



TG/40/7(proj.5)

ORIGINAL: English

DATE: 2008-03-13

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA


BLACKCURRANT

UPOV Code: RIBES_NIG

Ribes nigrum L.**GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY***prepared by an expert from New Zealand*

*to be considered by the Technical Committee at its forty-fourth session,
to be held in Geneva, from April 7 to 9, 2008*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Ribes nigrum</i> L., <i>Ribes dikuscha</i> Fisch. ex Turcz., <i>Ribes ussuriense</i> Jancz.	Blackcurrant, Black Currant	Cassis	Schwarze Johannisbeere	Grosellero negro, Casis

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/138 *Ribes ×nidigrolaria* R. & A. Bauer

* 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.]

TABLE OF CONTENTS

PAGE

1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design	4
3.5 Number of Plants / Parts of Plants to be Examined.....	4
3.6 Additional Tests	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	4
4.1 Distinctness	4
4.2 Uniformity.....	5
4.3 Stability	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	5
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	6
6.1 Categories of Characteristics.....	6
6.2 States of Expression and Corresponding Notes.....	6
6.3 Types of Expression	6
6.4 Example Varieties	6
6.5 Legend.....	6
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	7
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	15
8.1 Explanations covering several characteristics	15
8.2 Explanations for individual characteristics	15
9. LITERATURE	20
10. TECHNICAL QUESTIONNAIRE	21

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Ribes nigrum* L. (*Ribes dikuscha* Fisch. ex Turcz. and *Ribes ussuriense* Jancz.), of the family *Grossulariaceae*.

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 hardwood cuttings (without roots), rooted hardwood cuttings or in the form of plants with at least three shoots.

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

10 hardwood cuttings (without roots),
5 rooted hardwood cuttings, or
5 plants with at least three shoots

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

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

3.3 *Conditions for Conducting the Examination*

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.

3.4 *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. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

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) One-year-old shoot: color (characteristic 4)
- (b) Young shoot: anthocyanin coloration (characteristic 10)
- (c) Fruit: color (characteristic 26)
- (d) Time of beginning of fruit harvest (characteristic 30)

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.

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

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

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

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

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*)	Plant: height	Plante: hauteur	Pflanze: Höhe	Planta: altura		
QN	(a)					
	very short	très courte	sehr niedrig	muy baja	Stuarts Green	1
	short	courte	niedrig	baja	Strata	3
	medium	moyenne	mittel	media	Ben Alder	5
	tall	haute	hoch	alta	Goliath	7
	very tall	très haute	sehr hoch	muy alta	Magnus	9
2. (*) (+)	Plant: growth habit	Plante: port	Pflanze: Wuchsform	Planta: porte		
QN	(a)					
	upright	dressé	aufrecht	erecta	Magnus, Westra	1
	semi-upright	demi-dressé	halbaufrecht	semierecta	Baldwin, Blackdown	2
	spreading	étalé	breitwüchsig	extendido	Tenah	3
3.	Plant: number of basal shoots	Plante: nombre de pousses basales	Pflanze: Anzahl Basistriebe	Planta: número de ramas basales		
QN	(a)					
	few	petit	gering	pocas	Baldwin Hilltop	3
	medium	moyen	mittel	medio	Ben Lomond	5
	many	grand	groß	abundantes	Blacksmith	7
4. (*) (+)	One-year-old shoot: color	Rameau d'un an: couleur	Einjähriger Trieb: Farbe	Rama de un año: color		
PQ	(a)					
	yellow brown	marron jaune	gelbbraun	marrón amarillento	Tenah	1
	red brown	brun-rouge	rotbraun	marrón rojizo		2
	brown	brun	braun	marrón	Hatton Black, Jet	3
	greyish	grisâtre	gräulich	grisáceo	Cotswold Cross	4

