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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

GRAPEVINE *

UPOV code: VITIS

Vitis L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Vitis L.	Grapevine	Vigne	Rebe	Vid

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 *Vitis* 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

(a) plants on their own roots;
(b) rooted grafts with scions grafted on a rootstock to be specified by the competent authority;
(c) top graft cuttings to produce grafted plants; or
(d) cuttings to produce plants on their own roots.

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

5 plants,

or budwood or cuttings sufficient to produce 5 plants.

In the case of a variety with roots sensitive to *Phylloxera vastatrix* the competent authority can require scions grafted on a specific rootstock variety not being sensitive to that pest. The competent authority can accept the submission of propagating material sufficient to produce 10 rooted grafts or 10 plants on their 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

The minimum duration of tests should normally be two independent growing cycles.

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

3.3.2 The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column of the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.3.

3.3.3 The recommended method of observing the characteristic is indicated by the following key in the second column of the Table of Characteristics:

MG: single measurement of a group of plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 5 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 Number of Plants / Parts of Plants to be Examined

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

3.6 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.

4.2 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 tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous 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) Young shoot: openness of tip (characteristic 2)
(b) Young leaf: color of upper side of blade (characteristic 6)
(c) Young leaf: prostrate hairs between main veins on lower side of blade (characteristic 7)
(d) Flower: sexual organs (characteristic 16)
(e) Mature leaf: number of lobes (characteristic 20)
(f) Time of beginning of berry ripening (characteristic 31)
(g) Berry: shape (characteristic 36)
(h) Berry: color of skin (without bloom) (characteristic 37)
(i) Berry: anthocyanin coloration of flesh (characteristic 40)
(j) Berry: particular flavor (characteristic 42)
(k) Berry: formation of seeds (characteristic 43)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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

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.

6.3 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.

For the example varieties – other than rootstocks – the color of the berry of the example varieties is indicated in the table in Chapter 8.4, following the standardized code used within the European Union for the classification of vine varieties: B = white, G = grey, N = black, Rg = red, Rs = rose. That table also provides synonyms of certain example varieties.

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, VG: see Chapter 3.3.2

(a)-(b) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.2

07-00 See Explanations on the Table of Characteristics in Chapter 8.3

In the second column of the Table of Characteristics for each characteristic are indicated the code numbers of the International Organization of Vine and Wine (O.I.V.) (O-...) and International Plant Genetic Resources Institute (IPGRI)[1] (I-...) of the corresponding characteristic in their Descriptor lists for grapevine varieties and *Vitis* species, drawn up jointly by the O.I.V. (International Office of the Grapevine and Wine, 18, rue d'Aguesseau, 75008 Paris, France), IPGRI, (Bioversity International, Via dei Tre Denarie 472/a 00057 Maccarese (Fiumicino) Rome, Italy) and UPOV, in order to avoid risks of mistakes and errors resulting from the multiplicity and heterogeneity of existing lists of distinctive characteristics.

O-... code number of O.I.V.

I-... code number of IPGRI

[1] IPGRI now operates under the name "Bioversity International".

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

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)	**07-09 O-301 I-7.1.1 MG**	**Time of bud burst**	**Époque de débourrement**	**Zeitpunkt des Knospenaufbruchs**	**Época de desborre**		
QN		very early	très précoce	sehr früh	muy temprana	Nero	1
		early	précoce	früh	temprana	Chardonnay	3
		medium	moyenne	mittel	media	Cabernet Sauvignon	5
		late	tardive	spät	tardía	Mourvèdre	7
		very late	très tardive	sehr spät	muy tardía	Airen	9
2. (*) (+)	**53-69 O-001 I-6.1.1 VG**	**Young shoot: openness of tip**	**Jeune rameau: ouverture de l'extrémité**	**Junger Trieb: Öffnung der Triebspitze**	**Pámpano: apertura de la punta**		
QN		closed	fermée	geschlossen	cerrada	Riparia Gloire de Montpellier	1
		slightly open	légèrement ouverte	leicht offen	ligeramente abierto	3309 Couderc	2
		half open	demi-ouverte	halb offen	semi abierta	Kober 5 BB	3
		wide open	largement ouverte	weit offen	muy abierta	Cina	4
		fully open	complètement ouverte	vollständig offen	completamente abierta	Pinot noir, Riesling	5
3. (*) (+)	**53-69 O-004 I-6.1.3 VG**	**Young shoot: prostrate hairs on tip**	**Jeune rameau: poils couchés de l'extrémité**	**Junger Trieb: Wollbehaarung an der Triebspitze**	**Pámpano: pelos postrados en la punta**		
QN		absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	3309 Couderc	1
		sparse	épars	locker	escasos	Chasselas blanc	3
		medium	moyens	mittel	medios	Pinot noir	5
		dense	denses	dicht	densos	Lipovina	7
		very dense	très denses	sehr dicht	muy densos	Meunier	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
4. (*) (+)	**53-69 O-003 I-6.1.2 VG**	**Young shoot: anthocyanin coloration of prostrate hairs on tip**	**Jeune rameau: pigmentation anthocyanique des poils couchés de l'extrémité**	**Junger Trieb: Anthocyanfärbung der Woll-behaarung an der Triebspitze**	**Pámpano: pigmentación antociánica de los pelos postrados en la punta**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Furmint	1
		weak	faible	gering	débil	Riesling	3
		medium	moyenne	mittel	media	Barbera	5
		strong	forte	stark	fuerte	Cabernet Sauvignon	7
		very strong	très forte	sehr stark	muy fuerte	Cina	9
5. (+)	**53-69 O-005 I-6.1.4 VG**	**Young shoot: erect hairs on tip**	**Jeune rameau: poils dressés de l'extrémité**	**Junger Trieb: Borstenbehaarung an der Triebspitze**	**Pámpano: pelos erectos en la punta**		
QN		absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	Rupestris du Lot	1
		sparse	épars	locker	escasos	3309 Couderc	3
		medium	moyens	mittel	medios	3306 Couderc	5
		dense	denses	dicht	densos	Riparia Gloire de Montpellier	7
		very dense	très denses	sehr dicht	muy densos		9
6. (*) (+)	**53-69 O-051 I-6.1.16 VG**	**Young leaf: color of upper side of blade**	**Jeune feuille: couleur de la face supérieure du limbe**	**Junges Blatt: Farbe der Oberseite der Spreite**	**Hoja joven: color del haz del limbo**		
PQ		yellow green	verte jaune	gelbgrün	verde amarillento	Furmint	1
		green	vert	grün	verde	Silvaner	2
		green with anthocyanin spots	vert à plages anthocyaniques	grün mit Anthocyanflecken	verde con zonas antociánicas	Riesling	3
		light copper red	rouge cuivré clair	hellkupferrot	rojo-cobrizo claro	Kober 5 BB	4
		dark copper red	rouge cuivré foncé	dunkelkupferrot	rojo-cobrizo oscuro	Chasselas blanc	5
		wine red	rouge vineux	weinrot	rojo vino	Deckrot	6

