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

PROTOCOL FOR TESTS ON DISTINCTNESS, UNIFORMITY AND STABILITY

Rubus idaeus L.; *Rubus x neglectus* Peck; *Rubus occidentalis* L.; *Rubus idaeus* L. x *Rubus parviflorus* L.

RASPBERRY; BLACK RASPBERRY

UPOV Code: RUBUS_IDA; RUBUS_NEG; RUBUS_OCC; RUBUS_IPA

Adopted on 14/03/2025

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CPVO-TP/043/3 based on the version 5 of the CPVO-TP/template

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CPVO-TP/043/3

1. SUBJECT OF THE PROTOCOL AND REPORTING

1.1 Scope of the technical protocol

This Technical Protocol applies to all varieties of ***Rubus idaeus*** **L.,** ***Rubus* × *neglectus*** **Peck,** ***Rubus occidentalis*** **L. and** ***Rubus idaeus*** **L. x** ***Rubus parviflorus*** **L.**

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/export/sites/upov/resource/en/tg_1_3.pdf), its associated TGP documents (http://www.upov.int/tgp/en/) and the relevant UPOV Test Guideline TG/22/11 dated 31/08/2023 (https://www.upov.int/edocs/tgdocs/en/tg022.pdf) for the conduct of tests for Distinctness, Uniformity and Stability.

1.2 Entry into Force

The present protocol enters into force on **01/01/2025.** Any ongoing DUS examination of candidate varieties for which the first growing cycle for the purpose of observations has started (following the adequate period of establishment) 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 first growing cycle for the purpose of observations following the adequate period of establishment starts.

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 first growing cycle for the purpose of observations following the adequate period of establishment 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 four weeks after the date of the request for technical examination by the CPVO and in any case preferably before the submission period of the plant material.

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

In cases where the Examination Office identifies issues during the course of the technical examination that may lead to a negative report, the Examination Office shall inform the CPVO and in urgent cases the applicant/holder as soon as such issues become obvious.

1.3.3 Sample keeping in case of problems

As far as feasible the Examination Office shall keep a representative sample of any relevant testing material of the candidate variety and reference variety(ies) if the technical examination has resulted in a negative report. As soon as possible, the CPVO shall inform the Examination Office when the material can be destroyed.

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 https://public.plantvarieties.eu/publication in the special issue S2/S3 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 submission of plant 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 in writing.

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.

The testing of a variety may be concluded when the entrusted examination office can determine with certainty the outcome of the test.

The duration of tests should be two independent growing cycles for the purpose of observation of characteristics following an adequate number of growing cycles for establishment of plants; at the end of each growing cycle for the purpose of observation of characteristics the competent authority will determine whether or not the following growing cycle is required.

In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.

The two independent growing cycles may be observed from a single planting, examined in two separate growing cycles.

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

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/edocs/tgpdocs/en/tgp_9.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.

3.4 Test design

3.4.1 Each test should be designed to result in a total of at least 10 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 Special tests for additional characteristics

In accordance with Article 23 of Implementing Rules N° 874/2009 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.

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 living plant material, thus a living reference collection. The variety description shall be produced by the EO unless special cooperation exists between EOs and the CPVO. The descriptive and pictorial information produced by the EO shall be held and maintained in a form of a database.

3.6.2 Living Plant Material

The EO shall collect and maintain living plant material of varieties of the species concerned in the variety collection.

3.6.3 Range of the variety collection

The living variety collection shall cover at least those common knowledge varieties that are suitable to grow in the climatic conditions of a respective EO.

3.6.4 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, varieties of National Catalogues (where such catalogues exist) and varieties in trade or in commercial registers.
The inventory shall take into account the list of varieties which are the subject of an on-going application for protection or official registration (candidate varieties).

In addition to the above, the inventory shall be extended to the appropriate to

- relevant example varieties referred to in the technical protocols,
- 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.

3.6.5 Maintenance and renewal/update of a living variety collection

The EO shall maintain the variety collection under appropriate growing conditions (e.g., glasshouse, orchard, in vitro), where it shall be ensured that the plants are adequately irrigated, fertilised, pruned and protected from harmful pests and diseases.
Living material in variety collections representing varieties for which a DUS test was carried out at that EO shall be renewed after verification in a side-by-side comparison. In case where no living material is available anymore in the collection, such verification could be done with any other test that has proven to give similar results between the material in the collection and the new material.

