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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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DRAFT

SWEET CHERRY

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Prunus avium (L.) L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from France
to be considered by the
Technical Working Party for Fruit Crops
at its fifty-third session, to be held virtually,
from 2022-07-11 to 2022-07-15*

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	English	French	German	Spanish
<i>Prunus avium</i> (L.) L., <i>Cerasus avium</i> (L.) Moench	Sweet Cherry	Bigarreaux, Cérisier doux	Süßkirsche	Cerezo dulce, Mollar

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.

Other associated UPOV documents:

TG/187/2 Prunus Rootstocks

* 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 *Prunus avium* (L.) L. except for varieties used only as rootstock varieties (see TG/187/2).

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 one-year old grafts, budsticks or dormant shoots for grafting.

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

5 trees or 5 budsticks or 5 dormant shoots for grafting, sufficient to propagate 5 trees.
The rootstock to be used is specified by the competent authority.

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.

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

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

3.1.4 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.

3.1.5 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

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.

3.3.2 The optimum stage of development for the assessment of each characteristic is indicated by a number in the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.

3.3.3 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 *Test Design*

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

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

3.5 *Additional Tests*

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 or 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 of plants 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 3.

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 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 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 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 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 seed or plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

- 5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.
- 5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.
- 5.3 The following have been agreed as useful grouping characteristics:
- (a) Tree: type (characteristic 1)
 - (b) Fruit: size (characteristic 24)
 - (c) Fruit: shape in ventral view (characteristic 28)
 - (d) Fruit: ground color of skin (characteristic 36)
 - (e) Fruit: color of flesh (characteristic 41)
 - (f) Fruit: firmness (characteristic 43)
 - (g) Time of beginning of flowering (characteristic 49)
 - (h) Time of beginning of fruit ripening (characteristic 50)
- 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 All relevant states of expression are presented in the characteristic.

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

		English	français	deutsch	español	Example Varieties Exemples Be ejemplo	Note
1	2	3	4	5	6	7	
		Name of characteristics in English	Nom du caractère en français	Name des Merkmals auf Deutsch	Nombre del carácter en español		
		states of expression	types d'expression	Ausprägungsstufen	tipos de expresión		

- 1 Characteristic number
- 2 (*) Asterisked characteristic – see Chapter 6.1.2
- 3 Type of expression
 QL Qualitative characteristic – see Chapter 6.3
 QN Quantitative characteristic – see Chapter 6.3
 PQ Pseudo-qualitative characteristic – see Chapter 6.3
- 4 Method of observation (and type of plot, if applicable)
 MG, MS, VG, VS – see Chapter 4.1.5
- 5 (+) See Explanations on the Table of Characteristics in Chapter 8.2
- 6 (a)-(e) See Explanations on the Table of Characteristics in Chapter 8.1
- 7 Not applicable

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	QL	VG	(a)				
	Tree: type						
	standard					Burlat	1
	compact					Compact Lambert, Compact Stella	2
2.	QN	VG	(+)				
	Tree: vigor						
	absent or very weak					Royal Marie	1
	weak					Frisco, Sweet Lorenz	2
	medium					Early Korwiks, Glenred	3
	strong					Louis, Rosilam	4
	very strong					Babelle, Regina	5
3. (*)	PQ	VG	(+)	(a)	BBCH00		
	Only varieties with standard tree type: Tree: habit						
	upright					Baïa, Lapins, Melitopol'skaya rannyaya	1
	semi-upright					Burlat, Napoléon	2
	spreading					Fertard, Sumtare, Vera	3
	drooping					Annabella, Vanda	4
4. (*)	QN	VG	(+)	(a)			
	Tree: branching						
	absent or very weak					Baïa	1
	weak					Merton Glory, Rainier	2
	medium					Firelam, Hedelfinger Riesenkirsche	3
	strong					Glenoia	4
	very strong					Alex, Emma, Fertard	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	QN	MG/VG	(a)			
	One-year-old shoot: number of lenticels					
	very few				Ferdouce, Karl	1
	few				Kordia, Sam	2
	medium				Hedelfinger Riesenkirsche, Van	3
	many				Krupnoplodnaya, Querfurter Königskirsche	4
	very many				Cambrina, Royal Bailey	5
6.	QN	VG	(+)	(a)		
	One-year-old shoot: position of vegetative bud in relation to shoot					
	adpressed				Duroni3	1
	slightly held out				Earlise	2
	markedly held out				Garnet, Rita, Sunburst	3
7.	QN	VG		BBCH33		
	Young shoot: anthocyanin coloration of apex					
	absent or very weak				Drogans Gelbe Knorpelkirsche	1
	weak				Merton Glory, Van	2
	medium				Napoléon, Rebekka	3
	strong				Namosa, Rivan	4
	very strong				Aida, Merton Heart, Pat	5
8.	QN	VG		BBCH33		
	Young shoot: pubescence of apex					
	absent or very weak					1
	weak				Hedelfinger Riesenkirsche, Van	2
	medium				Kassins Frühe	3
	strong				Burlat, Early Rivers	4
	very strong					5