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
7. (*) (+)	**53-69 O-053 I-6.1.17 VG**	**Young leaf: prostrate hairs between main veins on lower side of blade**	**Jeune feuille: poils couchés entre les nervures principales de la face inférieure du limbe**	**Junges Blatt: Wollbehaarung zwischen den Hauptadern auf der Unterseite der Spreite**	**Hoja joven: pelos postrados entre las nervaduras principales del envés del limbo**		
QN		absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	Rupestris du Lot	1
		sparse	épars	locker	escasos	Muscat à petits grain blancs	3
		medium	moyens	mittel	medios	Merlot, Riesling	5
		dense	denses	dicht	densos	Clairette	7
		very dense	très denses	sehr dicht	muy densos	Meunier	9
8. (+)	**53-69 O-056 I.6.1.20 VG**	**Young leaf: erect hairs on main veins on lower side of blade**	**Jeune feuille: poils dressés sur les nervures principales de la face inférieure du limbe**	**Junges Blatt: Borstenbehaarung auf den Haupt-adern auf der Unterseite der Spreite**	**Hoja joven: pelos erectos sobre las nervaduras principales del envés del limbo**		
QN		absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	Rupestris du Lot	1
		sparse	épars	locker	escasos	3309 Couderc	3
		medium	moyens	mittel	medios	Kober 125 AA	5
		dense	denses	dicht	densos	Teleki 8 B	7
		very dense	très denses	sehr dicht	muy densos	Riparia Scribner	9
9. (+)	**60-69 O-006 I-6.1.5 VG**	**Shoot: attitude (before tying)**	**Rameau: port (avant palissage)**	**Trieb: Haltung (vor dem Heften)**	**Sarmiento: porte (antes de ser entutorado)**		
QN		erect	érigé	aufrecht	erecto	Garnacha tinta	1
		semi-erect	demi-érigé	halb aufrecht	semierecto	Muscat Ottonel	3
		horizontal	horizontal	waagerecht	horizontal	Barbera	5
		semi-drooping	demi-retombant	halb hängend	semi-rastrero	Aramon noir	7
		drooping	retombant	hängend	rastrero	Albillo Real	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10. **(+)**	**60-69 O-007 I-6.1.6 VG**	**Shoot: color of dorsal side of internodes**	**Rameau: couleur de la face dorsale de l'entre-nœud**	**Trieb: Farbe der Rückenseite der Internodien**	**Sarmiento: color de la cara dorsal del entrenudo**		
QN	**(a)**	green	verte	grün	verde	Sauvignon	1
		green and red	verte et rouge	grün und rot	verde y rojo	Carignan	2
		red	rouge	rot	rojo	Riesling	3
11. **(*)** **(+)**	**60-69 O-008 I-6.1.7 VG**	**Shoot: color of ventral side of internodes**	**Rameau: couleur de la face ventrale de l'entre-nœud**	**Trieb: Farbe der Bauchseite der Internodien**	**Sarmiento: color de la cara ventral del entrenudo**		
QN	**(a)**	green	verte	grün	verde	Sauvignon	1
		green and red	verte et rouge	grün und rot	verde y rojo	Carignan	2
		red	rouge	rot	rojo	Mourvedre	3
12. **(+)**	**60-69 O-009 I-6.1.8 VG**	**Shoot: color of dorsal side of nodes**	**Rameau: couleur de la face dorsale du nœud**	**Trieb: Farbe der Rückenseite der Nodien**	**Sarmiento: color de la cara dorsal del nudo**		
QN	**(a)**	green	verte	grün	verde	Sauvignon	1
		green and red	verte et rouge	grün und rot	verde y rojo	Barbera	2
		red	rouge	rot	rojo	Kober 5 BB	3
13. **(+)**	**60-69 O-010 I-6.1.9 VG**	**Shoot: color of ventral side of nodes**	**Rameau: couleur de la face ventrale du nœud**	**Trieb: Farbe der Bauchseite der Nodien**	**Sarmiento: color de la cara ventral del nudo**		
QN	**(a)**	green	verte	grün	verde	3309 Couderc	1
		green and red	verte et rouge	grün und rot	verde y rojo	Börner	2
		red	rouge	rot	rojo	Kober 5 BB	3

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14.	**60-69 O-012 I-6.1.11 VG**	**Shoot: erect hairs on internodes**	**Rameau: poils dressés sur les entre-nœuds**	**Trieb: Borstenbehaarung auf den Internodien**	**Sarmiento: pelos erectos sobre los entrenudos**		
QN	**(a)**	absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	3309 Couderc	1
		sparse	épars	locker	escasos	161-49 Couderc	3
		medium	moyens	mittel	medios	Teleki 8 B	5
		dense	denses	dicht	densos	Kober 125 AA, Riparia Scribner	7
		very dense	très denses	sehr dicht	muy densos	Cina	9
15.	**60-73 O-017 I-6.1.15 VG**	**Shoot: length of tendrils**	**Rameau: longueur des vrilles**	**Trieb: Länge der Ranken**	**Sarmiento: longitud del zarcillos**		
QN	**(a)**	very short	très courtes	sehr kurz	muy cortos	Rupestris du Lot	1
		short	courtes	kurz	cortos	Aramon noir	3
		medium	moyennes	mittel	medios	Pinot noir	5
		long	longues	lang	largos	Chasselas blanc	7
		very long	très longues	sehr lang	muy largos	Emperor	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16. (*) (+)	**61-68 O-151 I-6.2.1 VG**	**Flower: sexual organs**	**Fleur: organes sexuels**	**Blüte: Geschlechtsorgane**	**Flor: órganos sexuales**		
QL		fully developed stamens and no gynoecium	étamines complètement développées et pas de gynécée	vollentwickelte Staubblätter und kein Stempel	estambres completamente desarrollados y gineceo ausente	Rupestris du Lot	1
		fully developed stamens and reduced gynoecium	étamines complètement développées et un gynécée réduit	vollentwickelte Staubblätter und reduzierter Stempel	estambres completamente desarrollados y gineceo reducido	3309 Couderc	2
		fully developed stamens and fully developed gynoecium	étamines complètement développées et un gynécée complètement développé	vollentwickelte Staubblätter und vollentwickelter Stempel	estambres y gineceo completamente desarrollados	Chasselas blanc	3
		reflexed stamens and fully developed gynoecium	étamines réfléchies et un gynécée complètement développé	zurückgebogene Staubblätter und vollentwickelter Stempel	estambres reflejos y gineceo completamente desarrollado	Kober 5 BB, Ohanes	4
17. (*)	**75-81 O-065 I-6.1.21 VG**	**Mature leaf: size of blade**	**Feuille adulte: taille du limbe**	**Ausgewachsenes Blatt: Größe der Spreite**	**Hoja madura: tamaño del limbo**		
QN	**(b)**	very small	très petit	sehr klein	muy pequeño	Paulsen 1103	1
		small	petit	klein	pequeño	Gamay	3
		medium	moyen	mittel	medio	Cabernet Sauvignon	5
		large	grand	groß	grande	Carignan	7
		very large	très grand	sehr groß	muy grande	Bobal, Emperor	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
18. (*) (+)	**75-81 O-067 I-6.1.22 VG**	**Mature leaf: shape of blade**	**Feuille adulte: forme du limbe**	**Ausgewachsenes Blatt: Form der Spreite**	**Hoja madura: forma del limbo**		
PQ	**(b)**	cordate	cordiforme	herzförmig	cordiforme	Petit Verdot	1
		wedge-shaped	cunéiforme	keilförmig	cuneiforme	Riparia Gloire de Montpellier	2
		pentagonal	pentagonale	fünfeckig	pentagonal	Chasselas blanc	3
		circular	orbiculaire	kreisförmig	orbicular	Clairette	4
		kidney-shaped	réniforme	nierenförmig	reniforme	Rupestris du Lot	5
19.	**75-81 O-075 I-6.1.26 VG**	**Mature leaf: blistering of upper side of blade**	**Feuille adulte: cloqûre de la face supérieure du limbe**	**Ausgewachsenes Blatt: Blasigkeit der Oberseite der Spreite**	**Hoja madura: abullonado del haz**		
QN	**(b)**	absent or very weak	nulle ou très faible	fehlend oder sehr gering	nulo o muy débil	Rupestris du Lot	1
		weak	faible	gering	débil	Chasselas blanc	3
		medium	moyenne	mittel	medio	Semillon	5
		strong	forte	stark	fuerte	Merlot	7
		very strong	très forte	sehr stark	muy fuerte	Brancellao	9
20. (*) (+)	**75-81 O-068 I-6.1.23 VG**	**Mature leaf: number of lobes**	**Feuille adulte: nombre de lobes**	**Ausgewachsenes Blatt: Anzahl Lappen**	**Hoja madura: número de lóbulos**		
QN	**(b)**	one	un	einer	uno	Rupestris du Lot	1
		three	trois	drei	tres	Chenin blanc	2
		five	cinq	fünf	cinco	Chasselas blanc	3
		seven	sept	sieben	siete	Vermentino	4
		more than seven	plus de sept	mehr als sieben	más de siete	Hebron	5

