

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

***Ribes uva-crispa* L.**

GOOSEBERRY

UPOV Code: RIBES_UVA

Adopted on 28/11/2012

Entry into force on 01/01/2012

I **SUBJECT OF THE PROTOCOL**

The protocol describes the technical procedures to be followed in order to meet the Council Regulation (EC) N°2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV Document TG/1/3 and UPOV Guideline TG/51/7 dated 20/10/2011 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties **of *Ribes uva-crispa* L.**

II **SUBMISSION OF PLANT MATERIAL**

1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the examination office to which material is to be sent.

A sub-sample of the material submitted for test will be held in the variety collection as the definitive sample of the candidate variety.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

2. Final dates for receipt of documentation and material by the Examination Office

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. Immediately after the closing date for the receipt of plant material the Examination Office should inform the CPVO whether acceptable plant material has been received or not. However if unsatisfactory plant material is submitted the CPVO should be informed as soon as possible.

3. Plant material requirements

Information with respect to closing dates and submission requirements of plant material for technical examination of varieties can be found on the CPVO website (www.cpvo.europa.eu) in the S2 Gazette.

Quality of plants: Should not be less than the standards laid down in Council Directive 2000/29/EC and its amendments concerning quarantine organisms, and Council Directive 2008/90/EC and Commission Directive 93/48/EEC and their amendments concerning organisms impairing quality, at the date of adoption of this protocol; please refer to "Eur-Lex" for the full text and in case of any subsequent amendments to the three aforesaid Directives.

Chemical treatment: The plant material must not have undergone any treatment unless the CPVO and the examination office allow or request such treatment. If it has been treated, full details of the treatment must be given.

Labelling of individual plants in sample: - Species
- File number of the application allocated by the CPVO
- Breeder's reference
- Examination office's reference (if known)
- Name of applicant
- The phrase "On request of the CPVO"

III CONDUCT OF TESTS

1. Variety collection

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a variety collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation (EC) No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level or at least in one of the EEA Member States;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

The composition of the variety collection in each Examination Office depends on the environmental conditions in which the Examination Office is located.

Variety collections will be held under conditions which ensure the long term maintenance of each accession. It is the responsibility of Examination Offices to replace reference material which has deteriorated or become depleted. Replacement material can only be introduced if appropriate tests confirm conformity with the existing reference material. If any difficulties arise for the replacement of reference material, Examination Offices must inform the CPVO. If authentic plant material of a variety cannot be supplied to an Examination Office the variety will be removed from the variety collection.

2. Material to be examined

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the variety collection. When necessary an Examination Office may also include other candidates and varieties. Examination Offices should therefore make efforts to co-ordinate the work with other Offices involved in DUS testing of gooseberry. There should be at least an exchange of technical questionnaires for each candidate variety, and during the test period, Examination Offices should notify each other and the CPVO of candidate varieties which are likely to present problems in establishing distinctness. In order to solve particular problems Examination Offices may exchange plant material.

3. Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the Annex 1. 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. In the latter case, the CPVO should be informed. In addition the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation (EC) No. 874/2009, to insert additional characteristics and their expression in respect of a variety.

4. Grouping of varieties

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characters used for grouping could be the following:

- a) Fruit: size (characteristic 24)
- b) Fruit: shape (characteristic 26)
- c) Fruit: colour (characteristic 27)
- d) Time of beginning of fruit ripening (characteristic 36)

5. Trial designs and growing conditions

The minimum duration of tests will normally include at least two satisfactory crops of fruit. Tests will be carried out under conditions ensuring normal growth. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

The test design is as follows

Each test should include 5 plants.

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of the 5 plants.

6. Special 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, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

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

7. Standards for decisions

a) **Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity a population standard of 1% and an acceptance probability of 95% should be applied.

For a sample size of 5 plants, no off-types are allowed.

c) **Stability**

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

IV REPORTING OF RESULTS

After each recording season the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after two fruiting periods but in some cases three fruiting periods may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not, the reasons for failure and a summary of the test results will be included with the final report.