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9.	PQ	VG	(+)	BBCH50			
	Fruiting spur: shape of apex of flowering bud						
	acute					Bellise, Santina	1
	obtuse					Earlise, Garnet	2
	rounded					Duroni 3, Van	3
10	QN	MG/VG	(b)	BBCH39			
	Leaf blade: length						
	very short						1
	very short to short						2
	short					Cambrina, Sumtare, Szomolyai fekete	3
	short to medium						4
	medium					Napoléon, Vanda	5
	medium to long					Benton	6
	long					Merton Crane	7
	long to very long					Babelle, Rubilam	8
	very long					Habunt	9
11	QN	MG/VG	(b)	BBCH39			
	Leaf blade: width						
	very narrow						1
	very narrow to narrow						2
	narrow					Sumtare, Sylvia	3
	narrow to medium					Royal Marie	4
	medium					Guillaume, Poisdal, Stella	5
	medium to broad					Sweet Lorenz	6
	broad					Badacsonyi, Germersdorfi 45, Glenoia, Merton Crane	7
	broad to very broad					Rosilam, Sweet Aryana	8
	very broad					Babelle	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12 (*)	QN	MG/VG	(b)	BBCH39		
	Leaf blade: ratio length/width					
	very low					1
	very low to low					2
	low				Badacsonyi, Hudson	3
	low to medium				Rocket	4
	medium				Bing, Merton Crane, Walter	5
	medium to high					6
	high				Hedelfinger Riesenkirsche, Poisdel, Sylvia, Vanda	7
	high to very high				Benton, Karl	8
	very high				Babelle, Habunt	9
13	QN	VG	(b)	BBCH39		
	Leaf blade: intensity of green color of upper side					
	very light				Bigarreau d'Or	1
	light				Sumtare	2
	medium				Emma, Napoléon, Vanda	3
	dark				Burlat	4
	very dark				Big Star, Frisco	5
14	QN	MG/VG	(b)	BBCH39		
	Leaf: length of petiole					
	very short					1
	very short to short					2
	short				Sylvia, Van	3
	short to medium					4
	medium				Sam, Stella	5
	medium to long					6
	long				Badacsonyi, Merton Crane	7
	long to very long					8
	very long					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15 (*)	QN	MG/VG	(b)	BBCH39		
	Leaf: ratio length of blade / length of petiole					
	very low					1
	very low to low					2
	low				Badacsonyi, Lambert	3
	low to medium					4
	medium				Burlat, Sam	5
	medium to high					6
	high				Hedelfinger Riesenkirsche, Stella	7
	high to very high					8
	very high					9
16 (*)	QL	VG	(b)	BBCH39		
	Leaf: presence of nectaries					
	absent				Namosa, Sylvia	1
	present				Summit, Sumtare	9
17	PQ	VG	(b)	BBCH39		
	Leaf: color of nectaries					
	greenish yellow				Drogans Gelbe Knorpelkirsche, Van	1
	orange yellow				Hudson, Reverchon	2
	red				Burlat, Early Rivers, Germersdorfi 45, Sylvia	3
	purple				Gege, Paulus	4
18	QN	VG	(b)	BBCH39		
	Leaf: predominant number of nectaries					
	none					1
	two				Narana	2
	more than two				Royal Lafayette	3