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21. (+)	**75-81 O- – I-6.1.34 VG**	**Mature leaf: depth of upper lateral sinuses**	**Feuille adulte: profondeur des sinus latéraux supérieurs**	**Ausgewachsenes Blatt: Tiefe der oberen Seiten-buchten**	**Hoja madura: profundidad de los senos laterales superiores**		
QN	**(b)**	absent or very shallow	nulle ou très superficiels	fehlend oder sehr flach	ausentes o muy superficiales	Melon	1
		shallow	superficiels	flach	superficiales	Gamay	3
		medium	moyens	mittel	medios	Merlot	5
		deep	profonds	tief	profundos	Chasan	7
		very deep	très profonds	sehr tief	muy profundos	Chasselas Cioutat	9
22. (+)	**75-81 O-082 I-6.1.33 VG**	**Only varieties with lobed leaves: Mature leaf: arrangement of lobes of upper lateral sinuses**	**Seulement variétés avec feuilles lobulées: Feuille adulte: arrangement des lobes des sinus latéraux supérieurs**	**Nur Sorten mit gelappten Blättern: Ausgewachsenes Blatt: Anordnung der Lappen der oberen Seitenbuchten**	**Solo variedades de hojas lobuladas: Hoja adulta: disposición de los lóbulos de los senos laterales superiores**		
QN	**(b)**	open	ouverts	offen	abiertos	Folle Blanche	1
		closed	fermés	geschlossen	cerrados	Chasselas blanc	2
		slightly overlapped	légèrement chevauchants	leicht überlappt	ligeramente superpuestos	Cabernet Sauvignon	3
		strongly overlapped	très chevauchants	weit überlappt	muy superpuestos	Clairette	4

