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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

*

GOOSEBERRY

UPOV Code: RIBES_UVA

Ribes uva-crispa L., *Ribes uva-crispa* L. var. *reclinatum* (L.) Berl., *Ribes uva-crispa* L. var. *sativum* DC.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Germany

to be considered by the

Technical Working Party for Fruit Crops
at its forty-first session, to be held in Cuernavaca, Morelos State, Mexico,
from September 27 to October 1, 2010

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Ribes uva-crispa L.	Gooseberry		Stachelbeere	

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 *Ribes uva-crispa* L.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of plants on their own roots.

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

5 plants (on own roots).

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

3.1.1 The minimum duration of tests should normally be two independent growing cycles. In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.

3.1.2 The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new season buds.

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.

3.4 Test Design

Each test should be designed to result in a total of at least 5 plants.

3.5 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.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations for the purposes of distinctness should be made on 3 plants or parts taken from each of 3 plants, disregarding any off-type plants.

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 second 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. color 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

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 5 plants, no off-types are 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 further examined by testing a new 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: shape (characteristic 3)
(b) Fruit: size (characteristic 28)
(c) Fruit: shape (characteristic 30)
(d) Fruit: color (characteristic 31)
(e) Time of beginning of fruit ripening (characteristic 40)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

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

6.2.1 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.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), 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