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19	QN	VG	(+)		BBCH 65		
	Stamen: position compared to the top of petals						
	below					Burlat	1
	same level					Redlam	2
	above					Royal Hazel	3
20	QN	VG	(+)		BBCH 65		
	Stigma: position in relation to anthers						
	below					Napoléon	1
	same level					Van	2
	above					Burlat	3
21	QN	MG/VG	(+)	(c)	BBCH 65		
	Flower: diameter						
	very small						1
	small					Anita, Szomolyai fekete	2
	medium					Sylvia, Van	3
	large					Aida, Burlat	4
	very large					Rosilam, Walter	5
22	PQ	MG	(+)	(c)	BBCH 65		
	Flower: shape of petal						
	circular					Kordia, Rosie, Schneiders spaete Knorpelkirsche	1
	medium obovate					Burlat, Royal Hazel, Sunburst	2
	broad obovate					Firelam, Hedelfinger Riesenkirsche, Van	3
23	QN	MG	(+)	(c)	BBCH 65		
	Flower: arrangement of petals						
	free					Burlat, Royal Hazel, Sunburst	1
	intermediate					Early Korwiks, Germersdorfi 45, Van	2
	overlapping					Hudson	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24 (*)	QN	MG/VG	(+)	(d)	BBCH89	
	Fruit: size					
	very low					1
	very low to low					2
	low					3
	low to medium					4
	medium					5
	medium to high					6
	high					7
	high to very high					8
	very high					9
25	QN	MG/VG	(d), (e)		BBCH89	
	Fruit: height					
	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
26	QN	MG/VG	(d), (e)		BBCH89	
	Fruit: width (in ventral view)					
	very small					1
	small to very small					2
	small					3
	small to medium					4
	medium					5
	medium to large					6
	large					7
	large to very large					8
	very large					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27	QN	MG/VG	(d), (e)	BBCH89		
	Fruit: ratio height/width (in ventral view)					
	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
28 (*)	PQ	VG	(+)	(d), (e)	BBCH89	
	Fruit: shape in ventral view					
	circular					1
	broad elliptic					2
	cordate					3
	reniform					4
	oblate					5
29	PQ	VG	(+)	(d)	BBCH89	
	Fruit: shape of stalk end (from above)					
	circular					1
	elliptic					2
	cordate					3
30	QN	VG	(+)	(d)	BBCH89	
	Fruit: shape of base in ventral view					
	truncate or weakly cordate					1
	medium cordate					2
	strongly cordate					3

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31	PQ	VG	(+)	(d)	BBCH89			
	Fruit: shape of apex in dorsal view							
	obcordate							1
	truncate							2
	rounded							3
	pointed							4
32	QN	VG		(d)	BBCH89			
	Fruit: suture							
	absent or slightly conspicuous							1
	moderately conspicuous							2
	strongly conspicuous							3
33 (*)	QN	MG		(d)	BBCH89			
	Fruit: length of stalk							
	very short						Folfer, Van	1
	very short to short							2
	short						Burlat, Szomolyai fekete	3
	short to medium							4
	medium						Hedelfinger Riesenkirsche, Sunburst	5
	medium to long							6
	long						Kordia, Noire de Meched	7
	long to very long							8
	very long						Delflash	9
34	QN	MG/VG		(d)	BBCH89			
	Fruit: thickness of stalk							
	very thin							1
	thin						Hedelfinger Riesenkirsche, Kordia	2
	medium						Germersdorfi 45, Sunburst	3
	thick						Van	4
	very thick							5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35	QN	VG	(d)	BBCH89		
	Fruit: adherence to stalk					
	absent or weak				Fermina, Royal Lafayette	1
	medium					2
	strong				Feroni	3
36	(*) PQ	MG/VG	(d)			
	Fruit: ground color of skin					
	yellow				Bigarreau d'Or, Dönnissens Gelbe	1
	orange red				Tardif de Vignola	2
	light red				Krupnoplodnaya	3
	red				Alex, Sunburst	4
	brown red				Burlat, Kordia, Lapins	5
	dark red				Hedelfinger Riesenkirsche, Stella	6
	blackish				Annabella, Knauffs Schwarze, Namosa	7
37	(*) QN	VG	(d)			
	Fruit: relative area of over color					
	absent or 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

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38	QN	VG	(d)				
	Fruit: size of lenticels on skin						
		very small				Benton	1
		small				Emma, Hedelfinger Riesenkirsche	2
		medium				Frisco, Guillaume	3
		large				Reverchon, Rosie	4
		very large				Royal Hazel	5
39	QN	VG	(d)				
	Fruit: number of lenticels on skin						
		absent or very few				Henriette	1
		few				Burlat, Rita	2
		medium				Sunburst	3
		many				Marmotte, Vera	4
		very many				Royal Hazel	5
40	QN	VG	(+)	(d)			
	Fruit: thickness of skin						
		thin				Glenred, Müncheberger Frühernte	1
		intermediate				Big Star, Germersdorfi 45	2
		thick				Carmen, Walter	3
41 (*)	PQ	VG	(d)				
	Fruit: color of flesh						
		whitish				Baia, Napoléon, Rosilam	1
		yellow				Cambrina, Dönnissens Gelbe	2
		pink				Glenred, Reverchon, Sunburst	3
		medium red				Germersdorfi 45, Hedelfinger Riesenkirsche, Redlam, Swing	4
		dark red				Emma, Rubin, Szomolyai feketete	5