The description of the variety should be supplemented by a shadowgraph of 8 typical leaves.

The CPVO must receive interim reports and final reports by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

The interim report as well as the final report shall be sent by the Examination Office to the CPVO.

V LIAISON WITH THE APPLICANT

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 agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

VI ENTRY INTO FORCE

The present protocol enters into force on **01/01/2012**. Any ongoing DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the revised 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.

ANNEXES TO FOLLOW

ANNEX I

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Legend:

(*)	UPOV asterisked characteristic
(+)	See Explanation on the Table of Characteristics
(a)-(g)	See Explanations on the Table of Characteristics
G	Grouping characteristics

Types of expression of characteristics:

QL	Qualitative characteristic
QN	Quantitative characteristic
PQ	Pseudo-qualitative characteristic

Type of 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

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ANNEX I

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note		
1.	1.	VG	Plant: vigour				
			(*)	(a)	very weak		1
			(+)	(+)	weak	Catherina	3
			QN	QN	medium	Hönings Früheste, Korsun	5
					strong	Mucurines, Whinham's Industry	7
			very strong	Invicta, Rochusbeere	9		
2.	2.	VG	Plant: height				
			(*)	(a)	very short		1
			QN	QN	short	Catherina	3
					medium		5
					tall	Roshusbeere, Rokula	7
			very tall	Reflamba	9		
3.	3.	VG	One-year-old shoot: attitude				
			(*)	(a)	erect	Gelbe Triumph, Relina, Resistentta	1
			(+)	(+)	semi-erect	Invicta	3
			QN	QN	horizontal	Korsun, Rolonda	5
4.	4.	VG	Shoot: thorns				
			(*)	(b)	absent	Captivator, Spinefree	1
			QL	QL	present	Reflamba	9
5.	5.	VG	Shoot: number of single thorns				
			(*)	(b)	none or very few	Captivator, Redevea, Whitesmith	1
			(+)	(+)	few	Rokula, Whinham's Industry	3
			QN	QN	medium	Invicta, Rolonda	5
					many	Hinnonmäen Keltainen, Remarka	7
					very many	Rzeszowski	9

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note		
6.	6.	VG	Shoot: number of double thorns				
			(*)	(b)	none or very few	Remarka, Rokula	1
			(+)	(+)	few	Invicta	3
			QN	QN	medium	Whinham's Industry	5
many	Reverta, Riversa	7					
7.	7.	VG	Shoot: number of triple thorns				
			(*)	(b)	none or very few		1
			(+)	(+)	few	Hinnonmäen Keltainen, Invicta, Korsun, Rokula	3
			QN	QN	medium	Riversa, Whinham's Industry	5
					many	Reverta, Whitesmith	7
very many	Starkls Mehлтаufreie	9					
8.	8.	VG	Shoot: number of prickles on upper third				
			(*)	(b)	none or very few	May Duke	1
			(+)	(+)	few	Rote Orléans	3
			QN	QN	medium	Werdersche Frühe Mark	5
many	Hönings Früheste	7					
9.	9.	VG	Bud: position in relation to shoot				
			(*)	(b)	adpressed or slightly held out	Whinham's Industry	1
			(+)	(+)	moderately held out	Whitesmith	2
QN	QN	strongly held out	Weiße Volltragende	3			
10.	10.	VG	Bud: size				
			QN	QN	(b)	small	1
					medium	2	
large	3						
11.	11.	VG	Bud: shape of apex				
			(*)	(b)	narrow acute	Rolanda	1
			(+)	(+)	broad acute	Szentendrei feher	2
PQ	PQ	rounded		3			