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

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

MG, MS, VG, VS – see Chapter 4.1.5

(a)-(g) 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.	**VG**	**Plant: vigor**					
(+)							
QN	**(a)**	very weak					1
		weak				Catherina	3
		medium				Hönings Früheste, Korsun	5
		strong				Mucurines, Whinham's Industry	7
		very strong				Invicta, Rochusbeere	9
NL,DE: 'Catherina' is <u>not identical</u> with 'Katharina Ohlenburg' (not 'Catharina Oldenburg')							
2.	**VG**	**Plant: height**					
QN	**(a)**	very short					1
		short				Catherina	3
		medium					5
		tall				Rochusbeere, Rokula	7
		very tall				Reflamba	9
3. **(*)** **(+)**	**VG**	**Plant: shape**					
PQ	**(a)**	obovate				Hönings Früheste, Pax	1
		circular				Invicta, Runde Gelbe	2
		oblate				Achilles, Remarka	3
4.	**VG**	**Plant: number of basal shoots**					
QN	**(a)**	few				Korsun, Whinham's Industry	3
		medium				Golden Lion	5
		many				Hönings Früheste, Invicta, Mucurines	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. (*) (+)	**VG**	**One-year-old shoot: attitude**					
QN	**(b)**	upright				Gelbe Triumph, Relina, Resistenta	1
		semi-upright				Invicta	2
		horizontal				Korsun, Rolonda	3
6. **(+)**	**VG**	**One-year-old shoot: curvature**					
QN	**(b)**	very weak				Relina, Reverta	1
		weak				Invicta, Whinham's Industry	3
		medium				Hankkijas Delikatess	5
		strong				Ingelheimer Rote	7
		very strong				Lepac	9
7. **(*)**	**VG**	**Shoot: prickles**					
QL	**(b)**	absent				Captivator, Spinefree	1
		present				Reflamba	9
8. **(+)**	**VG**	**Shoot: number of single prickles**					
QN	**(b)**	none or very few				Captivator, Redeva, Whitesmith	1
		few				Rokula, Whinham's Industry	3
		medium				Invicta, Rolonda	5
		many				Hinnonmäen Keltainen, Remarka	7
		very many				Rzeszowski	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9. **(+)**	**VG**	**Shoot: number of double prickles**					
QN	**(b)**	none or very few				Remarka, Rokula	1
		few				Invicta	3
		medium				Whinham's Industry	5
		many				Reverta, Riversa	7
10. **(+)**	**VG**	**Shoot: number of triple prickles**					
QN	**(b)**	none or very few					1
		few				Hinnonmäen Keltainen, Invicta, Korsun, Rokula	3
		medium				Riversa, Whinham's Industry	5
		many				Reverta, Whitesmith	7
		very many				Starkls Mehltaufreie	9
11. **(*)** **(+)**	**VG**	**Shoot: number of points of attachment of prickles on upper third**					
QN	**(b)**	none or very few				Captivator, Rokula	1
		few				Gelbe Triumph, Rolonda	3
		medium				Hinnonmäen Punainen, Hönings Früheste	5
		many				Whinham's Industry	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12.	**VG**	**Shoot: number of bristles on upper third**					
(+)							
QN	**(b)**	none or very few				May Duke	1
		few				Rote Orléans	3
		medium				Werdersche Frühe Mark	5
		many				Hönings Früheste	7
To re-consider the right term for "bristle" in accordance with TGP/14.							
13.	**VG**	**Bud: position in relation to shoot**					
QN	**(b)**	adpressed to slightly held out				Whinham's Industry	1
		moderately held out				Whitesmith	2
		strongly held out				Weiße Volltragende	3
14.	**VG**	**Bud: size**					
QN	**(b)**	small					1
		medium					2
		large					3
15.	**VG**	**Bud: shape of apex**					
(+)							
PQ	**(b)**	narrow acute					1
		broad acute					2
		rounded					3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16. (*)	**VG**	**Young shoot: antho-cyanin coloration**					
QN	**(c)**	absent or very weak				Goliath, Hinnonmäen Keltainen, Rolonda	1
		weak				Invicta, Whinham's Industry	3
		medium				Risulfa, Riversa, Rokula	5
		strong				Siloba	7
17.	**VG**	**Young leaf: intensity of green color**					
QN	**(d)**	very light				Hinnonmäen Keltainen, Summersgold	1
		light				May Duke, Whitesmith	3
		medium				Rote Frankfurter, Whinham's Industry	5
		dark				Mucurines, Resistenta	7
		very dark				Reverta, Riversa	9
18. (*)	**VG**	**Young leaf: anthocyanin coloration**					
QN	**(d)**	absent or very weak				Goliath, Nieslukovskij	1
		weak				Gelbe Triumph	3
		medium				Whitesmith	5
		strong				Mucurines, Risulfa	7
19.	**VG/ MG**	**Leaf: length**					
QN	**(e)**	short				Korsun	3
		medium				Invicta	5
		long					7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
20.	**VG/ MG**	**Leaf: width**					
QN	**(e)**	narrow				Hinnonmäen Punainen, Remarka	3
		medium				Korsun	5
		broad				Whinham's Industry	7
21. (+)	**VG/ MG**	**Leaf: ratio length/ width**					
QN	**(e)**	moderately compressed					3
		medium					5
		moderately elongated					7
22. (+)	**VG**	**Leaf: angle of base of blade with petiole**					
QN	**(e)**	very acute				Risulfa, Riversa, Rokula	1
		acute				Achilles, California, Hinnonmäen Keltainen	2
		right angle				Pax, Retina, Rote Orléans	3
		obtuse				Korsun, Lauffener Gelbe	4
		very obtuse					5
RO: to agree with the states.							
23.	**VG**	**Leaf: glossiness of upper side**					
QN	**(e)**	weak				Korsun, Maurers Sämling, Redeva, Rolonda	3
		medium				Hinnonmäen PunainenRote Orléans	5
		strong				Crown Bob, Whitesmith, Whinham's Industry	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
24.	**VG**	**Inflorescence: number of flowers**					
QL	**(f)**	one				Hönings Früheste	1
		two				Hinnonmäen Keltainen, Rokula	2
		three					3
		more than three					4
To check whether this charcteristic is truly QL. SK: We think it is QL.							
25.	**VG**	**Flower: anthocyanin coloration of sepal**					
QN	**(f)**	absent or very weak				Reliza, Spinefree	1
		weak				Crown Bob, Hinnonmäen Keltainen, Redeva	3
		medium				Rokula, Whinham's Industry	5
		strong				Invicta, Reverta	7
26.	**VG**	**Flower: anthocyanin coloration of ovary**					
QN	**(f)**	absent or very weak				Reliza, Rote Frankfurter	1
		weak				Grüne Kugel, Rolonda, Whinham's Industry	3
		medium				Gelbe Triumph, Invicta	5
		strong				Reverta, Riversa	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27. (*)	**VG**	**Flower: pubescence of ovary**					
QN	**(f)**	absent or very weak				Remarka, Rochusbeere	1
		weak				Mukurines, Oakmere, Rexrot	3
		medium				Dams Mistake, Rafzuera	5
		strong				Invicta, Starkls Mehltaufreie, Reflamba	7
28. (*)	**VG**	**Fruit: size**					
QN	**(g)**	very small				Amerikanische Gebirgsstachelbeere, Captivator	1
		small				Early Green Haire, Hinnonmäen Punainen	3
		medium				Gelbe Triumph	5
		large				Grüne Kugel, Reflamba	7
		very large				Catherina, Hinnonmäen Keltainen	9