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42	PQ	VG	(d)				
	Fruit: color of juice						
	colorless					Dönnissens Gelbe, Rosilam	1
	light yellow					Baïa, Napoléon, Stardust	2
	pink					Areko, Reverchon, Rocket, Sunburst	3
	red					Betti, Sam, Sweet Lorenz, Van	4
	purple					Emma, Hedelfinger Riesenkirsche, Kavics, Sweet Gabriel	5
43 (*)	QN	MG/VG	(d)				
	Fruit: firmness						
	very soft					Early Rivers	1
	soft					Kordia, Narana, Sunburst	2
	medium					Benton, Emma, Reverchon, Van	3
	firm					Kavics, Sumtare, Sweet Lorenz	4
	very firm					Folfer	5
44	QN	MG	(d)				
	<u>TO DELETE ?</u> Fruit: acidity						
	low					Burlat, Müncheberger Frühernte	1
	medium					Napoléon, Van	2
	high					Sunburst	3
45	PQ	MG	(d)				
	<u>TO DELETE ?</u> Fruit: sweetness						
	low					Müncheberger Frühernte	3
	medium					Burlat, Sunburst	5
	high					Bigarreau d'Or, Kordia	7

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46 (*)	QN	MG/VG	(+)	(d)				
	Stone: size							
	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
47	QN	MG/VG		(d)				
	Fruit: ratio size of fruit/size of stone							
	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
48 (*)	PQ	VG		(d)				
	Stone: shape in ventral view							
	elliptic						Kordia, Napoléon	1
	broad elliptic						Knauffs, Rita	2
	circular						Germersdorfi 45, Van	3
	ovate							4

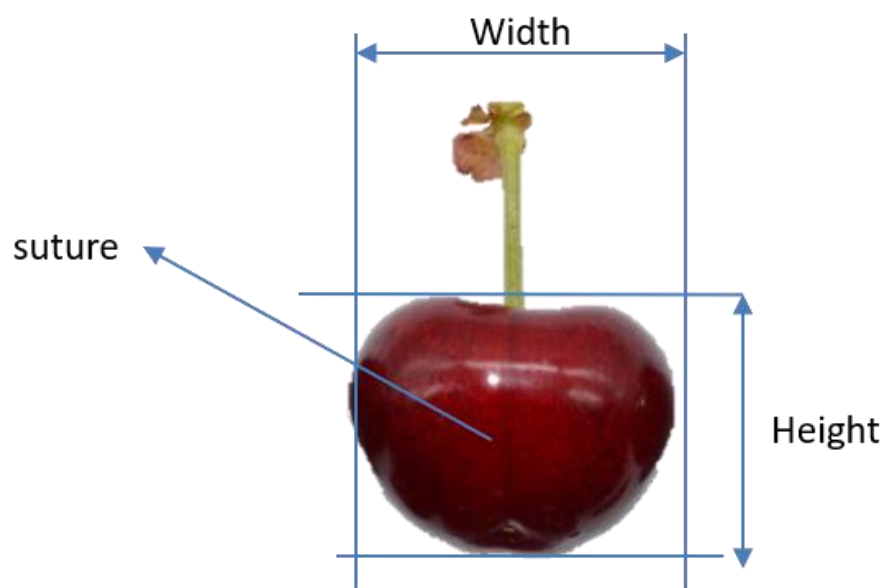
	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
49 (*)	QN	MG/VG	(+)	BBCH60		
	Time of beginning of flowering					
	very early				Müncheberger Frühernte	1
	very early to early					2
	early				Lapins, Marmotte, Sumtare	3
	early to medium					4
	medium				Merton Glory, Napoléon, Sumele	5
	medium to late					6
	late				Germersdorfi 45, Reverchon	7
	late to very late					8
	very late				Regina	9
50 (*)	QN	MG/VG	(+)	BBCH89		
	Time of beginning of fruit ripening					
	very early				Cristobalina, Hâtive de Bâle, Müncheberger Frühernte	1
	very early to early					2
	early				Burlat, Early Rivers, Valerij Chkalov	3
	early to medium					4
	medium				Guillaume, Sunburst	5
	medium to late					6
	late				Hedelfinger Riesenkirsche, Katalin	7
	late to very late					8
	very late				Hudson, Regina, Vittoria	9