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/edocs/tgpdocs/en/tgp_9.pdf) prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in this Technical Protocol.

Further guidance is provided in documents TGP/9 "Examining Distinctness" and TGP/8 "Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability".

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 5 plants or parts taken from each of 5 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

4.2.1 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 10 'Examining Uniformity' (http://www.upov.int/edocs/tgpdocs/en/tgp_10.pdf) prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in this Technical Protocol:

4.2.2 This Technical Protocol has been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation the recommendations in the UPOV-General Introduction to DUS and document TGP/13 "Guidance for new types and species", Section 4.5 "Testing Uniformity" should be followed.

For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 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/edocs/tgpdocs/en/tgp_11.pd)

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.

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 ORGANISATION 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 organise the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

a) Very young shoot: anthocyanin coloration of apex (characteristic 3)

b) Prickles: presence (characteristic 10)

c) Current season's cane: flowers (characteristic 24)

d) Fruit: colour (characteristic 32)

e) Time of beginning of flowering on current season's cane (characteristic 39)

f) Time of beginning of fruit ripening on current season's cane (characteristic 41)

5.4 If characteristics other than those mentioned in the list of grouping characteristics and/or from the table of characteristics and/or from the Technical Questionnaire – sections 5 and 7. are used for the selection of varieties to be included into the growing trial, the EO shall inform the CPVO and seek the prior consent of the CPVO before using these characteristics.

5.5 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the UPOV-General Introduction to DUS and document TGP/9 "Examining Distinctness".

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.

6.2. States of expression and corresponding notes

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description. All relevant states of expression are presented in the characteristic.

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

6.3 Example Varieties

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

6.4 Legend

For column 'CPVO N°':

G	Grouping characteristic	-see Chapter 5
QL	Qualitative characteristic	
QN	Quantitative characteristic	
PQ	Pseudo-qualitative characteristic	
(+)	Explanations for individual characteristics	-see Chapter 8.2

For column "UPOV N°":
The numbering of the characteristics is provided as a reference to the UPOV guideline.

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

For column "Stage, method":

MG, MS, VG, VS		-see Chapter 4.1.5
(a)-(e)	Explanations covering several Characteristics	-see Chapter 8.1

7. TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
1. (+)	**1.**	**VG**	**Plant: growth habit**		
PQ		**(a)**	upright	Maravilla, Ontario	1
			semi-upright	Regina, Schönemann	2
			arching	Meeker, Pearl	3
2. (+)	**2. (*)**	**VG**	**Dormant cane: colour**		
PQ			brownish grey	NR 7, Schönemann	1
			greyish brown	Meeker, Willamette	2
			brown	Glen Ample, Tulameen	3
			purplish brown	Radiance	4
			brownish purple	Black Jewel, Sanibelle	5
3. (+)	**3. (*)**	**VG**	**Very young shoot: anthocyanin coloration of apex**		
QN			absent or very weak		1
			very weak to weak	Fallgold, Poranna Rosa	2
			weak	Brilliance, Sapphire	3
			weak to medium	Fruatfri, Sugana	4
			medium	Regina, Tulameen	5
			medium to strong	Malling Freya, Maravilla	6
			strong	Polka, Sanibelle	7
			strong to very strong	Royalty	8
G			very strong	Glen Moy, Malling Delight	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
4. (+)	**4. (*)**	**MG/VG**	**Plant: number of current season's canes**		
QN			very few		1
			very few to few		2
			few	Tulameen	3
			few to medium	Pokusa, Qualicum	4
			medium	Advarberimar, Fruatfri	5
			medium to many	Grandeur, Regina	6
			many	Pearl, Poranna Rosa	7
			many to very many	Cascade Dawn, ma 2920	8
			very many		9
5. (+)	**5. (*)**	**MG/VG**	**Cane: length**		
QN		**(a)**	very short		1
			very short to short	NR 7	2
			short		3
			short to medium	Advabertwee, Loganlike	4
			medium	Advarberimar	5
			medium to long	Drisraspone, Radiance	6
			long	Schönemann, Tulameen	7
			long to very long	Meeker, Royalty	8
			very long	Malling Leo	9
6.	**6.**	**MG/VG**	**Cane: length of internode**		
QN		**(a)**	very short		1
			short	Autumn Treasure, Poranna Rosa	2
			medium	Glen Ample, Holyoke	3
			long	Polka	4
			very long		5