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. (*) (+)	Vegetative bud: position in relation to shoot	Bourgeon végétatif: position par rapport au rameau	Vegetative Knospe: Stellung im Verhältnis zum Trieb	Yema vegetativa: Posición en relación con la rama		
QN (a)	adpressed or slightly held out	appliqué ou légèrement décollé	anliegend oder leicht abstehend	alineada o ligeramente divergente	Triton	1
	moderately held out	modérément décollé	mäßig abstehend	moderadamente divergente	Hatton Black	2
	strongly held out	fortement décollé	stark abstehend	fuertemente divergente	Baldwin	3
6. (*)	Vegetative bud: length	Bourgeon végétatif: longueur	Vegetative Knospe: Länge	Yema vegetativa: longitud		
QN (a)	short	court	kurz	corta	Ben Tirran	3
	medium	moyen	mittel	media	Hatton Black	5
	long	long	lang	larga	Laxton's Tinker	7
7. (*) (+)	Vegetative bud: shape of apex	Bourgeon végétatif: forme du sommet	Vegetative Knospe: Form der Spitze	Yema vegetativa: forma del ápice		
PQ (a)	narrow acute	aigu étroit	schmalspitz	aguda estrecha	Baldwin	1
	broad acute	aigu large	breitspitz	aguda ancha	Ben Nevis	2
	rounded	arrondi	abgerundet	redondeado	Goliath	3
8. (*)	Vegetative bud: anthocyanin coloration	Bourgeon végétatif: pigmentation anthocyanique	Vegetative Knospe: Anthocyanfärbung	Yema vegetativa: pigmentación antociánica		
QN (a)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil		1
	weak	faible	gering	débil	Ben Nevis	3
	medium	moyenne	mittel	media	Baldwin, Ben Lomond	5
	strong	forte	stark	fuerte	Cotswold Cross, Mammoth	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9. (+)	Vegetative bud: bloom	Bourgeon végétatif: pruine	Vegetative Knospe: Belag	Yema vegetativa: pruina		
QN (a)	weak	faible	gering	débil	Roodknop	3
	medium	moyenne	mittel	media	Westwick Choice	5
	strong	forte	stark	fuerte	French	7
10. (*)	Young shoot: anthocyanin coloration	Jeune rameau: pigmentation anthocyanique	Jungtrieb: Anthocyanfärbung	Rama joven: pigmentación antociánica		
QN (b)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Goliath	1
	weak	faible	gering	débil	Roodknop	3
	medium	moyenne	mittel	media	Hatton Black	5
	strong	forte	stark	fuerte	Malvern Cross	7
11.	Leaf blade: length	Limbe: longueur	Blattspreite: Länge	Limbo: longitud		
QN (b)	short	court	kurz	corto	Hatton Black, Magnus	3
	medium	moyen	mittel	medio	Baldwin, Cotswold Cross	5
	long	long	lang	largo	Ben Sarek	7
12.	Leaf blade: width	Limbe: largeur	Blattspreite: Breite	Limbo: anchura		
QN (b)	narrow	étroit	schmal	estrecho	Ben Nevis	3
	medium	moyen	mittel	medio	Goliath, Hatton Black	5
	broad	large	breit	ancho	Ojebyn	7
	very broad	très large	sehr breit	muy ancho	Ben Sarek	9
13.	Leaf blade: ratio length/width	Limbe: rapport longueur/largeur	Blattspreite: Ver- hältnis Länge/Breite	Limbo: relación longitud/anchura		
QN (b)	small	faible	klein	pequeña	Narjadnaja	3
	medium	moyen	mittel	media	French, Rosenthals Langtraubige	5
	large	élevé	groß	grande	Silvergieters Schwarze, Wassil	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14.	Leaf blade: base	Limbe: base	Blattspreite: Basis	Limbo: base		
(+)						
QN	(b)					
	strongly open	fortement ouverte	stark offen	fuertemente abierta	French	1
	moderately open	modérément ouverte	mäßig offen	moderadamente abierta	Tor Cross	2
	weakly open	faiblement ouverte	schwach offen	débilmente abierta	Ometa	3
	touching	tangents	sich berührend	en contacto	Ben Nare	4
	overlapping	chevauchants	überlappend	solapada	Veloy	5
15.	Leaf blade: intensity of green color (upper side)	Limbe: intensité de la couleur verte (face supérieure)	Blattspreite: Intensität der Grünfärbung (Oberseite)	Limbo: intensidad del color verde (cara superior)		
QN	(b)					
	light	claire	hell	clara	Malvern Cross	3
	medium	moyenne	mittel	media	Hatton Black	5
	dark	foncée	dunkel	oscura	Magnus, Strata	7
16.	Leaf blade: glossiness (upper side)	Limbe: brilliance (face supérieure)	Blattspreite: Glanz (Oberseite)	Limbo: brillo (cara superior)		
QN	(b)					
	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Blacksmith	1
	medium	moyenne	mittel	medio	Andorine, Titania	2
	strong	forte	stark	fuerte	Jet	3
17.	Petiole: anthocyanin coloration on upper side	Pétiole: pigmentation anthocyanique sur la face supérieure	Blattstiel: Anthocyanfärbung an der Oberseite	Pecíolo: pigmentación antociánica del haz		
(*)						
QN	(b)					
	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Goliath	1
	weak	faible	gering	débil	Laxton's Tinker	3
	medium	moyenne	mittel	media	Baldwin	5
	strong	forte	stark	fuerte	Brødtorp	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota	
18.	Plant: number of inflorescences per axil	Plante: nombre d'inflorescence par aisselle	Pflanze: Anzahl Blütenstände je Blattachsel	Planta: número de inflorescencias por axila			
QN	(c)	one and two	une et deux	ein und zwei	una e dos	Magnus	1
		two to four	deux à quatre	zwei bis vier	de dos a cuatro	Hatton Black	2
		more than four	plus de quatre	mehr als vier	más de cuatro		3
19.	Inflorescence: length	Inflorescence: longueur	Blütenstand: Länge	Inflorescencia: longitud			
QN	(c)	short	courte	kurz	corta	Ben Sarek, Cotswold Cross	1
		medium	moyenne	mittel	media	Baldwin	2
		long	longue	lang	larga	Ometa	3
20.	Inflorescence: number of flowers	Inflorescence: nombre de fleurs	Blütenstand: Anzahl Blüten	Inflorescencia: número de flores			
QN	(c)	few	faible	gering	pocas	Ben Sarek, Magnus	3
		medium	moyen	mittel	medio	Ben Alders	5
		many	élevé	groß	abundantes	Ometa	7
21.	Sepal: anthocyanin coloration	Sépale: pigmentation anthocyanique	Kelchblatt: Anthocyanfärbung	Sépalo: pigmentación antociánica			
QN	(c)	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		weak	faible	gering	débil	Chereshneva, Hatton Black	3
		medium	moyenne	mittel	media	Baldwin	5
		strong	forte	stark	fuerte	Ceres	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
22. (*)	Ovary: anthocyanin coloration	Ovaire: pigmentation anthocyanique	Fruchtknoten: Anthocyanfärbung	Ovario: pigmentación antociánica		
QN (c)	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Cotswold Cross	1
	weak	faible	gering	débil	Baldwin	3
	medium	moyenne	mittel	media	Chereshneva	5
	strong	forte	stark	fuerte	Laxton's Tinker	7
23. (+)	Infructescence: type	Inflorescence: type	Fruchtstand: Typ	Inflorescencia: tipo		
QN (d)	simple	simple	einfach	simple		1
	raceme	grappe	Traube	racimo		2
	panicle 1	panicule 1	Rispe 1	panícula 1		3
	panicle 2	panicule 2	Rispe 2	panícula 2		4
24. (+)	Infructescence: range of fruit size	Infructescence : étendu de la taille des fruits	Fruchtstand: Variationsbreite der Größe der Früchte	Infrutescencia: gama de tamaños de los frutos		
QN (d)	small	petite	klein	pequeño	Titania	1
	medium	moyenne	mittel	medio	Black Reward	2
	large	grande	groß	grande	Jet	3
25. (*) (+)	Fruit: size	Fruit: taille	Frucht: Größe	Fruto: tamaño		
QN (e)	small	petite	klein	pequeño	Goliath, Sarolata	3
	medium	moyenne	mittel	medio	Baldwin	5
	large	grande	groß	grande	Titania	7
	very large	très grande	sehr groß	muy grande	Bona	9

