1
PQ			acute	Rosie	2
			rounded	Turkish Delight	3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
20.	**20.**	**VG**	**Leaf blade: profile in cross section**		
QN		**(d)**	concave		1
			flat		2
			convex		3
21.	**21. (*)**	**VG**	**Leaf blade: incisions on margin**		
QL		**(d)**	absent	Silver Queen	1
			present	Diosmifolia Minor	9
22.	**22. (*)**	**VG**	**Leaf blade: main colour**		
(+) PQ G		**(d)**	RHS Colour Chart (indicate reference number)		
23.	**23.**	**VG**	**Leaf blade: distribution of secondary colour**		
(+)		**(d)**	none		1
PQ			on margin only	Frozen Flame, Red Edge	2
			broad margin	Heartbreaker	3
			intermediate zone	Wild Romance	4
			central zone	Neprock	5
			on midrib only	Pacific Paradise	6
			on margin and on midrib	Flame, Tullylrr	7
			irregular		8
24.	**24.**	**VG**	**Leaf blade: secondary colour**		
(+) PQ G		**(d)**	RHS Colour Chart (indicate reference number)		

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
25.	**25.**	**VG**	**Leaf blade: area covered by secondary colour**		
QN		**(d)**	very small	Marilyn Monroe	1
			small	Wild Romance	3
			medium	Baby Boo	5
			large	Vero 1	7
			very large	Sweet Kim	9
26.	**26.**	**VG**	**Leaf blade: distribution of tertiary colour**		
(+)		**(d)**	none		1
PQ			on margin only	Frozen Flame	2
			on midrib only	Wild Romance	3
			on margin and on midrib	Baby Boo	4
27.	**27.**	**VG**	**Leaf blade: tertiary colour**		
(+) **PQ**		**(d)**	RHS Colour Chart (indicate reference number)		
28.	**28.**	**VG**	**Leaf blade: glossiness**		
QN		**(d)**	absent or very weak	Wiri Desire	1
			weak		2
			medium	Sunset Boulevard	3
			strong	Champseiont	4
29.	**29.**	**VG**	**Leaf blade: glaucosity**		
(+)		**(d)**	absent or very weak		1
QN			weak	Turkish Delight	2
			medium		3
			strong	First Light	4
30.	**30. (*)**	**VG**	**Inflorescence: arrangement**		
(+)			terminal only	Champseiont, Greensleeves	1
PQ			terminal and lateral		2
			lateral only	Beverley Hills	3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
31.	**31. (*)**	**VG**	**Inflorescence: shape in profile**		
(+)		**(e)**	triangular	Moonlight	1
PQ			oblong	Eveline, Wiri Vogue	2
G			elliptic	Icing Sugar, Wiri Joy	3
32.	**32. (*)**	**VG/MS**	**Inflorescence: length of flowering part**		
(+)		**(e)**	very short	County Park	1
QN			short	Beverley Hills	3
			medium	Moonlight	5
			long	Sandra Joy, Sunset Boulevard	7
33.	**33. (*)**	**VG/MS**	**Inflorescence: width of flowering part**		
(+)		**(e)**	narrow	Tullylrr	3
QN			medium	Zerina	5
			broad	Grethe	7
34.	**34.**	**VG**	**Inflorescence: density of flowers**		
QN		**(e)**	sparse		3
			medium	Ohakea	5
			dense	Beverley Hills	7
35.	**35. (*)**	**VG**	**Inflorescence: corolla colour change with age**		
(+)			absent or weak	Purple Queen	1
QN			medium	Nicola's Blush	2
			strong	Great Orme	3
36.	**36. (*)**	**VG/MS**	**Corolla: width**		
(+)		**(e)**	narrow	Wiri Vogue	3
QN		**(f)**	medium	Orphan Annie	5
			broad	Silver Queen	7

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
37.	**37. (*)**	**VG**	**Corolla lobe: colour of inner side**		
PQ G		**(e) (f)**	RHS Colour Chart (indicate reference number)		
38.	**38. (*)**	**VG**	**Corolla tube: length in relation to calyx**		
(+)		**(e)**	shorter	Beverley Hills	1
QN		**(f)**	equal	Rosie	2
			longer	Wiri Vogue	3
39.	**39. (*)**	**VG**	**Corolla tube: colour of outer side**		
PQ		**(e) (f)**	RHS Colour Chart (indicate reference number)		
40.	**40.**	**VG**	**Plant: number of inflorescences**		
(+)			few		3
QN			medium		5
			many		7

8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

8.1 Explanations covering several characteristics

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

a. The assessment of plant characteristics should be carried out towards the end of active growth.

b. Observations on young shoot and young stem characteristics should be made in the first flush of growth in the season. The young stem is on the upper third on a current seasons shoot.

c. Observations on stem internodes should be made on the middle third of a well-developed shoot in active growth.