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

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

- (a) Tree / One year old shoot: unless otherwise stated, all observations on the tree and on the one-year old shoot should be made during winter, on trees that have fruited at least once.
- (b) Leaf: unless otherwise stated, all observations of the leaf should be made on the middle fully developed leaves of a spur in summer.
- (c) Flower: unless otherwise stated, all observations on the flower should be made on fully developed flowers at the beginning of anther dehiscence.
- (d) Fruit and stone: all observations on the fruit and the stone should be made at full maturity (BBCH 87).
- (e) Ventral view of the fruit



8.2 *Explanations for individual characteristics*

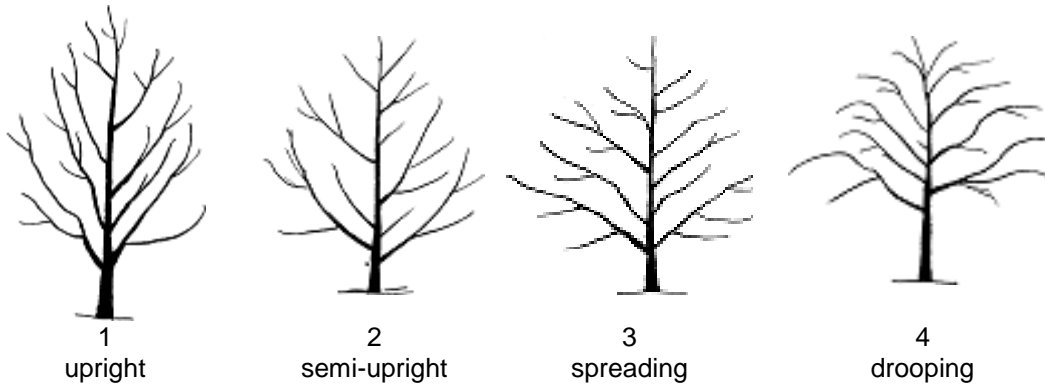
Ad. 2: Tree: vigor

The tree vigor should be considered as the overall abundance of vegetative growth, observed when the tree is in peak vegetative growth.

Ad. 3: Only varieties with standard tree type: Tree: habit

See Ad. 2

The observations should be made during winter after at least one satisfactory crop of fruit.



Ad. 4: Tree: branching

Observations should be carried out on scaffold branches with the degree of branching being indicated by the density of lateral branches and shoots, excluding fruiting shoots.



Ad. 6: One-year-old shoot: position of vegetative bud in relation to shoot



Ad. 9: Fruiting spur: shape of apex of flowering bud



1
acute



2
obtuse



3
rounded

Ad. 19: Stamen: position compared to the top of petals



1
below



2
same level



3
above

Ad. 20: Stigma: position in relation to anthers



1
below



2
same level



3
above

Ad. 21: Flower: diameter

Observations or measurements should be made on completely opened flowers with petals pressed into horizontal position.

Ad. 22: Flower: shape of petal



1
circular

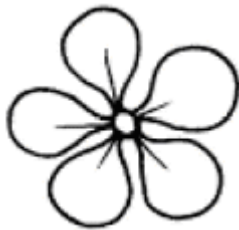


2
medium obovate

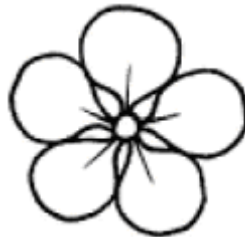


3
broad obovate

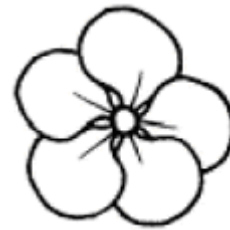
Ad. 23: Flower: arrangement of petals



1
free



2
intermediate








3
overlapping

Ad. 24: Fruit: size

Should be assessed by weighing fruit or measuring fruit caliber.

Ad. 28: Fruit: shape in ventral view

	← broadest part →		
	below middle	at middle	above middle
width (ratio length/width)			
narrow (high)			 3 cordate
medium (medium)		 1 circular	 4 reniform
broad (low)		 2 broad elliptic	 5 oblate

Ad. 29: Fruit: shape of stalk end (from above)



1
circular



2
elliptic



3
cordate

Ad. 30: Fruit: shape of base in ventral view



1
truncate or weakly cordate



2
medium cordate

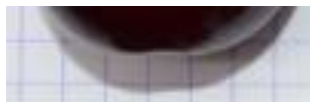


3
strongly cordate

Ad. 31: Fruit: shape of apex in dorsal view



1
obcordate



2
truncate



3
rounded

Ad. 40: Fruit: thickness of skin

Observations should be made by eating the fruits.