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23. (*) (+)	**75-81 O-079 I-6.1.30 VG**	**Mature leaf: arrangement of lobes of petiole sinus**	**Feuille adulte: arrangement des lobes du sinus pétiolaire**	**Ausgewachsenes Blatt: Anordnung der Lappen der Stielbucht**	**Hoja madura: postura de los lóbulos en el seno peciolar**		
QN	**(b)**	very wide open	très largement ouverts	sehr weit offen	muy ampliamente abierta	Rupestris du Lot	1
		wide open	très ouverts	weit offen	ampliamente abierta	Riparia Gloire de Montpellier	2
		half open	demi-ouverts	halb offen	abierta a mitad	Aramon noir	3
		slightly open	peu ouverts	leicht offen	ligeramente abierta	Sauvignon	4
		closed	fermés	geschlossen	cerrada	Chasselas blanc	5
		slightly overlapped	légèrement chevauchants	leicht überlappt	ligeramente superpuesta	Aubun	6
		half overlapped	demi-chevauchants	halb überlappt	semisuperpuesta	Riesling	7
		strongly overlapped	très chevauchants	weit überlappt	fuertemente superpuesta	Clairette	8
		very strongly overlapped	très fortement chevauchants	sehr weit überlappt	muy fuertemente superpuesta	Domina	9
24. (*) (+)	**75-81 O- – I-6.1.28 VG**	**Mature leaf: length of teeth**	**Feuille adulte: longueur des dents**	**Ausgewachsenes Blatt: Länge der Zähne**	**Hoja madura: longitud de los dientes**		
QN	**(b)**	short	courtes	kurz	cortos	Pinot noir	3
		medium	moyennes	mittel	medios	Merlot	5
		long	longues	lang	largos	Carignan	7
25. (*) (+)	**75-81 O-078 I-6.1.29 VG**	**Mature leaf: ratio length/width of teeth**	**Feuille adulte: rapport longueur/ largeur des dents**	**Ausgewachsenes Blatt: Verhältnis Länge/Breite der Zähne**	**Hoja madura: relación longitud/ anchura de los dientes**		
QN	**(b)**	very small	très petit	sehr klein	muy pequeña	157-11 Couderc	1
		small	petit	klein	pequeña	Silvaner	3
		medium	moyen	mittel	media	Chasselas blanc	5
		large	grand	groß	grande	Muscat of Alexandria	7
		very large	très grand	sehr groß	muy grande	Sangiovese	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26. (*) (+)	**75-81 O-076 I-6.1.27 VG**	**Mature leaf: shape of teeth**	**Feuille adulte: forme des dents**	**Ausgewachsenes Blatt: Form der Zähne**	**Hoja madura: forma de los dientes**		
PQ	**(b)**	both sides concave	à côtés concaves	beiderseits konkav	ambos lados cóncavos		1
		both sides straight	à côtés rectilignes	beiderseits geradlinig	ambos lados rectilíneos	Muscat à petits grain blancs	2
		both sides convex	à côtés convexes	beiderseits konvex	ambos lados convexos	Chenin blanc	3
		one side concave, one side convex	un côté concave, un côté convexe	eine Seite konkav, eine Seite konvex	un lado cóncavo, un lado convexo	Aspiran	4
		mixture of both sides straight and both sides convex	mélange de deux côtés rectilignes et deux côtés convexes	Mischung aus beiderseits geradlinig und beiderseits konvex	mezcla de ambos lados rectilíneos y ambos lados convexos	Cabernet franc	5
27. (*) (+)	**75-81 O- – I-6.1.24 VG**	**Mature leaf: proportion of main veins on <u>upper</u> side of blade with anthocyanin coloration**	**Feuille adulte: proportion des nervures principales de la face <u>supérieure</u> du limbe avec pigmentation anthocyanique**	**Ausgewachsenes Blatt: Anteil der Hauptadern auf der <u>Ober</u>seite der Spreite mit Anthocyanfärbung**	**Hoja madura: proporción de nervaduras principales del <u>haz</u> con pigmentación antociánica**		
QN	**(b)**	absent or very low	nulle ou très faible	fehlend oder sehr gering	ausente o muy baja	Garnacha tinta	1
		low	faible	gering	baja	Muscat of Alexandria	3
		medium	moyenne	mittel	media	Dornfelder	5
		high	élevée	hoch	elevada	Deckrot	7
		very high	très élevée	sehr hoch	muy elevada	Cabernet Mitos	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
28. (*)	**75-81 O-084 I-6.1.35 VG**	**Mature leaf: prostrate hairs between main veins on lower side of blade**	**Feuille adulte: poils couchés entre les nervures principales de la face inférieure du limbe**	**Ausgewachsenes Blatt: Wollbehaarung zwischen den Hauptadern auf der Unterseite der Spreite**	**Hoja madura: pelos postrados entre las nervaduras principales del envés**		
QN	**(b)**	absent or very sparse	absents ou très épars	fehlend oder sehr locker	ausentes o muy escasos	Chasselas blanc	1
		sparse	épars	locker	escasos	Gamay	3
		medium	moyens	mittel	medios	Cabernet Sauvignon	5
		dense	denses	dicht	densos	Clairette	7
		very dense	très denses	sehr dicht	muy densos	Isabella	9
29. (*)	**75-81 O-087 I-6.1.38 VG**	**Mature leaf: erect hairs on main veins on lower side of blade**	**Feuille adulte: poils dressés des nervures principales de la face inférieure du limbe**	**Ausgewachsenes Blatt: Borstenbehaarung der Hauptadern auf der Unterseite der Spreite**	**Hoja madura: pelos erectos sobre las nervaduras principales del envés**		
QN	**(b)**	absent or very sparse	absents ou très épars	fehlend oder sehr locker	nulos o muy escasos	Rupestris du Lot	1
		sparse	épars	locker	escasos	Perle de Csaba	3
		medium	moyens	mittel	media	Muscat Ottonel	5
		dense	denses	dicht	densos	Kober 125 AA	7
		very dense	très denses	sehr dicht	muy densos	Börner	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30. (+)	**75-81 O-093 I-6.1.40 VG**	**Mature leaf: length of petiole compared to length of middle vein**	**Feuille adulte: longueur du pétiole par rapport à la longueur de la nervure médiane**	**Ausgewachsenes Blatt: Länge des Stieles im Vergleich zur Länge der Mittelader**	**Hoja madura: longitud del pecíolo en relación a la longitud de la nervadura central**		
QN	**(b)**	much shorter	plus court	viel kürzer	más corta		1
		moderately shorter	modérément plus court	mäßig kürzer	moderadamente corta	Riparia Gloire de Montpellier	2
		equal	égal	gleich	igual	Garnacha tinta	3
		moderately longer	modérément plus long	mäßig länger	moderadamente larga	Cardinal Rg	4
		much longer	plus long	viel länger	más larga		5
31. (*) (+)	**81 O-303 I-7.1.4 MG**	**Time of beginning of berry ripening**	**Époque de début de véraison**	**Zeitpunkt des Beginns der Beerenreife**	**Época del comienzo del envero**		
QN		very early	très précoce	sehr früh	muy temprana	Perle de Csaba	1
		early	précoce	früh	temprana	Pinot noir	3
		medium	moyenne	mittel	media	Riesling	5
		late	tardive	spät	tardía	Carignan	7
		very late	très tardive	sehr spät	muy tardía	Olivette noire	9
32. (*)	**89 O- – I-6.2.2 VG**	**Bunch: size (peduncle excluded)**	**Grappe: taille (pédoncule exclu)**	**Traube: Größe (ohne Stiel)**	**Racimo: tamaño (pedúnculo excluido)**		
QN		very small	très petite	sehr klein	muy pequeño	Kober 5 BB	1
		small	petite	klein	pequeño	Riesling	3
		medium	moyenne	mittel	medio	Chasselas blanc	5
		large	grosse	groß	grande	Trebbiano Toscano	7
		very large	très grosse	sehr groß	muy grande	Nehelescol	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
33. (*) (+)	**89 O-204 I-6.2.3 VG**	**Bunch: density**	**Grappe: densité**	**Traube: Dichte**	**Racimo: densidad**		
QN		very lax	très lâche	sehr locker	muy suelto	Uva rara	1
		lax	lâche	locker	suelto	Cardinal	3
		medium	moyenne	mittel	medio	Chasselas blanc	5
		dense	compacte	dicht	compacto	Sauvignon	7
		very dense	très compacte	sehr dicht	muy compacto	Meunier	9
34. (*) (+)	**89 O-206 I-6.2.4 VG**	**Bunch: length of peduncle of primary bunch**	**Grappe: longueur du pédoncule de la grappe principale**	**Traube: Länge des Stieles der Haupttraube**	**Racimo: longitud del pedúnculo del racimo principal**		
QN		very short	très court	sehr kurz	muy corto	Silvaner	1
		short	court	kurz	corto	Gewürztraminer	3
		medium	moyen	mittel	medio	Marsanne	5
		long	long	lang	largo	Alphonse Lavallée	7
		very long	très long	sehr lang	muy largo	Freisa	9
35. (*)	**89 O- – I-6.2.5 VG**	**Berry: size**	**Baie: grosseur**	**Beere: Größe**	**Baya: tamaño**		
QN		very small	très petite	sehr klein	muy pequeña	Corinthe noir	1
		small	petite	klein	pequeña	Riesling	3
		medium	moyenne	mittel	media	Blauer Portugieser	5
		large	grosse	groß	grande	Muscat of Alexandria	7
		very large	très grosse	sehr groß	muy grande	Alphonse Lavallée	9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
36. (*) (+)	**89 O-223 I-6.2.6 VG**	**Berry: shape**	**Baie: forme**	**Beere: Form**	**Baya: forma**		
PQ		obloid	obloïde	abgeflacht kugelförmig	globosa achatada	Tompa	1
		globose	globuleuse	kugelförmig	globosa	Chasselas blanc	2
		broad ellipsoid	elliptique large	breit ellipsoid	elipsoide ancha	Müller Thurgau	3
		narrow ellipsoid	elliptique étroite	schmal ellipsoid	elipsoide estrecha	Olivette noire	4
		cylindrical	cylindrique	zylindrisch	cilíndrica	Kahlili belyi	5
		obtuse ovoid	tronconovoïde	abgestumpft eiförmig	ovoide obtusa	Ahmeur bou Ahmeur	6
		ovoid	ovoïde	eiförmig	ovoide	Bicane	7
		obovoid	obovoïde	verkehrt eiförmig	obovoide		8
		horn-shaped	en corne	hornförmig	forma de cuerno	Santa Paula	9
		finger-shaped	digitiforme	fingerförmig	forma de dedo	Black finger	10

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
37. (*)	**89 O-225 I-6.2.8 VG**	**Berry: color of skin (without bloom)**	**Baie: couleur de l'épiderme (sans pruine)**	**Beere: Farbe der Haut (ohne Bereifung)**	**Baya: color de la epidermis (sin pruina)**		
PQ		green	vert	grün	verde	King Husainy	1
		yellow green	vert jaune	gelbgrün	verde amarillento	Chasselas blanc	2
		yellow	jaune	gelb	amarillo	Palatina	3
		yellow rose	jaune rosé	gelbrosa	rosa amarillento	Moscatel grano menudo rojo	4
		rose	rose	rosa	rosa	Chasselas rose	5
		red	rouge	rot	rojo	Molinera gorda	6
		grey red	rouge gris	graurot	rojo grisáceo	Pinot gris	7
		dark red violet	rouge foncé violet	dunkelrotviolett	violeta rojizo oscuro	Cardinal	8
		blue black	noir bleu	blauschwarz	negro azulado	Pinot noir	9
38.	**89 O-240 I-6.2.13 VG**	**Berry: ease of detachment from pedicel**	**Baie: facilité de séparation du pédicelle**	**Beere: Trennbarkeit vom Stielchen**	**Baya: Facilidad de separación del pedicelo**		
QN		difficult	difficile	schwierig	difícil	Carignan	1
		moderately easy	modérément facile	mäßig leicht	moderadamente fácil	Silvaner	2
		very easy	très facile	sehr leicht	muy fácil	Isabella	3
39.	**89 O-228 I-7.1.6 VG**	**Berry: thickness of skin**	**Baie: épaisseur de la peau**	**Beere: Dicke der Haut**	**Baya: grosor de la piel**		
QN		thin	mince	dünn	delgada	Chasselas blanc	1
		medium	moyenne	mittel	media	Carignan	2
		thick	épaisse	dick	gruesa	Servant	3