DE: 'Captivator' is rather state 4 or 5 in Germany.
NL: 'Hinnonmäen Punainen' is rather state 5 in the Netherlands, and 'Hinnonmäen Keltainen' rather state 4.

29.	**VG/ MG**	**Fruit: ratio length/ width**					
QN	**(g)**	strongly compressed				Golda, May Duke	1
		moderately compressed				Early Green, Peggy, Rolonda	3
		medium				Rote Orléans	5
		moderately elongated				Grüne Flaschenbeere, Reflamba	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30. (*) (+)	**VG**	**Fruit: shape**					
PQ	**(g)**	circular				Bila, Rexrot	1
		elliptic				Achilles, Weiße Volltragende	2
		pyriform				Grüne Flaschenbeere, Peggy	3

DE: to consider whether "pyriform" is really the right term – probably "ovate" would fit better (see also photograph in chapter 8.2) to e.g. the variety 'Peggy'; or should we have both, ovate and pyriform (for e.g. 'Gr. Flaschenbeere')?.

31. (*)	**VG**	**Fruit: color**					
PQ	**(g)**	yellow				Golda, Golden Lion, Rixanta	1
		yellow green				Gelbe Triumph, Invicta	2
		green with white tinge				Weiße Neckartaler, Whitesmith	3
		green				Grüne Kugel	4
		medium red				Korsun, Rokula, Rolonda	5
		dark red				Achilles, Cernomore, May Duke, Remarka, Rubikon, Whinham's Industry	6

DE: to replace 'Weiße Neckartaler' by 'Weiße Kristall', and to consider if ‘Whinham’s Industry’ would betterfit for state 5; and to delete 'Whitesmith' as ex. var. for state 3, as it represents state 4 rather than state 3.

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
32.	**VG**	**Fruit: bloom**					
(+)							
QN	**(g)**	absent or very weak				Lady Delamere, May Duke	1
		weak				Pax, Rokula, Whitesmith	3
		medium				Whinham's Industry	5
		strong				Resistenta	7
		very strong				Rochusbeere, Robustenta	9
33. **(*)**	**VG**	**Fruit: hairiness**					
QN	**(g)**	absent or very weak				Golda, May Duke, Mucurines, Reflamba, Remarka, Riversa	1
		weak				Achilles, Rolonda	3
		medium				Pax, Whinham's Industry	5
		strong				Hönings Früheste	7
34.	**VG**	**Fruit: veining**					
(+)							
QN	**(g)**	weak				Korsun, Mauks Frühe Rote	3
		medium				Gelbe Triumph, Mucurines	5
		strong				Rote Preis	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35.	**VG**	**Fruit: toughness of skin**					
QN	**(g)**	weak				Mauks Frühe Rote, Whinham's Industry	3
		medium				Achilles, Gelbe Triumph, Rokula	5
		strong				Mucurines, Rote Orléans	7
36. (+)	**VG**	**Fruit: elongation of base**					
QN	**(g)**	short				Hinnonmäen Keltainen, May Duke	3
		medium				Pax	5
		long				Weiße Kristall	7
37. (+)	**VG/ MG**	**Fruit: length of peduncle**					
QN	**(g)**	short				May Duke	3
		medium				Hinnonmäen Punainen, Rexrot, Rote Orléans	5
		long				Hinnonmäen Keltainen, Maurers Sämling, Redeva	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
38. (*) (+)	**MG**	**Time of bud burst**					
QN		very early				Bila, Rokula	1
		early				Invicta, Rote Frankfurter	3
		medium				Früheste von Neuwied, Mucurines	5
		late				Grüner Edelstein, Korsun	7
		very late				Green Gem, Hinnonmäen Keltainen, Reliza	9

To check whether the example varities 'Grüner Edelstein' (state 7) and 'Green Gem' (state 9) are identical.