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note		
12.	12.	VG	Young shoot: anthocyanin coloration				
			(*)	(c)	absent or very weak	Goliath, Hinnonmäen Keltainen, Rolonda	1
			(+)	(+)	weak	Invicta, Whinham's Industry	2
			QN	QN	medium	Risulfa, Riversa, Rokula	3
					strong	Siloba	4
very strong		5					
13.	13.	VG	Young leaf: intensity of green colour				
			(*)	(d)	very light	Hinnonmäen Keltainen, Summersgold	1
			QN	QN	light	May Duke, Whitesmith	2
					medium	Rote Frankfurter, Whinham's Industry	3
					dark	Mucurines, Resistentia	4
very dark	Reverta, Riversa	5					
14.	14.	VG	Young leaf: anthocyanin coloration				
			(*)	(d)	absent or very weak	Goliath, Nielukovskij	1
			QN	QN	weak	Gelbe Triumph	2
					medium	Whitesmith	3
					strong	Mucurines, Risulfa	4
very strong		5					
15.	15.	VG/MG	Leaf: length				
			(*)	(e)	short	Korsun	3
			QN	QN	medium	Invicta	5
long		7					
16.	16.	VG/MG	Leaf: width				
			(*)	(e)	narrow	Hinnonmäen Punainen, Remarka	3
			QN	QN	medium	Korsun	5
broad	Whinham's Industry	7					

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note			
17.	17.	VG/MG	Leaf: ratio length/width					
			(*)	(e)	moderately compressed	3		
			(+)	(+)	medium	5		
			QN	QN	moderately elongated	7		
18.	18.	VG	Leaf: angle of base of blade with petiole					
			(*)	(e)	very acute	Risulfa, Riversa, Rokula	1	
			(+)	(+)	moderately acute	Achilles, California, Hinnonmäen Keltainen	2	
			QN	QN	right angle	Pax, Retina, Rote Orléans	3	
					moderately obtuse	Korsun, Lauffener Gelbe	4	
		very obtuse		5				
19.	19.	VG	Leaf: glossiness of upper side					
			QN	QN	(e)	weak	Korsun, Maurers Sämling, Redeva, Rolonda	1
						medium	Hinnonmäen Punainen, Rote Orléans	3
			strong	Crown Bob, Whinham's Industry, Whitesmith	5			
20.	20.	MG	Inflorescence: number of flowers					
			(*)	(f)	one	Hönings Früheste	1	
			QL	QL	two	Hinnonmäen Keltainen, Rokula	2	
					three		3	
			more than three		4			
21.	21.	VG	Flower: anthocyanin coloration of sepal					
			QN	QN	(f)	absent or very weak	Reliza, Spinefree	1
						weak	Crown Bob, Hinnonmäen Keltainen, Redeva	2
						medium	Rokula, Whinham's Industry	3
						strong	Invicta, Reverta	4
			very strong		5			

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
22.	22.	VG	Flower: anthocyanin coloration of ovary		
QN	QN	(f)	absent or very weak	Reliza, Rote Frankfurter	1
			weak	Grüne Kugel, Rolonda, Whinham's Industry	2
			medium	Gelbe Triumph, Invicta	3
			strong	Reverta, Riversa	4
			very strong		5
23.	23.	VG	Flower: pubescence of ovary		
	(*)	(f)	absent or very weak	Remarka, Rochusbeere	1
QN	QN		weak	Mukurines, Oakmere, Rexrot	2
			medium	Dams Mistake, Rafzuera	3
			strong	Invicta, Reflamba, Starkls Mehltaufreie	4
			very strong		5
24.	24.	VG	Fruit: size		
	(*)	(g)	very small	Amerikanische Gebirgsstachelbeere	1
QN	QN		small	Early Green Haire	3
			medium	Gelbe Triumph	5
			large	Grüne Kugel, Reflamba	7
G			very large	Catherina	9
25.	25.	VG/MG	Fruit: ratio length/ width		
	(*)	(g)	strongly compressed	Golda, May Duke	1
QN	QN		moderately compressed	Early Green, Peggy, Rolonda	3
			medium	Rote Orléans	5
			moderately elongated	Grüne Flaschenbeere, Reflamba	7
26.	26.	VG	Fruit: shape		
	(*)				
(+)	(+)	(g)	circular	Bila, Rexrot	1
PQ	PQ		elliptic	Achilles, Weiße Volltragende	2
G			obovate	Grüne Flaschenbeere, Peggy, Piros izletes	3