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
40. (*)	**89 O-231 I-6.2.9 VG**	**Berry: anthocyanin coloration of flesh**	**Baie: pigmentation anthocyanique de la pulpe**	**Beere: Anthocyanfärbung des Fruchtfleisches**	**Baya: pigmentación antociánica de la pulpa**		
QN		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Pinot noir	1
		weak	faible	gering	débil	Gamay de Bouze	3
		medium	moyenne	mittel	media	Gamay de Chaudenay	5
		strong	forte	stark	fuerte	Alicante Bouschet	7
		very strong	très forte	sehr stark	muy fuerte	Deckrot	9
41.	**89 O-235 I-6.2.11 VG**	**Berry: firmness of flesh**	**Baie: fermeté de la pulpe**	**Beere: Festigkeit des Fruchtfleisches**	**Baya: firmeza de la pulpa**		
QN		soft or slightly firm	molle ou légèrement ferme	weich oder leicht fest	blanda o ligeramente firme	Pinot noir	1
		moderately firm	modérément ferme	mäßig fest	moderadamente firme	Italia	2
		very firm	très ferme	sehr fest	muy firme	Sugraone, Sultanina	3
42. (*)	**89 O-236 I-6.2.12 VG**	**Berry: particular flavor**	**Baie: particularité de la saveur**	**Beere: besonderer Geschmack**	**Baya: sabor particular**		
PQ		none	aucune	keiner	ninguno	Auxerrois	1
		muscat	goût muscaté	Muskatgeschmack	sabor a moscatel	Muscat of Alexandria	2
		foxy	goût foxé	Foxgeschmack	sabor avulpinado	Isabella	3
		herbaceous	goût herbacé	krautiger Geschmack	sabor herbáceo	Cabernet Sauvignon	4
		other than muscat, foxy or herbaceous	autre goût que muscaté, foxé ou herbacé	anderer Geschmack als Muskat-, Fox- oder krautiger Geschmack	otro sabor aparte de moscatel, avulpinado o herbáceo	Chardonnay, Merlot, Pinot noir, Riesling	5

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
43. (*) (+)	**89 O-241 I-6.2.7 VG**	**Berry: formation of seeds**	**Baie: formation de pépins**	**Beere: Ausbildung von Samen**	**Baya: formación de pepitas**		
QL		none	aucune	keine	ninguna	Corinthe noir	1
		rudimentary	rudimentaire	rudimentär	rudimentaria	Sultanina	2
		complete	complète	vollständig	bien formada	Riesling	3
44.	**91-00 O-103 I-6.1.42 VG**	**Woody shoot: main color**	**Sarment: couleur principale**	**Rebholz: Hauptfarbe**	**Sarmiento leñoso: color principal**		
PQ		yellowish brown	brun jaunâtre	gelblichbraun	marrón amarillento	Garnacha tinta	1
		orange brown	brun orangé	orangebraun	marrón anaranjado	Malvar, Portugieser	2
		dark brown	brun foncé	dunkelbraun	marrón oscuro	Chasselas blanc	3
		reddish brown	brun rougeâtre	rötlichbraun	marrón rojizo	3309 Couderc	4
		violet	violacé	violett	violáceo	Aestivalis Jäger	5

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) Shoot: Observations on the shoot which should be made in the middle third of shoot.

(b) Mature leaf: Observations on the mature leaf which should be made on leaves in the middle third of the shoot just above the raceme.

8.2 Explanations for individual characteristics

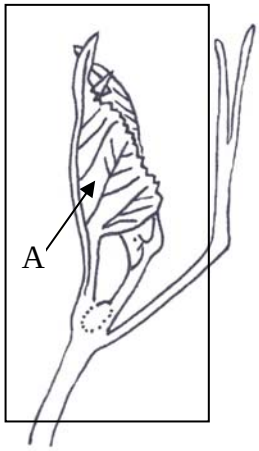
Ad. 1: Time of bud burst

The time of bud burst is when 50% of the plants are at the bud burst stage. A plant is at bud burst stage when 50% of the buds are at least at growth stage 07.

Pruning can influence the time of bud burst, therefore, all material should undergo the same pruning management.

Ad. 2 to 5: Young shoot: tip (part in squares to be observed)

Young shoot: openness of tip (2):

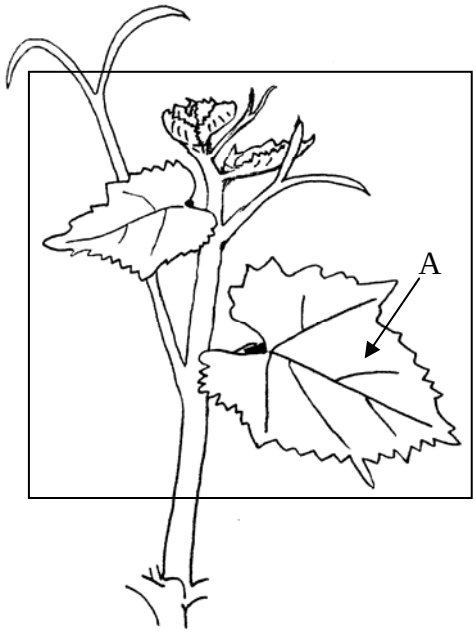


1
closed

2
slightly open

3
half open

4
wide open



5
fully open

The openness of tip results from the attitude of the young leaves. The leaves indicated with 'A' have about the same physiological age. Openness of tip is correlated with elongation of the shoot tip.

Ad. 3: Young shoot: prostrate hairs on tip
Ad. 4: Young shoot: anthocyanin coloration of prostrate hairs on tip
Ad. 5: Young shoot: erect hairs on tip

Wide open or fully open tips (characteristic 2) to be observed with inclusion of first 2 distal unfolded leaves. Leaves of closed, slightly open or half open tips to be unfolded to enable observations on corresponding part of tip.

Ad. 6: Young leaf: color of upper side of blade

Observation on first 2 distal unfolded leaves in case of closed, slightly open or half open tips (characteristic 2). Observation on first 4 distal unfolded leaves in case of wide open or fully open tips.

The states green with anthocyanin spots (3); light copper red (4); dark copper red (5); and wine red (6) correspond to an increasing amount of anthocyanin coloration.

Ad. 7: Young leaf: prostrate hairs between main veins on lower side of blade
Ad. 8: Young leaf: erect hairs on main veins on lower side of blade

Observation on second distal unfolded leaf in case of closed, slightly open or half open tips (characteristic 2). Observation on fourth distal unfolded leaf in case of wide open or fully open tips.