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26. (*)	Fruit: color	Fruit: couleur	Frucht: Farbe	Fruto: color		
PQ (e)	green	verte	grün	verde	Stuart's Green	1
	brownish black	noir brunâtre	bräunlichschwarz	negro marrón	Westwick Choice	2
	black	noire	schwarz	negro	Titania	3
27.	Fruit: glossiness	Fruit: brillance	Frucht: Glanz	Fruto: brillo		
QN (e)	very weak	très faible	sehr gering	muy débil	Golubka	1
	weak	faible	gering	débil	Cotswold Cross	3
	medium	moyenne	mittel	medio	Titania	5
	strong	forte	stark	fuerte	Ben Tirran	7
28. (+)	Time of beginning of vegetative bud burst	Époque de début de débourrement	Zeitpunkt des Aufbruchs der vegetativen Knospe	Época de brotación de las yemas vegetativas		
QN	early	précoce	früh	temprana	Cotswold Cross	3
	medium	moyenne	mittel	media	Laxton's Tinker	5
	late	tardive	spät	tardía	Ben Lomond	7
29. (+)	Time of beginning of flowering	Époque de début de floraison	Zeitpunkt des Blühbeginns	Época de comienzo de la floración		
QN	very early	très précoce	sehr früh	muy temprana	Brødtorp, Ceres	1
	early	précoce	früh	temprana	Kimberley, Malvern Cross	3
	medium	moyenne	mittel	media	Cotswold Cross, Goliath	5
	late	tardive	spät	tardía	Black Reward, Laxton's Tinker	7
	very late	très tardive	sehr spät	muy tardía	Ben Avon, Jet	9