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note			
27.	27.	VG	Fruit: colour					
			(*)	(g)	whitish green	Weißer Kristall	1	
			(+)	(+)	green	Grüne Kugel	2	
			PQ	PQ	yellow green	Gelbe Triumph, Invicta	3	
					yellow	Golda, Golden Lion, Rixanta	4	
			G		medium red	Korsun, Rokula, Rolonda	5	
		dark red	Achilles, Cernomore, May Duke, Remarka, Rubikon	6				
28.	28.	VG	Fruit: bloom					
			(*)	(g)	absent or very weak	Lady Delamere, May Duke	1	
			(+)	(+)	weak	Pax, Rokula, Whitesmith	2	
			QN	QN	medium	Whinham's Industry	3	
					strong	Resistentia	4	
		very strong	Robustenta, Rochusbeere	5				
29.	29.	VG	Fruit: hairiness					
			(*)	(g)	absent or very weak	Golda, May Duke, Mucurines, Reflamba, Remarka, Riversa	1	
			QN	QN	weak	Achilles, Rolonda	2	
					medium	Pax, Whinham's Industry	3	
					strong	Hönings Früheste	4	
		very strong		5				
30.	30.	VG	Fruit: veining					
			(+)	(+)	(g)	weak	Korsun, Mauks Frühe Rote	1
			QN	QN	medium	Gelbe Triumph, Mucurines	3	
strong	Rote Preis	5						
31.	31.	VG	Fruit: strength of skin					
			(+)	(+)	(g)	weak	Mauks Frühe Rote, Whinham's Industry	1
			QN	QN	medium	Achilles, Gelbe Triumph, Rokula	3	
strong	Mucurines, Rote Orléans	5						

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note	
32.	32.	VG (g)	Fruit: elongation of base			
			(*)	short	Hinnonmäen Keltainen, May Duke	1
			(+)	medium	Pax	3
QN	QN		long	Weißer Kristall	5	
33.	33.	VG/MG (g)	Fruit: length of peduncle			
			(*)	short	May Duke	1
			(+)	medium	Hinnonmäen Punainen, Rexrot, Rote Orléans	3
QN	QN		long	Hinnonmäen Keltainen, Maurers Sämling, Redeva	5	
34.	34.	MG	Time of bud burst			
			(*)	very early	Bila, Rokula	1
			(+)	early	Invicta, Rote Frankfurter	3
			QN	medium	Früheste von Neuwied, Mucurines	5
				late	Grüner Edelstein, Korsun	7
	very late	Green Gem, Hinnonmäen Keltainen, Relina	9			
35.	35.	MG	Time of beginning of flowering			
			(*)	early	May Duke, Whitesmith	3
			(+)	medium	Invicta, Whinham's Industry	5
QN	QN		late	Hinnonmäen Keltainen, Rote Orléans	7	
36.	36.	MG	Time of beginning of fruit ripening			
			(*)	very early	Remarka, Risulfa	1
			(+)	early	Hinnonmäen Punainen, May Duke, Reverta	3
			QN	medium	Whinham's Industry	5
				late	Achilles, Hinnonmäen Keltainen	7
G			very late	Green Gem, Relina	9	

EXPLANATIONS AND METHODS

Explanations covering several characteristics

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

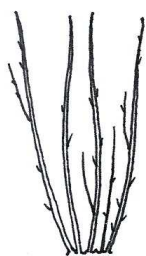
- a) Observations should be made during the dormant season before pruning.
- b) Observations should be made on one-year-old shoots during the dormant season before pruning.
- c) Observations should be made after the beginning of growth on shoots of approximately 10 cm in length.
- d) Observations should be made after the beginning of growth when the leaflets are about 2 cm wide and the shoots 3 to 5 cm long.
- e) Observations should be made at the stage of fruit maturity, when the fruits have achieved full colour, on the upper third of typical shoots.
- f) Observations should be made at the time of full flowering.
- g) Observations should be made at the time when the fruit is physiologically ripe.