39. (*) (+)	**MG**	**Time of beginning of flowering**					
QN		early				May Duke, Whitesmith	3
		medium				Invicta, Whinham’s Industry	5
		late				Hinnonmäen Keltainen, Rote Orléans	7
40. (*) (+)	**MG**	**Time of beginning of fruit ripening**					
QN		very early				Risulfa	1
		early				Hinnonmäen Punainen, May Duke, Reverta	3
		medium				Whinham's Industry	5
		late				Achilles, Hinnonmäen Keltainen	7
		very late				Green Gem, Reliza	9

DE: to add 'Remarka' for state 1.

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) All observations on the whole plant should be made during the dormant season before pruning.
(b) All observations on the buds, prickles and bristles should be made on one-year-old shoots during the dormant season before pruning.
(c) All observations on the young shoot should be made after the beginning of growth on shoots of approximately ~~25~~ 10 cm in length.
(d) All observations on the young leaf 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) All observations on the mature leaf should be made at the stage of fruit maturity on the upper third of typical shoots.
(f) All observations on the flower should be made at the time of full flowering.
(g) All observations on the fruit should be made at the time when the fruit is physiologically ripe.

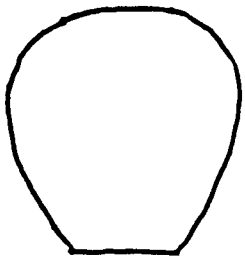
During the UPOV-TWF 40 meeting it was proposed to move the wording under (f) and (g) to become new Ad. 41, or new Ad. 42, respectively; however the reason for (and benefit of) this is not fully clear to me.
SK: We propose to leave it as it is.