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30. (*)(+)	VG	Time of beginning of fruit harvest	Époque de début de la récolte de fruits	Zeitpunkt des Beginns der Fruchternte	Época de comienzo de la cosecha de frutas	
QN	very early	très précoce	sehr früh	muy temprana	Boskoop Giant, Kimberley	1
	early	précoce	früh	temprana	Andega, Magnus	3
	medium	moyenne	mittel	media	Baldwin Hilltop, Goliath	5
	late	tardive	spät	tardía	Ben Alder, Ben Lomond, Hatton Black	7
	very late	très tardive	sehr spät	muy tardía	Jet	9

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) Plant, one-year-old shoot and vegetative bud: All observations should be made on dormant bushes in winter after at least one growing season. Vegetative bud: All observations should be made in the middle third of one year old shoots, before bud burst.
- (b) Young shoot, leaf blade, petiole: All observations should be made in early summer. For leaf blade and petiole, mature leaves from the middle third of one year old shoots from the outside of the bush should be observed.
- (c) Inflorescence, sepal, ovary: All observations should be made at full flowering.
- (d) Infructescence: Unless otherwise stated, all observations should be made just before harvest. The infructescence is also known as the fruit truss or strig.
- (e) Fruit: Unless otherwise stated, all observations should be made after harvest.

8.2 *Explanations for individual characteristics*

Ad. 2: Plant: growth habit

The growth habit is assessed using the relationship between plant height and plant width: an upright variety is taller than broad; a semi upright variety is approximately the same height as the width; a spreading variety is broader than tall.