Explanations for individual characteristics

Ad. 1: Plant: vigour

The vigour of the plant should be considered as the overall abundance of vegetative growth.

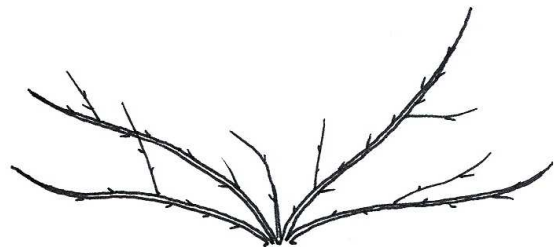
Ad. 3: One-year-old shoot: attitude



1
erect



3
semi-erect



5
horizontal

Ad. 5: Shoot: number of single thorns

Ad. 6: Shoot: number of double thorns

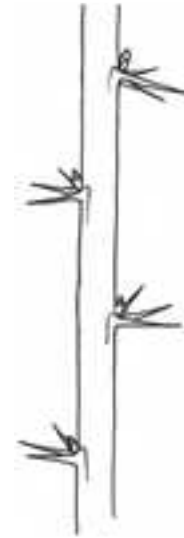
Ad. 7: Shoot: number of triple thorns



single thorns

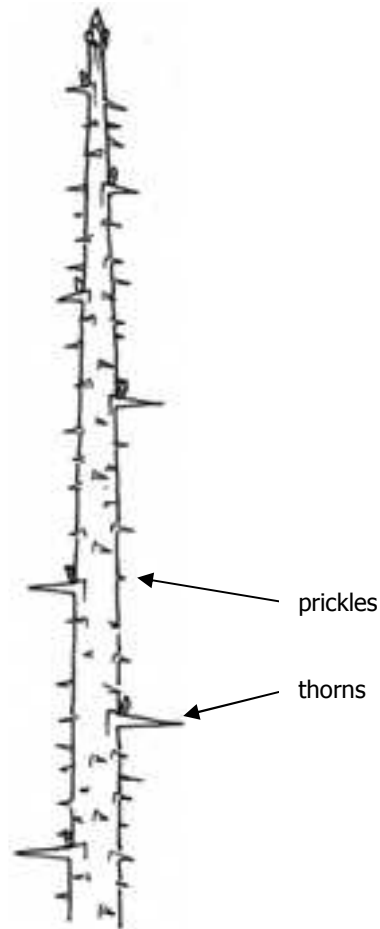


double thorns



triple thorns

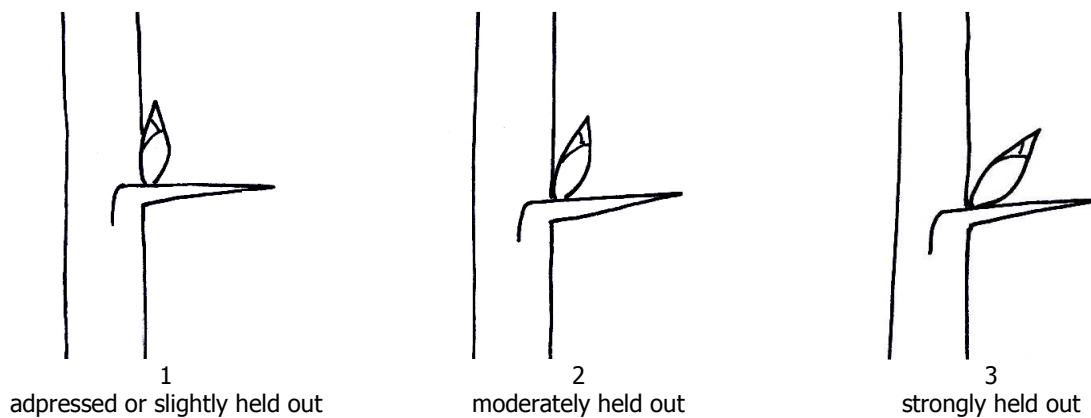
Ad. 8: Shoot: number of prickles on upper third