8.2 Explanations for individual characteristics

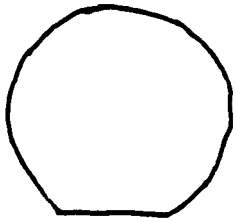
Ad. 1: Plant: vigor

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

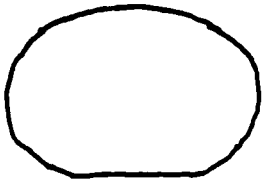
Ad. 3: Plant: shape



1
obovoid



2
globose



3
transverse ellipsoid

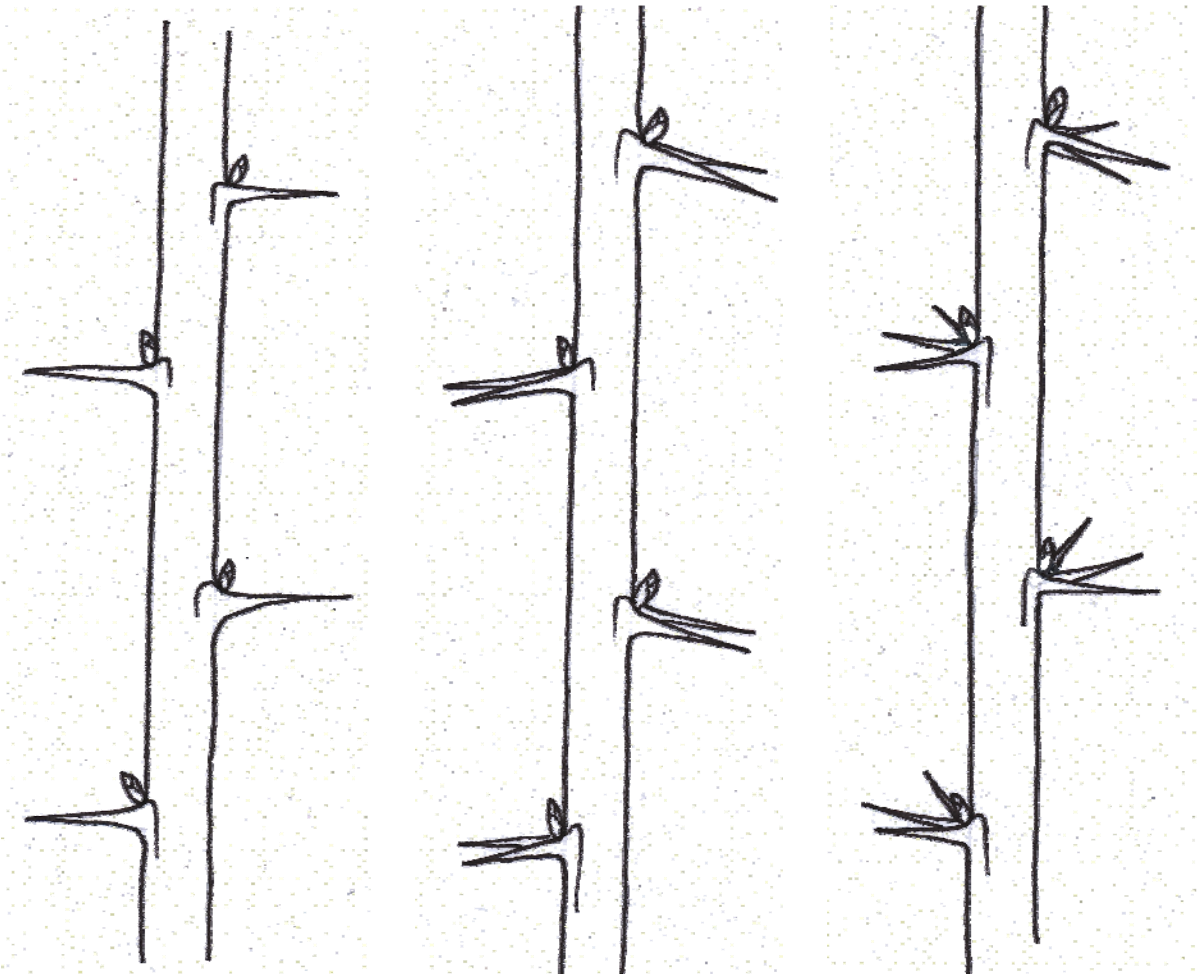
Ad. 5: One-year-old shoot: attitude

1	2	3
upright	semi-upright	horizontal

Ad. 6: One-year-old shoot: curvature

3	5	7
weak	medium	strong

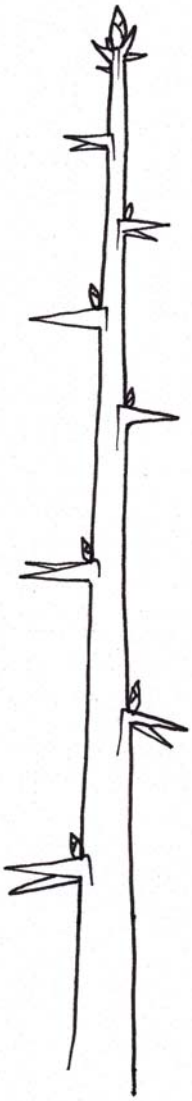
Ad. 8: Shoot: number of single prickles
Ad. 9: Shoot: number of double prickles
Ad. 10: Shoot: number of triple prickles