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
7. (+)	**7.**	**MG/VG**	**Cane: length of vegetative bud**		
QN		**(a)**	short	Autumn Bliss, Drisraspsix	1
			medium	Driscoll Madonna, Grandeur	2
			long	Schönemann	3
8.	**8.**	**VG**	**Cane: anthocyanin coloration**		
QN		**(a)**	absent or very weak	Poranna Rosa, Valentina	1
			weak	Cardinal, Vajolet	2
			medium	Holyoke, Rafzaqu	3
			strong	Drisraspfour, Malling Juno	4
			very strong		5
9. (+)	**9.**	**VG**	**Cane: bloom**		
QN		**(a)**	absent or very weak	Adelita, Lupita	1
			very weak to weak	Bountiful, Diamond Jubilee	2
			weak	Fruatfri, Regina	3
			weak to medium	Meeker, Qualicum	4
			medium	ma 2920, Rafzmach	5
			medium to strong	Lagorai Plus, NR 7	6
			strong	Advabereen, Sanibelle	7
			strong to very strong	Brilliance, Pokusa	8
			very strong	Ontario, Royalty	9
10.	**10. (*)**	**VG**	**Prickles: presence**		
QL		**(b)**	absent	Glen Ample, NR 7	1
G			present	Malling Promise, Regina	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
11.	**11.**	**MG/VG**	**Prickles: length**		
QN		**(b)**	very short	Resa	1
			short	Carmelina, Grandeur	2
			medium	Fruatfri, Regina	3
			long	BP 1, Drisrasptwo	4
			very long	Black Jewel, Lowden	5
12.	**12.**	**VG**	**Prickles: colour**		
PQ		**(b)**	green	Golden Bliss, Poranna Rosa	1
			brownish green	Brilliance, Holyoke	2
			greenish brown	Advabereen, Radiance	3
			brown	Glen Magna, Rusilva	4
			purplish brown	Cardinal, Fruatfri	5
			brownish purple	Maravilla, Octavia	6
			purple	Polka, Sugana	7
13. (+)	**13.**	**VG**	**Prickles: size of base**		
QN		**(b)**	very small		1
			very small to small	Gleam	2
			small	Driscoll Pacifica, Rafzmach	3
			small to medium	Octavia, Radiance	4
			medium	Cardinal, Regina	5
			medium to large	Fruatfri, Vajolet	6
			large	BP 1, Dolomia Plus	7
			large to very large	Josephine	8
			very large	Black Jewel, Lowden	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
14.	**14. (*)**	**VG**	**Prickles: density**		
QN		**(b)**	very sparse	Ontario	1
			very sparse to sparse	Festival, Korbfüller	2
			sparse	Valentina	3
			sparse to medium	Maravilla, Tulameen	4
			medium	Lupita, Octavia	5
			medium to dense	ma 2920, Schönemann	6
			dense	Fruatfri, Regina	7
			dense to very dense	Golden Bliss	8
			very dense	Lloyd George	9
15.	**15. (*)**	**VG**	**Leaf: colour of upper side**		
PQ		**(c)**	greenish yellow	JDEBOER005	1
			light green	Skeena, Watson	2
			medium green	Autumn Bliss, Isabel	3
			dark green	Dolomia Plus	4
16.	**16. (*)**	**VG**	**Leaf: predominant number of leaflets**		
PQ		**(c)**	three	Autumn Treasure, Lupita	1
			equally three and five	Fruatfri, Lagorai Plus	2
			five	Ontario, Sanibelle	3
17. (+)	**17.**	**VG**	**Leaf: arrangement of leaflets**		
QN		**(c)**	free	Lupita, Regina	1
			touching	Jade, ma 2920	2
			overlapping	Fruatfri	3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
18.	**18.**	**MG/VG**	**Terminal leaflet: length**		
QN		**(c)**	very short		1
			very short to short		2
			short	NR 7	3
			short to medium	JDEBOER005	4
			medium	Glen Carron	5
			medium to long	Advabereen, ma 2920	6
			long	Amaranta, Versailles	7
			long to very long	Dolomia Plus, Polka	8
			very long	Motueka, Tea	9
19.	**19.**	**MG/VG**	**Terminal leaflet: width**		
QN		**(c)**	very narrow		1
			very narrow to narrow		2
			narrow	Summit	3
			narrow to medium	Caroline	4
			medium	Advabertwee, Drisraspone	5
			medium to broad	Brilliance, Joan J	6
			broad	Fruatfri, Sugana	7
			broad to very broad	Regina	8
			very broad	Malling Sirius, Tea	9
20. (+)	**20.**	**VG**	**Terminal leaflet: profile in cross section**		
QN		**(c)**	concave	NR 7, Pearl	1
			straight	ma 2920, Versailles	2
			convex	Grandeur, Heritage	3