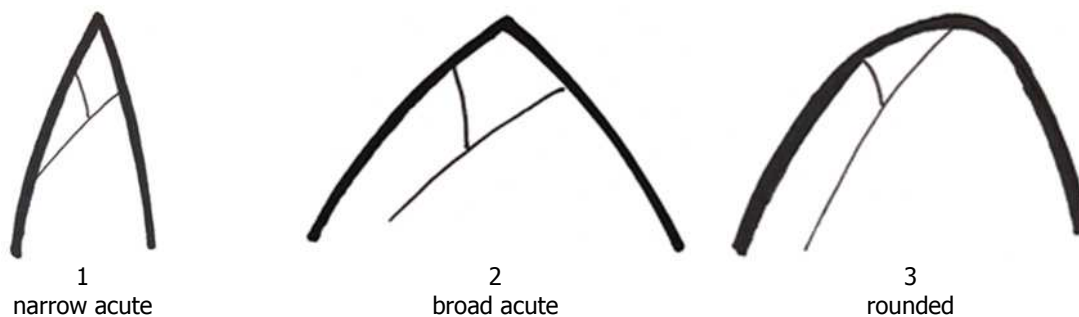
prickles

thorns

Ad. 9: Bud: position in relation to shoot



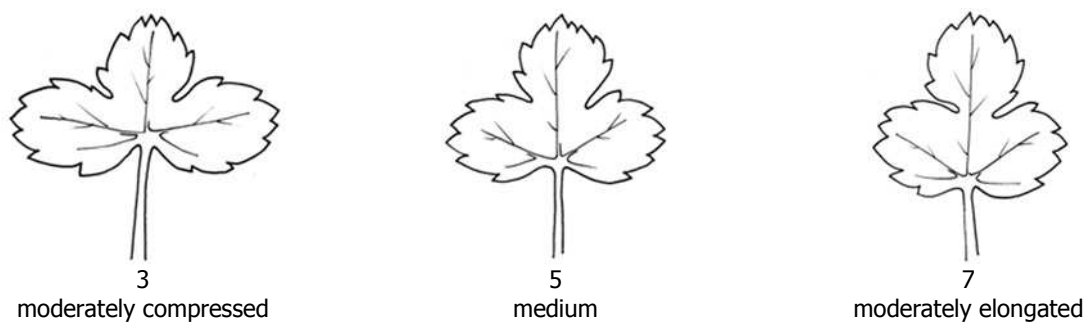
Ad. 11: Bud: shape of apex



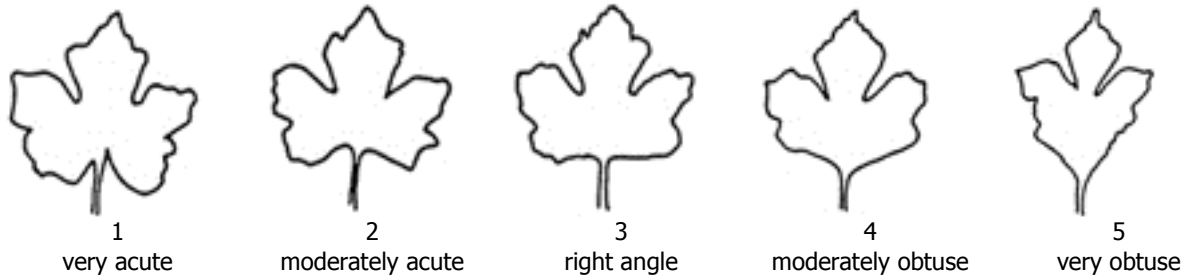
Ad. 12: Young shoot: anthocyanin coloration

The anthocyanin coloration should be observed on the leaf and the shoot at the stage of rapid growth.