single prickles | double prickles | triple prickles

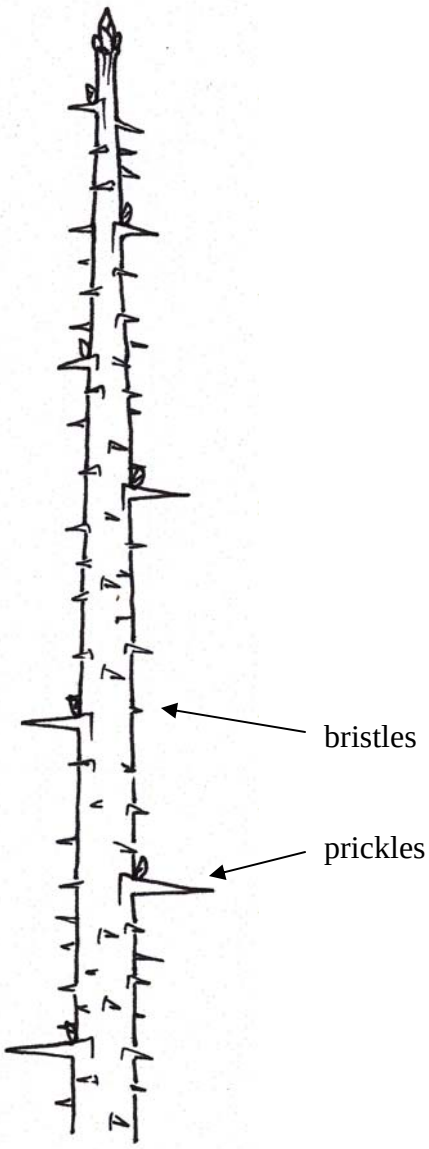
Ad. 11: Shoot: number of points of attachment of prickles on upper third

few



many

Ad. 12: Shoot: number of bristles on upper third



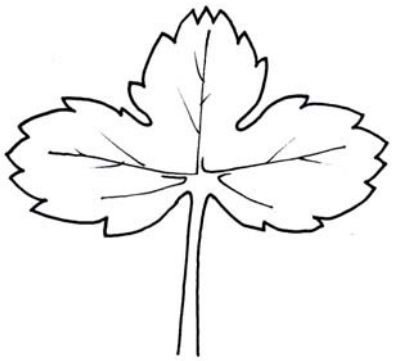
Ad. 15: Bud: shape of apex

1
narrow acute

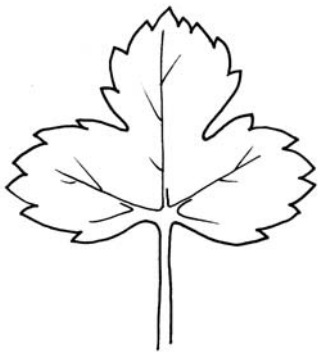
2
broad acute

3
rounded

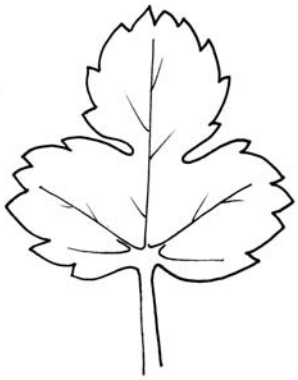
Ad. 21: Leaf: ratio length/width



3
moderately compressed



5
medium

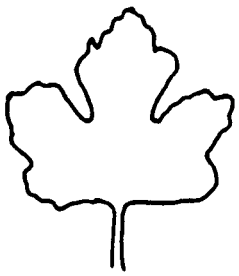


7
moderately elongated

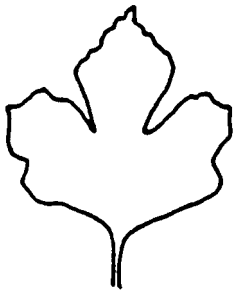
Ad. 22: Fully developed leaf: angle of base of blade with petiole