Ad. 9: Shoot: attitude (before tying)

1
erect

3
semi-erect

5
horizontal

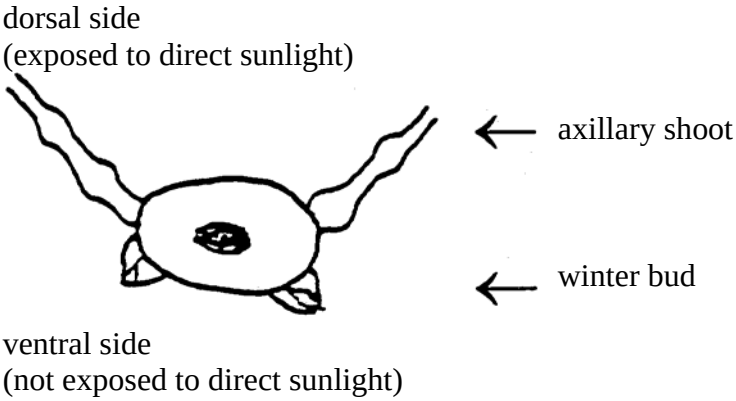
7
semi-drooping

9
drooping

Observation of this characteristic is difficult in windy locations where the shoots have to be tied early.

Ad. 10: Shoot: color of dorsal side of internodes
Ad. 11: Shoot: color of ventral side of internodes
Ad. 12: Shoot: color of dorsal side of nodes
Ad. 13: Shoot: color of ventral side of nodes

Cross section of shoot

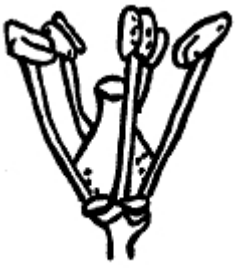


The states: green (1); green and red (2); and red (3) correspond to the proportion of anthocyanin coloration: absent or low (1); medium (2); and high (3).

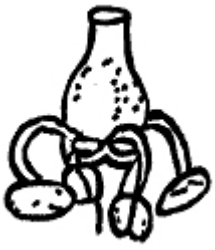
Ad. 16: Flower: sexual organs

1
fully developed stamens
and no gynoecium

2
fully developed stamens
and reduced gynoecium

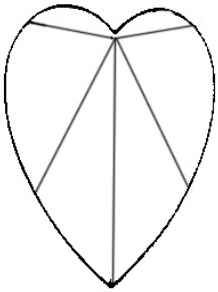


3
fully developed stamens
and fully developed gynoecium

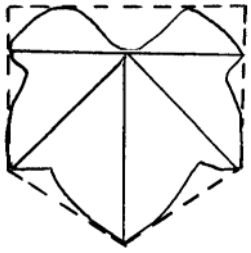


4
reflexed stamens
and fully developed gynoecium

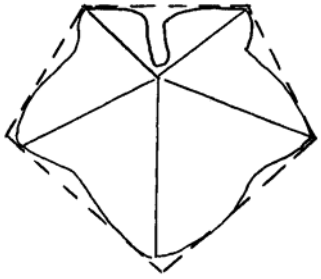
Ad. 18: Mature leaf: shape of blade



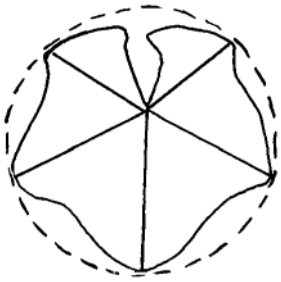
(rounded lateral outline)
1
cordate



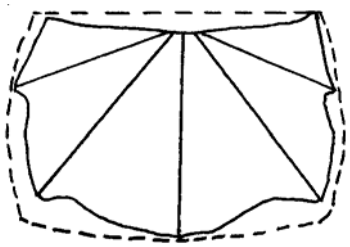
(forms a pentagon with parallel sides)
2
wedge-shaped



(forms a pentagon with broadest part towards the base)
3
pentagonal



(forms a pentagon with broadest part towards the apex)
4
circular



(broader than long)
5
kidney-shaped

Ad. 20: Mature leaf: number of lobes

A lobe is that part of the leaf which lies between two leaf sinuses. A leaf sinus results from a clear interruption of teeth on the leaf margin. A leaf showing no lateral sinus is considered to consist of one lobe.

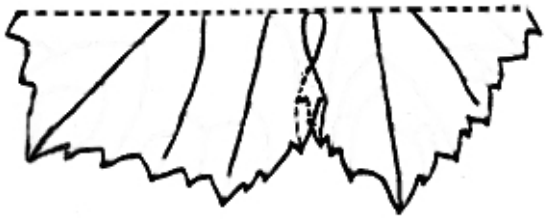
Within the same plant leaves with different number of lobes can appear. The predominant number of lobes has to be observed.

Ad. 21: Mature leaf: depth of upper lateral sinuses
Ad. 22: Only varieties with lobed leaves: Mature leaf: arrangement of lobes of upper lateral sinuses

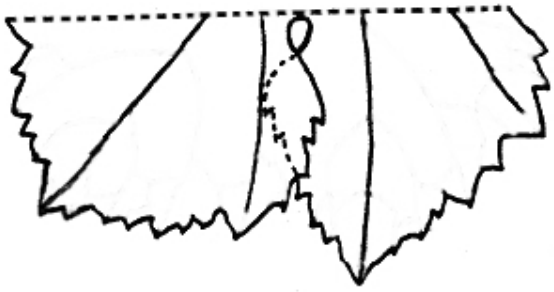
A sinus results from a clear interruption of teeth on the leaf margin. The upper lateral sinuses are situated between the middle vein and the next lateral main vein.

1
open

2
closed



3
slightly overlapped



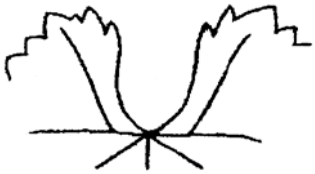
4
strongly overlapped

Ad. 23: Mature leaf: arrangement of lobes of petiole sinus

Leaves must be flattened for notation.

1
very wide open

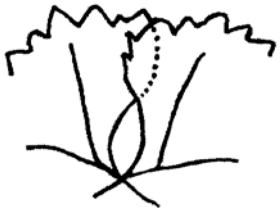
2
wide open



3
half open

4
slightly open

5
closed



6
slightly overlapped

7
half overlapped

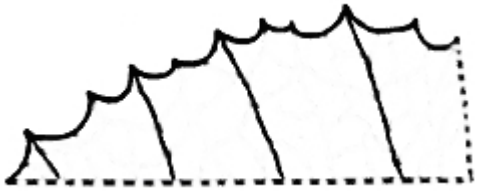
8
strongly overlapped

9
very strongly overlapped

Ad. 24: Mature leaf: length of teeth
Ad. 25: Mature leaf: ratio length/width of teeth
Ad. 26: Mature leaf: shape of teeth

All observations should be made between lateral main veins on the teeth of secondary veins.

Ad. 26: Mature leaf: shape of teeth



1
both sides concave

2
both sides straight

3
both sides convex

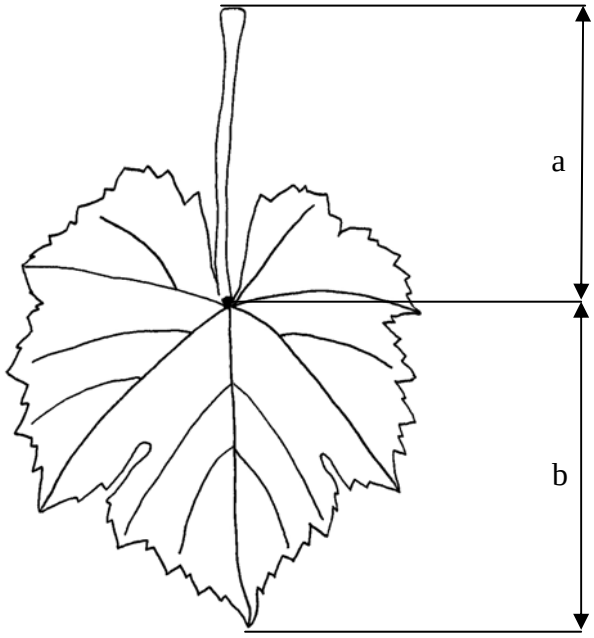
4
one side concave, one side convex

5
mixture of both sides straight and both sides convex

Ad. 27: Mature leaf: proportion of main veins on upper side of blade with anthocyanin coloration

The characteristic should be observed as the proportion of the total length of main veins with anthocyanin coloration. Interruptions in the anthocyanin coloration should not be included in that proportion.