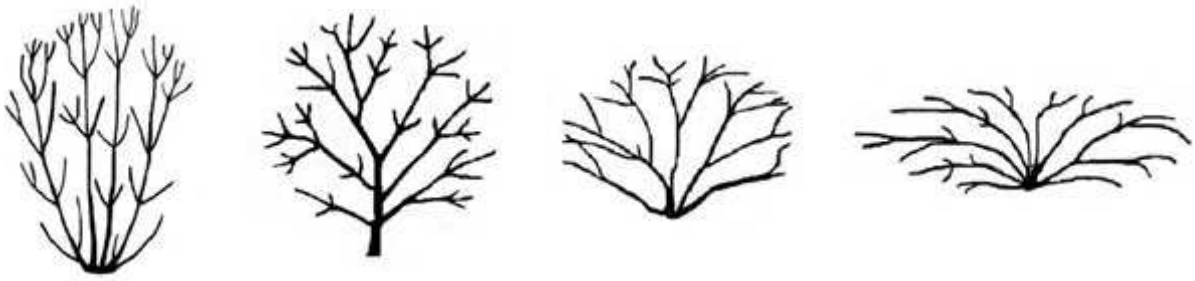
d. Observations on the leaf and petiole should be made on a leaf from the middle third of a flowering shoot. All colour observations are made on the inner side of the leaf. The inner side is the same as the upper side.

e. Observations on the inflorescence and flower should be made when the flowers which have opened first, at the base of an inflorescence, are beginning to dehisce.

f. Observations on the corolla should be made from flowers in the middle third of the inflorescence.

8.2 Explanations for individual characteristics

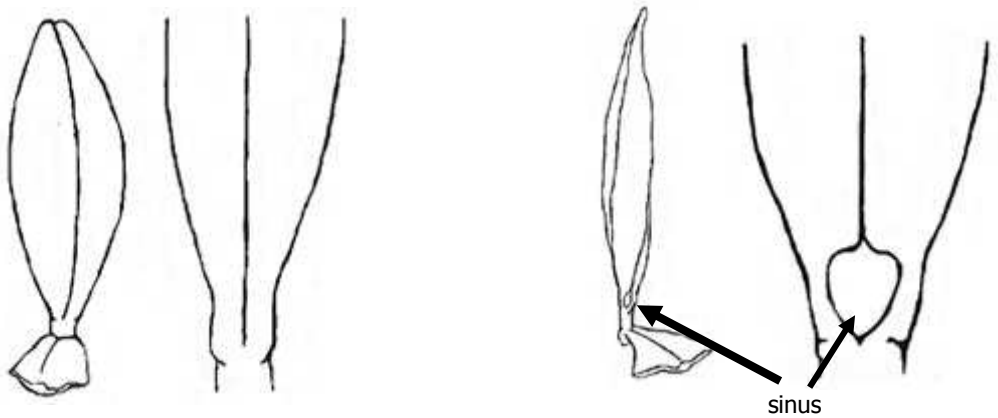
Ad. 1: Plant: habit



1 upright | 2 semi-upright | 3 spreading | 4 horizontal

Ad. 10: Leaf bud: presence of sinus

The sinus is located in the leaf bud, a gap between the bases of two leaves of a pair when in bud. It can be seen by the naked eye for some varieties but should be observed with a magnifying glass for other varieties. The presence or absence of a petiole or the shape of the leaf blade can indicate the presence of the sinus. Narrower leaves and those with petioles are more likely to have a sinus.

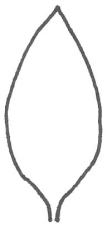


1 absent | 9 present

Ad. 13: Leaf: attitude

1	2	3	4	5
adpressed	erect	semi-erect	horizontal	downwards

Ad. 16: Leaf blade: ration length/width
Ad. 17: Leaf blade: shape

	← broadest part →		
	(below middle)	at middle	(above middle)
narrow (high)	1 lanceolate	3 oblong	5 oblanceolate
width (ratio length/width) →	 2 ovate		
← broad (low)		4 elliptic	6 obovate

Ad. 19: Leaf blade: shape of apex

1
acuminate

2
acute

3
rounded

Ad. 22: Leaf blade: main colour

The main colour is determined as the colour with the largest surface area present on the inner side of a leaf. Observations should be made on plants not subjected to chilling. For varieties with glaucosity, the waxy layer is removed. The inner side is the same as the upper side.

Ad. 23: Leaf blade: distribution of secondary colour

1
none

2
on margin only

3
broad margin
(whitish)

4
intermediate zone
(light green)

5
central zone
(dark green)

6
on midrib only

7
on margin and on midrib
(red purple)

8
irregular
(light yellow)

Ad. 24: Leaf blade: secondary colour

The secondary colour is determined as the colour with the second largest surface area, usually observed as a defined pattern on the inner side of a leaf.