1
very acute

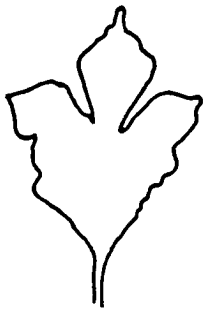
2
acute



3
right angle

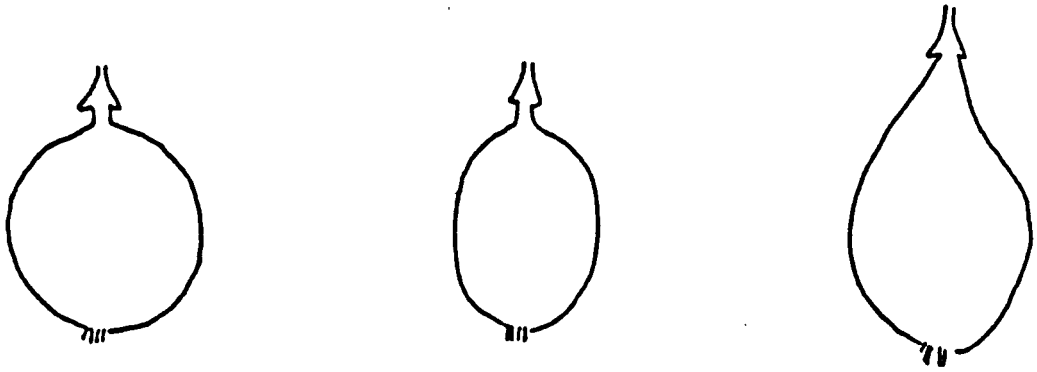


4
obtuse



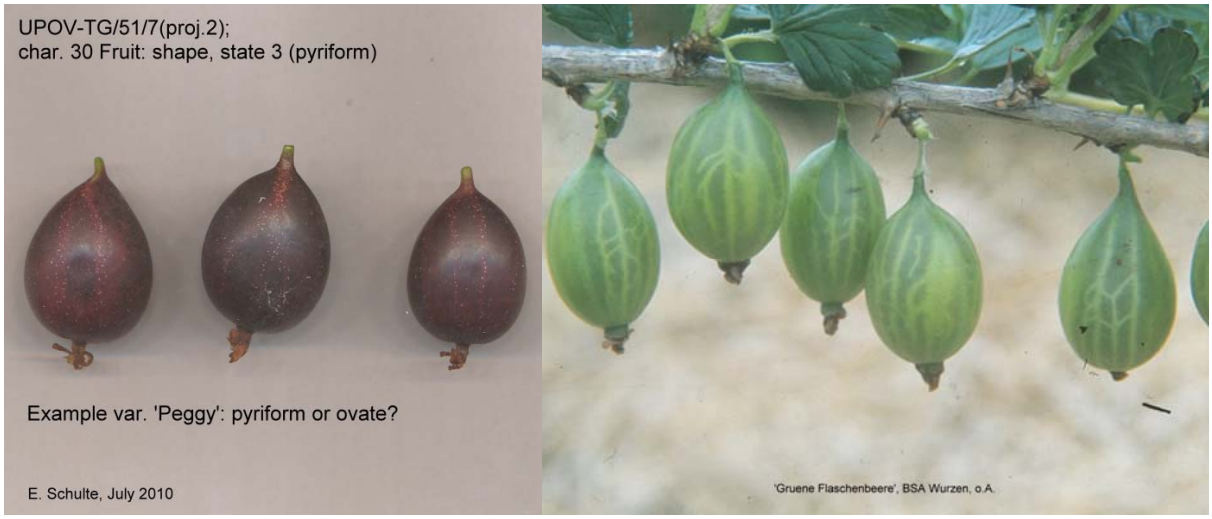
5
very obtuse

Ad. 30: Fruit: shape



1	2	3
globose	ellipsoid	pyriform

DE: to consider whether "pyriform" is really the right term – probably "ovate" would fit better:



DE: Consider to include a photograph

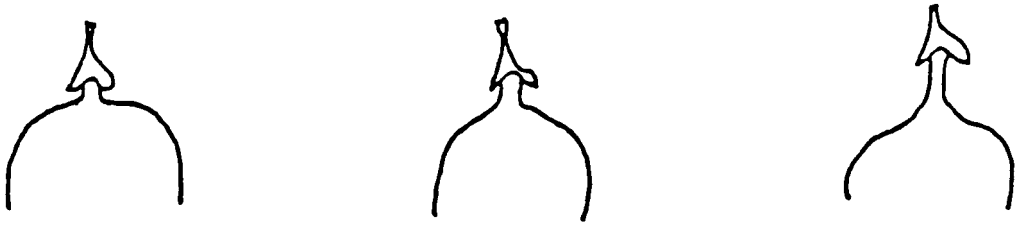
Ad. 31: Fruit: color

1	2	3	4	5	6
yellow	yellow green	green with white tinge	green	medium red	dark red

Ad. 32: Fruit: bloom

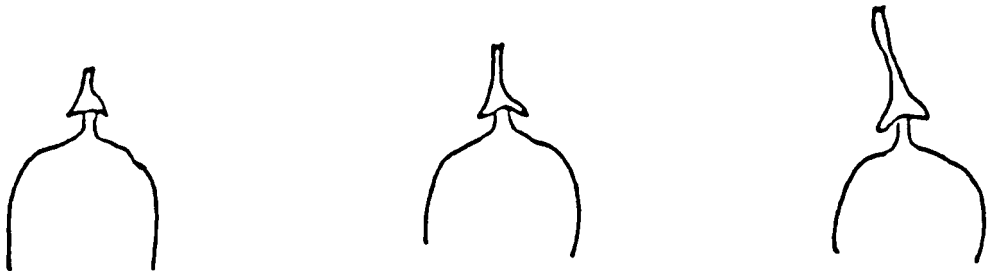
The bloom of the fruit is considered as the waxy layer on the fruit skin, which forms part of the cuticule, is also known as glaucosity.

Ad. 36: Fruit: elongation of base



3	5	7
short	medium	long

Ad. 37: Fruit: length of peduncle



3	5	7
short	medium	long

Ad. 38: Time of bud burst

The time of bud burst is when the first green leaves on a bud are just visible.

Ad. 39: Time of beginning of flowering

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

Ad. 40: Time of beginning of fruit ripening

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

8.3 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

9. Literature

AVD för Fruktoch Bärodling: Internordic Index of Ribes and Rubus Cultivars. Alnarp. SE

Sorge, P., 1984: Beerenobstsorten. Verlag J. Neumann-Neudamm. Melsungen. DE, 259 pp.

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

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1 Botanical name	*Ribes uva-crispa* L.
1.2 Common name	Gooseberry

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	
Breeder (if different from applicant)	

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

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

[#]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)

(……..……..…)	x	(……..……..…)
female parent		male parent

(b) partially known cross [ ]
(please state known parent variety(ies))

(……..……..…)	x	(……..……..…)
female parent		male parent

(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)

[#] 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:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.2 Other [ ]

(please provide details)

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

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 (3)	**Plant: shape**		
	ovate	Hönings Früheste, Pax	1[ ]
	circular	Invicta, Runde Gelbe	2[ ]
	oblate	Achilles, Remarka	3[ ]
5.2 (28)	**Fruit: size**		
	very small	Amerikanische Gebirgsstachelbeere, Captivator	1 [ ]
	very small to small		2 [ ]
	small	Early Green, Hinnonmäen Punainen	3 [ ]
	small to medium		4 [ ]
	medium	Gelbe Triumph	5 [ ]
	medium to large		6 [ ]
	large	Grüne Kugel, Reflamba	7[ ]
	large to very large		8[ ]
	very large	Catherina, Hinnonmäen Keltainen	9[ ]
5.3 (30)	**Fruit: shape**		
	circular	Bila, Rexrot	1[ ]
	elliptic	Achilles, Weiße Volltragende	2[ ]
	pyriform	Grüne Flaschenbeere, Peggy	3[ ]

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

	Characteristics	Example Varieties	Note
5.4 (33)	**Fruit: color**		
	yellow	Golda, Golden Lion, Rixanta	1[ ]
	yellow green	Gelbe Triumph, Invicta	2[ ]
	green with white tinge	Weiße Neckartaler, Whitesmith	3[ ]
	green	Grüne Kugel	4[ ]
	medium red	Korsun, Rokula, Rolonda	5[ ]
	dark red	Achilles, Cernomore, May Duke, Remarka, Rubikon, Whinham's Industry	6[ ]
5.5 (40)	**Time of beginning of fruit ripening**		
	very early	Risulfa	1 [ ]
	very early to early		2 [ ]
	early	Hinnonmäen Punainen, May Duke, Reverta	3 [ ]
	early to medium		4 [ ]
	medium	Whinham's Industry	5 [ ]
	medium to late		6 [ ]
	late	Achilles, Hinnonmäen Keltainen	7[ ]
	late to very late		8[ ]
	very late	Green Gem, Reliza	9[ ]

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

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
Example	*Fruit: color*	*yellow*	*green*

Comments:

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

[#]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 Other information

A representative color image of the variety should accompany the Technical Questionnaire.

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.

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

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”.

……

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes [ ]

(please provide details as specified by the Authority)

No [ ]

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]