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
21. (+)	**21. (*)**	**VG**	**Terminal leaflet: undulation**		
QN		**(c)**	very weak	Heritage	1
			weak	Gleam	2
			medium	Advarberimar, Pearl	3
			strong	Sugana, Vajolet	4
			very strong	Korbfüller	5
22.	**22. (*)**	**MG/VG**	**Previous year's cane: length of fruiting laterals**		
QN			very short		1
			very short to short	Vene	2
			short	Glen Moy	3
			short to medium	Driscoll Pacifica	4
			medium	Radiance, Sugana	5
			medium to long	Regina, Versailles	6
			long	Glen Ample	7
			long to very long	Malling Leo	8
			very long		9
23.	**23.**	**VG**	**Previous year's cane: attitude of fruiting laterals**		
QN			upright	Advarberimar, NR 7	1
			semi-upright	Bountiful, Sapphire	2
			horizontal to downwards	Malling Freya	3
24.	**24. (*)**	**VG**	**Current season's cane: flowers**		
QL			absent	Glen Ample	1
G			present	Autumn Bliss	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
25.	**25. (*)**	**VG**	**Peduncle: intensity of anthocyanin coloration**		
QN		**(d)**	absent or very weak	Golden Bliss	1
			very weak to weak	Autumn Bliss, Joan J	2
			weak	Fruatfri, Lupita	3
			weak to medium	NR 7	4
			medium	Grandeur, Radiance	5
			medium to strong	Malling Juno, Qualicum	6
			strong	Advabereen, Brilliance	7
			strong to very strong	ABB 122, Glen Doll	8
			very strong	Rafzmach	9
26.	**26.**	**MG/VG**	**Pedicel: number of prickles**		
QN		**(d)**	absent or very few	Glen Moy, Malling Juno	1
			very few to few	JDEBOER005, Wakefield	2
			few	Bountiful, Lagorai Plus	3
			few to medium	Diamond Jubilee, Drisraspone	4
			medium	Fruatfri, Octavia	5
			medium to many	Maravilla, Sugana	6
			many	Holyoke, Poranna Rosa	7
			many to very many	Autumn Bliss, Satine	8
			very many	Golden Bliss	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
27. (+)	**27.**	**MG/VG**	**Flower: diameter**		
QN		**(d)**	very small		1
			very small to small	Trent	2
			small	Bella, Ontario	3
			small to medium	Brilliance, Radiance	4
			medium	ma 2920, Pearl	5
			medium to large	Joan J	6
			large	Evita, Lagorai Plus	7
			large to very large	Amaranta	8
			very large		9
28.	**28. (*)**	**MG/VG**	**Fruit: length**		
QN		**(d), (e)**	very short		1
			very short to short		2
			short	Golden Queen	3
			short to medium	Golden Bliss	4
			medium	Octavia, Sugana	5
			medium to long	Brilliance, Rafzaqu	6
			long	Driscoll Pacifica, Radiance	7
			long to very long	Lagorai Plus, Maravilla	8
			very long	Evita	9
29.	**29. (*)**	**MG/VG**	**Fruit: width**		
QN		**(d), (e)**	very narrow		1
			narrow		2
			medium	ma 2920, Rafzmach	3
			broad	Lagorai Plus, Pearl	4
			very broad	Evita	5