Ad. 26: Leaf blade: distribution of tertiary colour

1
none

2
on margin only
(purple)

3
on midrib only
(blackish)

4
on margin and on midrib
(purple)

Ad. 27: Leaf blade: tertiary colour

The tertiary colour is determined as the colour with the third largest surface area, usually observed as a defined pattern on the inner side of a leaf. For varieties with glaucosity, the waxy layer is removed. The inner side is the same as the upper side.

Ad. 29: Leaf blade: glaucosity

The glaucosity is the bloom or waxy layer covering the leaf surface and generally gives a leaf a bluish or milky coloration. The layer can be removed.

Ad. 30: Inflorescence: arrangement

1
terminal only

2
terminal and lateral

3
lateral only

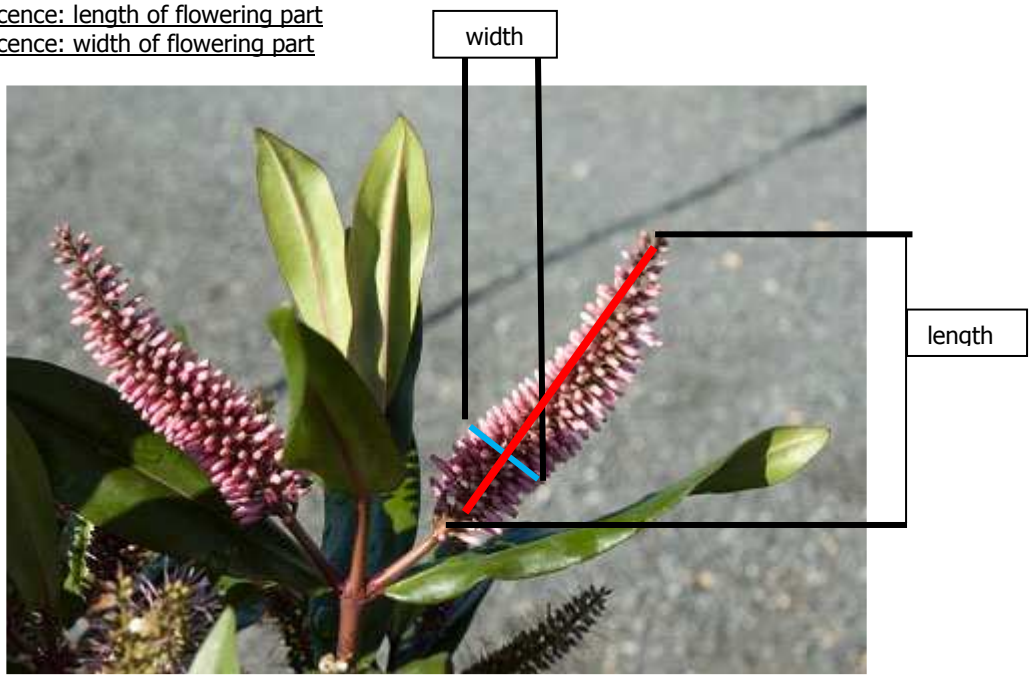
Ad. 31: Inflorescence: shape in profile

1
triangular

2
oblong

3
elliptic

Ad. 32: Inflorescence: length of flowering part
Ad. 33: Inflorescence: width of flowering part



The width of the inflorescence is taken at the broadest point.

Ad. 35: Inflorescence: corolla colour change with age

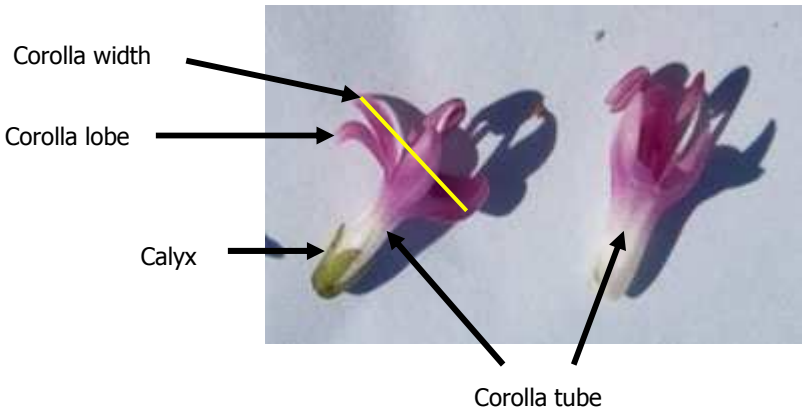
Observations are made when half to two thirds of all flowers on a single inflorescence are open comparing recently opened flowers with aged flowers on the inflorescence.

1
absent or weak

2
medium

3
strong

Ad. 36: Corolla: width
Ad. 38: Corolla tube: length in relation to calyx



Ad. 40: Plant tube: number of inflorescence

The observation should be made when approximately 50% of inflorescences have open flowers.

9. LITERATURE

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10. TECHNICAL QUESTIONNAIRE

The Technical Questionnaire is available on the CPVO website under the following reference: CPVO-TQ/286/1