Ad. 30: Mature leaf: length of petiole compared to length of middle vein



a = length of petiole
b = length of middle vein

Ad. 31: Time of beginning of berry ripening

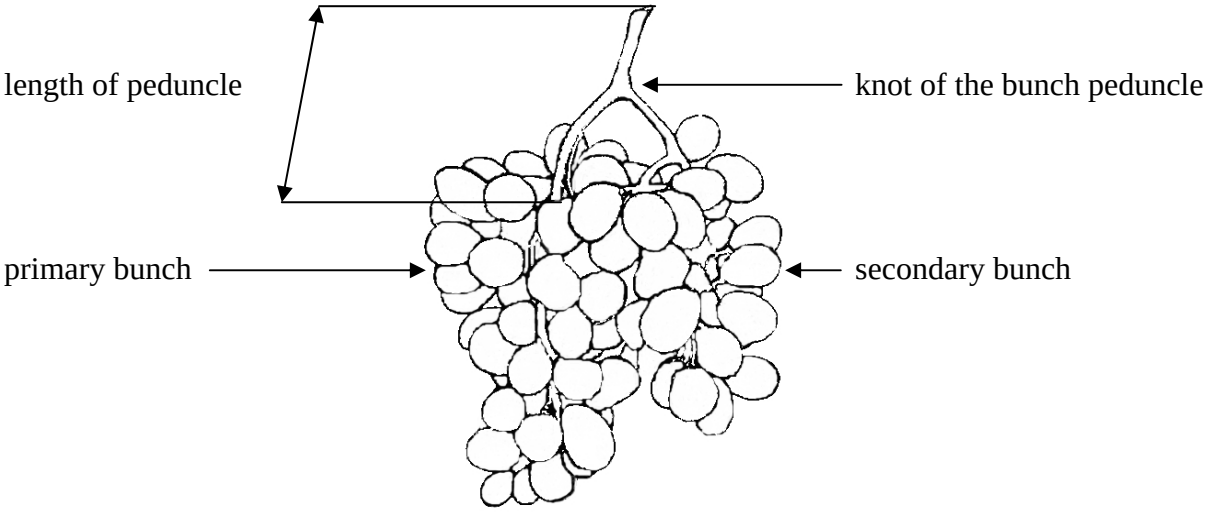
To be observed when about 50% of the berries on 50% of the plants start to become soft. Berries will be deformed when lightly pressed between fingers.

Ad. 33: Bunch: density

1 = berries in grouped formation, many visible pedicels
3 = single berries, some pedicels visible
5 = densely distributed berries, pedicels not visible, berries movable
7 = berries not readily movable
9 = berries pressed out of shape.

Ad. 34: Bunch: length of peduncle of primary bunch

The distance from insertion point of peduncle on shoot to 1st ramification of primary bunch should be measured. Above the 1st ramification there is a knot like thickening on the peduncle from which a secondary bunch or a tendril may arise which should not be confused with the 1st ramification.



Ad. 36: Berry: shape

1
obloid

2
globose

3
broad ellipsoid

4
narrow ellipsoid

5
cylindrical

6
obtuse ovoid

7
ovoid

8
obovoid

9
horn-shaped

10
finger-shaped

Ad. 43: Berry: formation of seeds

1 = no formation of seeds (parthenocarpic, type Corinthe)
2 = seeds with soft seed coat, embryo or endosperm not completely developed (stenospermocarpic, type Sultanina)
3 = seeds fully developed

8.3 Encoding and Description of the Phenological Stages of Grapevine According to the Extended BBCH Scale [1]

BBCH-Code	**Description**
Principal growth stage 0	Sprouting/Bud development
00	Dormancy: winter buds pointed to rounded, light or dark brown according to cultivar; bud scales more or less closed according to cultivar
01	Beginning of bud swelling: buds begin to expand inside the bud scales
03	End of bud swelling: buds swollen, but not green
05	"Wool stage": brown wool clearly visible
07	Beginning of bud burst: green shoot tips just visible
09	Bud burst: green shoot tips clearly visible
Principal growth stage 1	Leaf development
11	First leaf unfolded and spread away from shoot
12	2nd leaves unfolded
13	3rd leaves unfolded
1-	Stages continuous till …
19	9 or more leaves unfolded
Principal growth stage 5	Inflorescence emerge
53	Inflorescences clearly visible
55	Inflorescences swelling, flowers closely pressed together
57	Inflorescences fully developed, flowers separating
Principal growth stage 6	Flowering
60	First flowerhoods detached from the receptacle
61	Beginning of flowering: 10% of flowerhoods fallen
62	20% of flowerhoods fallen
63	Early flowering: 30% of flowerhoods fallen
64	40% of flowerhoods fallen
65	Full flowering: 50% of flowerhoods fallen
66	60% of flowerhoods fallen
67	70% of flowerhoods fallen
68	80% of flowerhood fallen
69	End of flowering
Principal growth stage 7	Development of fruits
71	Fruit set: young fruits begin to swell, remains of flowers lost
73	Berries groat-sized, bunches begin to hang
75	Berries pea-sized, bunches hang
77	Berries beginning to touch
79	Majority of berries touching
Principal growth stage 8	Ripening of berries
81	Beginning of ripening: berries begin to develop variety-specific color
83	Berries developing color
85	Softening of berries
89	Berries ripe for harvest
Principal growth stage 9	Senescence
91	After harvest; end of wood maturation
92	Beginning of leaf discolouration
93	Beginning of leaf-fall
95	50% of leaves fallen
97	End of leaf-fall
99	Harvested product

[2] The code has been jointly developed by *Biologische Bundesanstalt für Land- und Forstwirtschaft (BB), Bundessortenamt (BSA) and Industrieverband Agrar (IVA*) in cooperation with *Staatliche Lehr- und Forschungsanstalt für Landwirtschaft, Wein und Gartenbau (SLFA)*, Section Plant Pathology, Neustadt/Weinstraße. Published in Lorenz et al., 1994, and in Meier, 1997 (see Literature).