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
30. (+)	**30. (*)**	**VG**	**Fruit: shape in lateral view**		
PQ		**(d), (e)**	circular	Black Jewel	1
			broad conical	Autumn Bliss, Glen Ample	2
			conical	Autumn Treasure, Maravilla	3
			trapezoidal	Titan	4
31.	**31.**	**VG**	**Fruit: size of single drupe**		
QN		**(d), (e)**	very small		1
			small	Jochems Roem	2
			medium	Carmelina, Qualicum	3
			large	Maravilla, Octavia	4
			very large	Pokusa	5
32.	**32. (*)**	**VG**	**Fruit: colour**		
PQ		**(d), (e)**	yellow	Golden Bliss, Sungold	1
			orange	Valentina	2
			light red	Qualicum, Vision	3
			medium red	Diamond Jubilee, Pearl	4
			dark red	Bella, BP 1	5
			purple	Glen Coe, Royalty	6
G			blackish	Black Jewel	7
33.	**33.**	**VG**	**Fruit: glossiness**		
QN		**(d), (e)**	very weak		1
			weak	Glen Magna, Poranna Rosa	2
			medium	Pearl, Sapphire	3
			strong	Advabertwee, Sanibelle	4
			very strong		5

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
34.	**34. (*)**	**MG/VG**	**Fruit: firmness**		
QN		**(d), (e)**	very soft		1
			soft	Fallred, Golden Queen	2
			medium	Brilliance, Meeker	3
			firm	Advabereen, Maravilla	4
			very firm		5
35. (+)	**35.**	**VG**	**Fruit: colour of torus at distal end**		
PQ		**(d), (e)**	greenish	NR 7	1
			whitish		2
			yellowish white	Drisraspthirteen	3
			reddish orange	Drisraspsix	4
36.	**36. (*)**	**MG/VG**	**Time of vegetative bud burst**		
QN			very early		1
			very early to early	Pacific Gema	2
			early	Grandeur	3
			early to medium	Advabertwee, Brilliance	4
			medium	Advarberimar, Lagorai Plus	5
			medium to late	Glen Ample, Vajolet	6
			late	Glen Magna	7
			late to very late	Drisraspfour	8
			very late		9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
37.	**37. (*)**	**MG/VG**	**Time of cane emergence**		
QN			very early		1
			very early to early	Drisraspthirteen, Majestic	2
			early	Sungold	3
			early to medium	ma 2920, Maravilla	4
			medium	Lagorai Plus, Sugana	5
			medium to late	Amaranta, Tulameen Plus	6
			late	Glen Fyne	7
			late to very late	Glen Ample	8
			very late	Malling Juno, Valentina	9
38. (+)	**38. (*)**	**MG/VG**	**Time of beginning of flowering on previous year's cane**		
QN			very early		1
			very early to early	Malling Freya	2
			early	Advabereen, Malling Juno	3
			early to medium	Brilliance, Fruatfri, Glen Fyne	4
			medium	Sapphire	5
			medium to late	Drisraspone, Grandeur	6
			late	Octavia, Tulameen Plus	7
			late to very late	Annamaria	8
			very late		9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
39. (+)	**39. (*)**	**MG/VG**	**Time of beginning of flowering on current season's cane**		
QN			very early		1
			very early to early	Polana	2
			early	Adelita, Polka	3
			early to medium	Brilliance, ma 2920	4
			medium	Rafzaqu, Regina	5
			medium to late	Maravilla, Sugana	6
			late	Advabertwee, Vajolet	7
			late to very late	Drisraspone, Lagorai Plus	8
G			very late	Driscoll Madonna, Pearl	9
40. (+)	**40. (*)**	**MG/VG**	**Time of beginning of fruit ripening on previous year's cane**		
QN			very early		1
			very early to early	ABB 122, Malling Freya	2
			early	Advabereen, Lupita	3
			early to medium	Adelita, Advarberimar	4
			medium	Advabertwee, Radiance	5
			medium to late	Mayfair, Satine	6
			late	Grandeur, Octavia	7
			late to very late	Lowden	8
			very late	Augusta	9