Ad. 46: Stone: size

Can be observed by weighting or sizing the stone.

Ad. 49: Time of beginning of flowering

When 5-10% open flowers can be observed.

Ad. 50: Time of beginning of fruit ripening

When 5-10% ripe fruits can be observed. fruit ripening should be considered as the time of eating ripeness, when the fruit can be most easily removed from the stalk.

9. Literature

Fadon, E., Herrero M., Rodrigo J., 2015: "Flower development in sweet cherry framed in the BBCH scale".
Scientia Horticulturae (192), 141-147

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Application date: (not to be filled in by the applicant)
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TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire	
1.1 Botanical name	<input type="text" value="Prunus avium (L.) L."/>
1.2 Common name	<input type="text" value="Sweet Cherry"/>
2. Applicant	
Name	<input type="text"/>
Address	<input type="text"/>
Telephone No.	<input type="text"/>
Fax No.	<input type="text"/>
E-mail address	<input type="text"/>
Breeder (if different from applicant)	<input type="text"/>
3. Proposed denomination and breeder's reference	
Proposed denomination (if available)	<input type="text"/>
Breeder's reference	<input type="text"/>

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

--

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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4.2	Method of propagating the variety	
4.2.1	Other (Please provide details)	[]
	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

Characteristics	Example Varieties	Note
5.1 Tree: type (1)		
standard	Burlat	1 []
compact	Compact Lambert, Compact Stella	2 []
5.2 Fruit: size (24)		
very low		1 []
very low to low		2 []
low		3 []
low to medium		4 []
medium		5 []
medium to high		6 []
high		7 []
high to very high		8 []
very high		9 []
5.3 Fruit: shape in ventral view (28)		
circular		1 []
broad elliptic		2 []
cordate		3 []
reniform		4 []
oblate		5 []
5.4 Fruit: ground color of skin (36)		
yellow	Bigarreau d'Or, Dönnissens Gelbe	1 []
orange red	Tardif de Vignola	2 []
light red	Krupnoplodnaya	3 []
red	Alex, Sunburst	4 []
brown red	Burlat, Kordia, Lapins	5 []
dark red	Hedelfinger Riesenkirsche, Stella	6 []
blackish	Annabella, Knauffs Schwarze, Namosa	7 []

Characteristics	Example Varieties	Note
5.5 Fruit: color of flesh (41)		
whitish	Baïa, Napoléon, Rosilam	1 []
yellow	Cambrina, Dönnissens Gelbe	2 []
pink	Glenred, Reverchon, Sunburst	3 []
medium red	Germersdorfi 45, Hedelfinger Riesenkirsche, Redlam, Swing	4 []
dark red	Emma, Rubin, Szomolyai fekete	5 []
5.6 Fruit: firmness (43)		
very soft	Early Rivers	1 []
soft	Kordia, Narana, Sunburst	2 []
medium	Benton, Emma, Reverchon, Van	3 []
firm	Kavics, Sumtare, Sweet Lorenz	4 []
very firm	Folfer	5 []
5.7 Time of beginning of flowering (49)		
very early	Müncheberger Frühernte	1 []
very early to early		2 []
early	Lapins, Marmotte, Sumtare	3 []
early to medium		4 []
medium	Merton Glory, Napoléon, Sumele	5 []
medium to late		6 []
late	Germersdorfi 45, Reverchon	7 []
late to very late		8 []
very late	Regina	9 []
5.8 Time of beginning of fruit ripening (50)		
very early	Cristobalina, Hâtive de Bâle, Müncheberger Frühernte	1 []
very early to early		2 []
early	Burlat, Early Rivers, Valerij Chkalov	3 []
early to medium		4 []
medium	Guillaume, Sunburst	5 []
medium to late		6 []
late	Hedelfinger Riesenkirsche, Katalin	7 []
late to very late		8 []
very late	Hudson, Regina, Vittoria	9 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>			
<p>Comments:</p>			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes No

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes No

(If yes, please provide details)

7.3 Other information

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

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

9. Information on plant material to be examined or submitted for examination

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []
(c) Tissue culture	Yes []	No []
(d) Other factors	Yes []	No []

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature Date

[End of document]