Ad. 17: Leaf: ratio length/width



Ad. 18: Leaf: angle of base of blade with petiole



Ad. 26: Fruit: shape

		← · broadest part · →	
		at middle	above middle
← ratio length/width →	narrow (elongated)	<p>2 elliptic</p>	<p>3 obovate</p>
		<p>1 circular</p>	
	broad (compressed)		

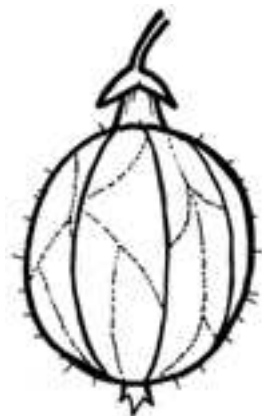
Ad. 27: Fruit: colour

The fruit colour should be observed after the bloom has been removed.

Ad. 28: Fruit: bloom

The bloom of the fruit is considered as the waxy layer on the fruit skin, which forms part of the cuticle. It is also known as "glaucosity" and can be removed by rubbing.

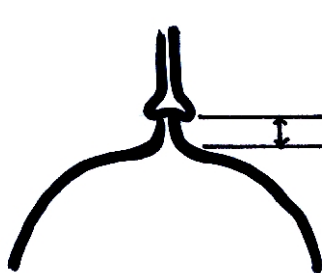
Ad. 30: Fruit: veining



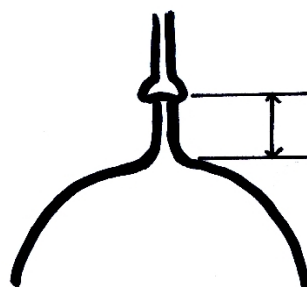
Ad. 31: Fruit: strength of skin

The strength of skin should preferably be observed by using a penetrometer.

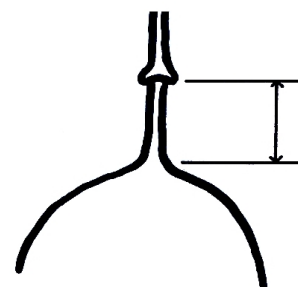
Ad. 32: Fruit: elongation of base



1
short

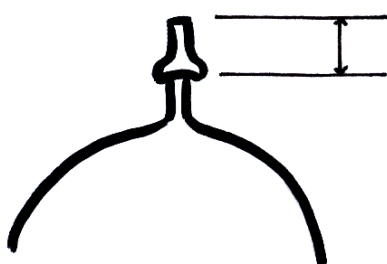


3
medium

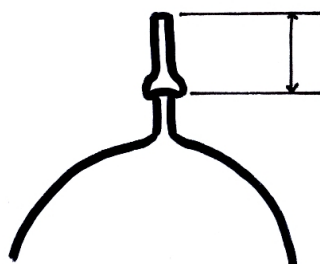


5
long

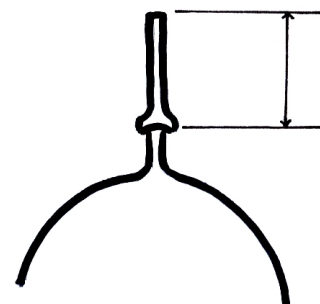
Ad. 33: Fruit: length of peduncle



1
short



3
medium



5
long

Ad. 34: Time of bud burst

The time of bud burst is when 10% of buds have first green leaves visible.

Ad. 35: Time of beginning of flowering

The time of beginning of flowering is when 10% of flowers are fully open.

Ad. 36: Time of beginning of fruit ripening

The time of fruit ripening is when 10% of fruits have achieved full colour.

Synonyms of the example varieties

Example varieties	Synonym(s)
Early Green Haire	Early Green, Grüne Deutsche
Grüne Flaschenbeere	Green Willow
Hankkijas Delikatess	Hinnonmäki Grön, Hinnonmäki grün
Hinnonmäen Keltainen	Hinnonmäki gelb, Hinnonmäki Gul
Hinnonmäen Punainen	Hinnonmäki rot, Hinnonmäki Röd, Lepaan Punainen
Whitesmith	Weiße Triumph
Winham's Industry	Rote Triumph

LITERATURE

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Hoffman, M.H.A., 2005: List of names of woody plants. Praktijkonderzoek Plant & Omgeving BV. Boskoop, NL, 871 pp.

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ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/051/2