CPVO N°	UPOV N°	Stage, Method	Characteristics	Examples	Note
41. (+)	**41. (*)**	**MG/VG**	**Time of beginning of fruit ripening on current season's cane**		
QN			very early		1
			very early to early	Autumn Bliss	2
			early	Isabel, Sugana	3
			early to medium	Advarberimar, Grandeur	4
			medium	Drisrasptwo, NY One	5
			medium to late	Brilliance	6
			late	Advabertwee	7
			late to very late	ABB 122	8
G			very late		9

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) Observations should be made on fully developed current season's canes.

b) Observations should be made in in the middle third of fully developed current season's canes.

c) Observations should be made on fully developed leaves from the middle third of current season's canes.

d) Observations should be made on canes which flower and fruit first in the vegetative period, either on previous year's cane in summer or on current season's canes in autumn.

e) Observations should be made on fruits picked during the second and third harvest.

8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit

Observations should be made on fully developed current season's canes before flowering.

1
upright

2
semi-upright

3
arching

Ad. 2: Dormant cane: colour

If the bark peels away from the canes, an unpeeled bark area should be observed.

Ad. 3: Very young shoot: anthocyanin coloration of apex

Observations should be made during rapid growth.

Ad. 4: Plant: number of current season's canes

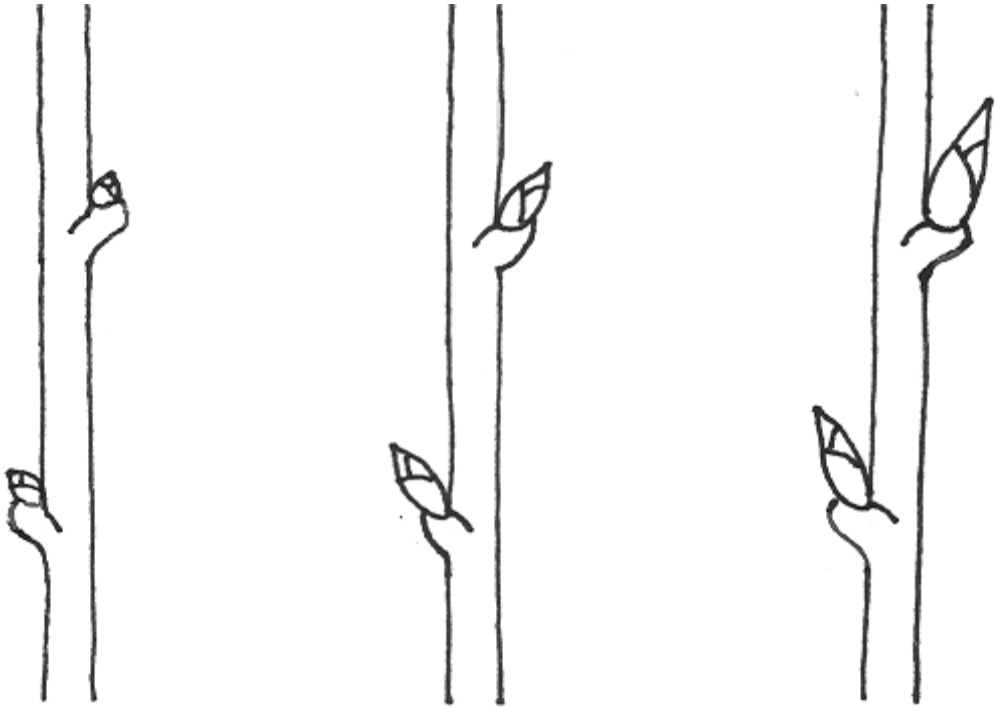
Observations should be made when the canes are about 15 cm long.

Ad. 5: Cane: length

Observations should be made at the end of the vegetative period.