8.4 Synonyms and skin color of berry for example varieties

Example Varieties	Skin color of berry *	Synonyms
Ahmeur bou Ahmeur	Rs	
Airen	B	
Albillo Real	B	
Alicante Bouschet	N	Garnacha Tintorera
Alphonse Lavallée	N	Ribier
Aramon noir	N	
Aspiran	N	
Aubun	N	
Auxerrois	B	
Barbera	N	
Bicane	B	
Black finger	N	
Blauer Portugieser	N	Portugais bleu, Modry Portugal
Bobal	N	
Brancellao	N	
Cabernet Franc	N	
Cabernet Mitos	N	
Cabernet Sauvignon	N	
Cardinal	Rg	
Carignan	N	Cariñena, Mazuela
Chardonnay	B	
Chasan	B	
Chasselas blanc	B	Weisser Gutedel
Chasselas Cioutat	B	
Chasselas rose	Rs	Roter Gutedel
Chenin blanc	B	
Clairette	B	
Corinthe noir	N	Black Corinth, Corinto nero, Korinthiaki, Corinto negro
Deckrot	N	
Domina	N	
Dornfelder	N	
Emperor	Rg	
Folle blanche	B	
Freisa	N	

Example Varieties	Skin color of berry *	Synonyms
Furmint	B	
Gamay	N	
Gamay de Bouze	N	
Gamay de Chaudenay	N	
Garnacha tinta	N	Grenache noir
Gewürztraminer	Rs	Roter Traminer, Traminer aromatico, Tramin cervený
Hebron	B	
Isabella	N	
Italia	B	
Kahlili belyi	B	
King Husainy	B	Jade seedless
Lipovina	B	Harslevelu
Malvar	B	
Marsanne	B	
Melon	B	
Merlot	N	
Meunier	N	Müllerrebe, Pinot meunier
Molinera gorda	Rg	
Moscatel de grano menudo rojo	Rs	
Mourvedre	N	
Müller Thurgau	B	Rivaner
Muscat à petits grains blancs	B	Gelber Muskateller, Moscatel de grano menudo, Moschato aspro, Muscat blanc
Muscat of Alexandria	B	Hanepoot, Zibibbo, Moscatel de Alejandría, Moscatel de Málaga, Moscatel romano
Muscat Ottonel	B	
Nehelescol	B	
Nero	N	
Ohanes	B	
Olivette noir	N	
Palatina	B	
Perle de Csaba	B	Csaba gyöngye
Petit Verdot	N	
Pinot gris	G	Grauburgunder, Pinot grigio, Ruländer
Pinot noir	N	Blauer Spätburgunder, Pinot nero, Rulandské sedé
Portugieser	N	

Example Varieties	Skin color of berry *	Synonyms
Riesling	B	Riesling renano, Rheinriesling, Weisser Riesling, Ryzlink rýnský
Sangiovese	N	
Santa Paula	B	
Sauvignon	B	
Semillon	B	
Servant	B	
Silvaner	B	
Sugraone	B	Superior Seedless
Sultanina	B	Thompson Seedless, Sultanine B
Tompa	B	
Trebiano Toscano	B	
Uva rara	N	
Vermentino	B	

* The color of the berry is indicated according to the standardized code used within the European Union for the classification of vine varieties:

B = white
G = grey
N = black
Rg = red
Rs = rose

9. Literature

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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: Vitis L.

Please specify species: .....

1.2 Common name: Grapevine

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)

.....

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

.....

(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)

.....

4.2 Method of propagating the variety

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

.....

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:

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 (2)	**Young shoot: openness of tip**		
	closed	Riparia Gloire de Montpellier	1[ ]
	slightly open	3309 Couderc	2[ ]
	half open	Kober 5 BB	3[ ]
	wide open	Cina	4[ ]
	fully open	Pinot noir, Riesling	5[ ]
5.2 (6)	**Young leaf: color of <u>upper</u> side of blade**		
	yellow green	Furmint	1[ ]
	green	Silvaner	2[ ]
	green with anthocyanin spots	Riesling	3[ ]
	light copper red	Kober 5 BB	4[ ]
	dark copper red	Chasselas blanc	5[ ]
	wine red	Deckrot	6[ ]
5.3 (7)	**Young leaf: prostrate hairs between main veins on lower side of blade**		
	absent or very sparse	Rupestris du Lot	1[ ]
	sparse	Muscat à petits grain blancs	3[ ]
	medium	Merlot, Riesling	5[ ]
	dense	Clairette	7[ ]
	very dense	Meunier	9[ ]

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

	Characteristics	Example Varieties	Note
5.4 (16)	**Flower: sexual organs**		
	fully developed stamens and no gynoecium	Rupestris du Lot	1[ ]
	fully developed stamens and reduced gynoecium	3309 Couderc	2[ ]
	fully developed stamens and fully developed gynoecium	Chasselas blanc	3[ ]
	reflexed stamens and fully developed gynoecium	Kober 5 BB, Ohanes	4[ ]
5.5 (20)	**Mature leaf: number of lobes**		
	one	Rupestris du Lot	1[ ]
	three	Chenin blanc	2[ ]
	five	Chasselas blanc	3[ ]
	seven	Vermentino	4[ ]
	more than seven	Hebron	5[ ]
5.6 (31)	**Time of beginning of berry ripening**		
	very early	Perle de Csaba	1[ ]
	early	Pinot noir	3[ ]
	medium	Riesling	5[ ]
	late	Carignan	7[ ]
	very late	Olivette noire	9[ ]

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

	Characteristics	Example Varieties	Note
5.7 (36)	**Berry: shape**		
	obloid	Tompa	1[ ]
	globose	Chasselas blanc	2[ ]
	broad ellipsoid	Müller Thurgau	3[ ]
	narrow ellipsoid	Olivette noire	4[ ]
	cylindrical	Kahlili belyi	5[ ]
	obtuse ovoid	Ahmeur bou Ahmeur	6[ ]
	ovoid	Bicane	7[ ]
	obovoid		8[ ]
	horn-shaped	Santa Paula	9[ ]
	finger-shaped	Black finger	10[ ]
5.8 (37)	**Berry: color of skin (without bloom)**		
	green	King Husainy	1[ ]
	yellow green	Chasselas blanc	2[ ]
	yellow	Palatina	3[ ]
	yellow rose	Moscatel de grano menudo rojo	4[ ]
	rose	Chasselas rose	5[ ]
	red	Molinera gorda	6[ ]
	grey red	Pinot gris	7[ ]
	dark red violet	Cardinal	8[ ]
	blue black	Pinot noir	9[ ]

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

	Characteristics	Example Varieties	Note
5.9 (40)	**Berry: anthocyanin coloration of flesh**		
	absent or very weak	Pinot noir	1[ ]
	weak	Gamay de Bouze	3[ ]
	medium	Gamay de Chaudenay	5[ ]
	strong	Alicante Bouschet	7[ ]
	very strong	Deckrot	9[ ]
5.10 (42)	**Berry: particular flavor**		
	none	Auxerrois	1[ ]
	muscat	Muscat of Alexandria	2[ ]
	foxy	Isabella	3[ ]
	herbaceous	Cabernet Sauvignon	4[ ]
	other than muscat, foxy or herbaceous	Chardonnay, Merlot, Pinot noir, Riesling	5[ ]
5.11 (43)	**Berry: formation of seeds**		
	none	Corinthe noir	1[ ]
	rudimentary	Sultanina	2[ ]
	complete	Riesling	3[ ]

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	*Berry: shape*	*globose*	*broad ellipsoid*

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

7.3.1 Fungicide treatment is necessary against the following diseases:

	yes	no	sometimes	unknown
(a) Peronospora (Plasmopara)	[ ]	[ ]	[ ]	[ ]
(b) Oidium	[ ]	[ ]	[ ]	[ ]
(c) Botrytis	[ ]	[ ]	[ ]	[ ]

7.3.2 Main use of variety

(a) Wine grape [ ]
(b) Table grape [ ]
(c) Rootstock [ ]
(d) Ornamental [ ]
(e) Other (specify) [ ]

7.3.3 A representative color photograph of the variety should accompany the Technical Questionnaire.

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:

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.

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)

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]