Ad. 7: Cane: length of vegetative bud

Observations should be made in the middle third of the cane.



1
short

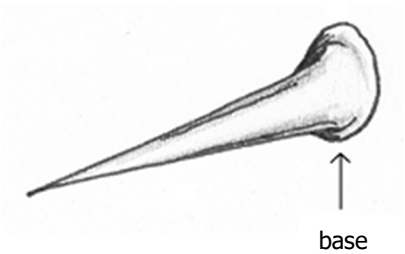
2
medium

3
long

Ad. 9: Cane: bloom

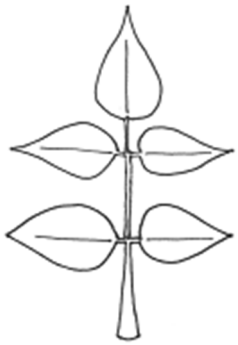
Observations should be made on the glaucosity on the surface of the cane.

Ad. 13: Prickles: size of base

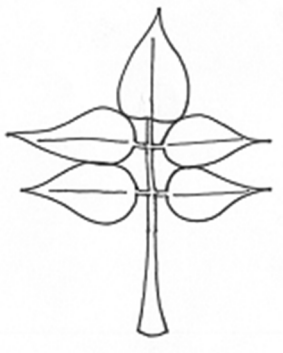


base

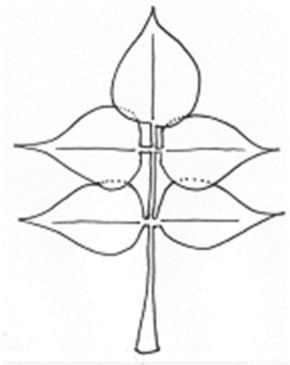
Ad. 17: Leaf: arrangement of leaflets



1
free



2
touching



3
overlapping

Ad. 20: Terminal leaflet: profile in cross section

1
concave

2
straight

3
convex

Ad. 21: Terminal leaflet: undulation

The folding along / between lateral veins should be observed.

1
very weak

2
weak

3
medium

4
strong

5
very strong

Ad. 27: Flower: diameter

Observations should be made with petals pressed into the horizontal position.

Ad. 30: Fruit: shape in lateral view

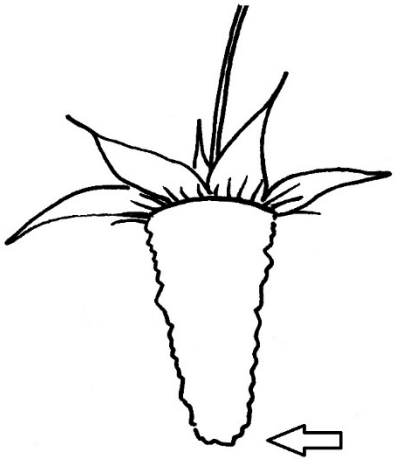
1
circular

2
broad conical

3
conical

4
trapezoidal

Ad. 35: Fruit: colour of torus at distal end



Ad. 38: Time of beginning of flowering on previous year's cane
Ad. 39: Time of beginning of flowering on current season's cane

Time of beginning of flowering is reached when 10% of the flowers are open.

Ad. 40: Time of beginning of fruit ripening on previous year's cane
Ad. 41: Time of beginning of fruit ripening on current season's cane

Time of beginning of fruit ripening is reached when the fruit can easily be removed from the torus.

9. LITERATURE

Bundessortenamt, 2006: Beschreibende Sortenliste Himbeere, Brombeere, Deutscher Landwirtschaftsverlag GmbH, Hannover, DE.

Edin, M.; Gaillard, P.; Massardier, P., 1999: Le framboisier. Monographie CTIFL.

Leemans, J.A.; Nannenga, E.T., 1957: A Morphological Classification of Raspberry varieties. Instituut voor de veredeling van tuinbouwgewassen, Wageningen, NL.

10. TECHNICAL QUESTIONNAIRE

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO/TQ-043/3 – *Rubus idaeus* L.; *Rubus x neglectus* Peck; *Rubus occidentalis* L.; *Rubus idaeus* L. x *Rubus parviflorus* L. – raspberry, black raspberry