1
upright



2
semi-upright

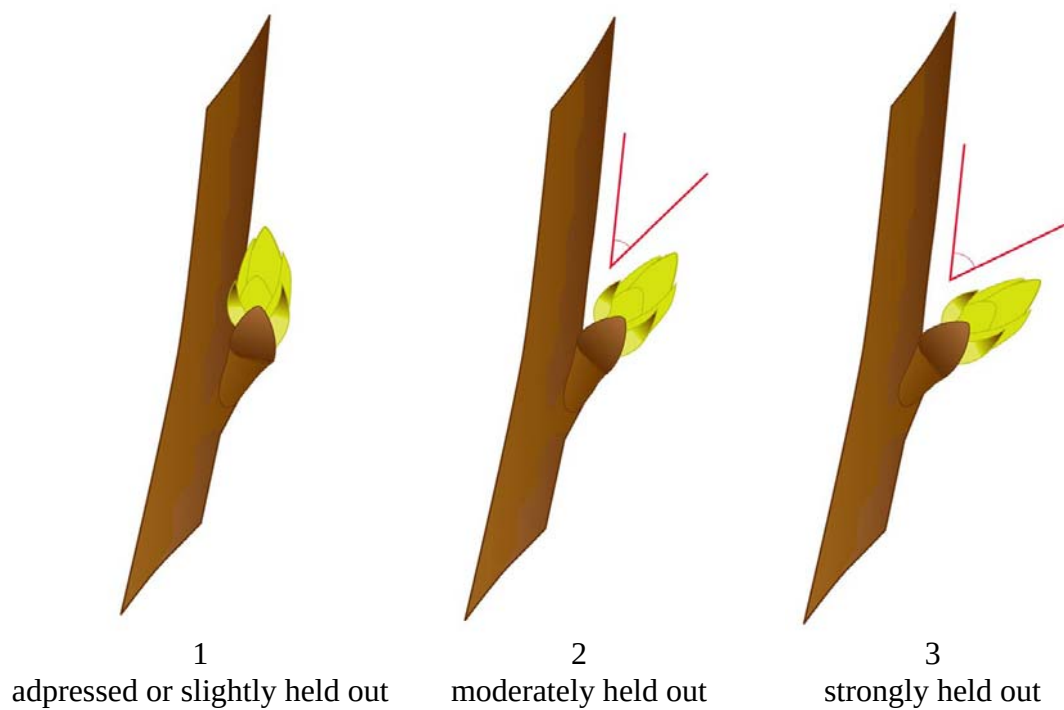


3
spreading

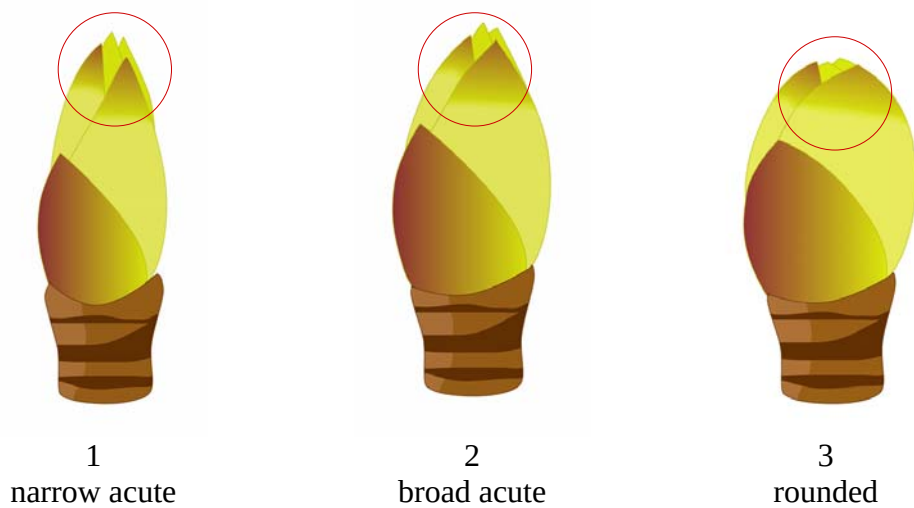
Ad. 4: One-year-old shoot: color

Observations should be made on the middle third of a shoot on the outside of the bush.

Ad. 5: Vegetative bud: position in relation to shoot



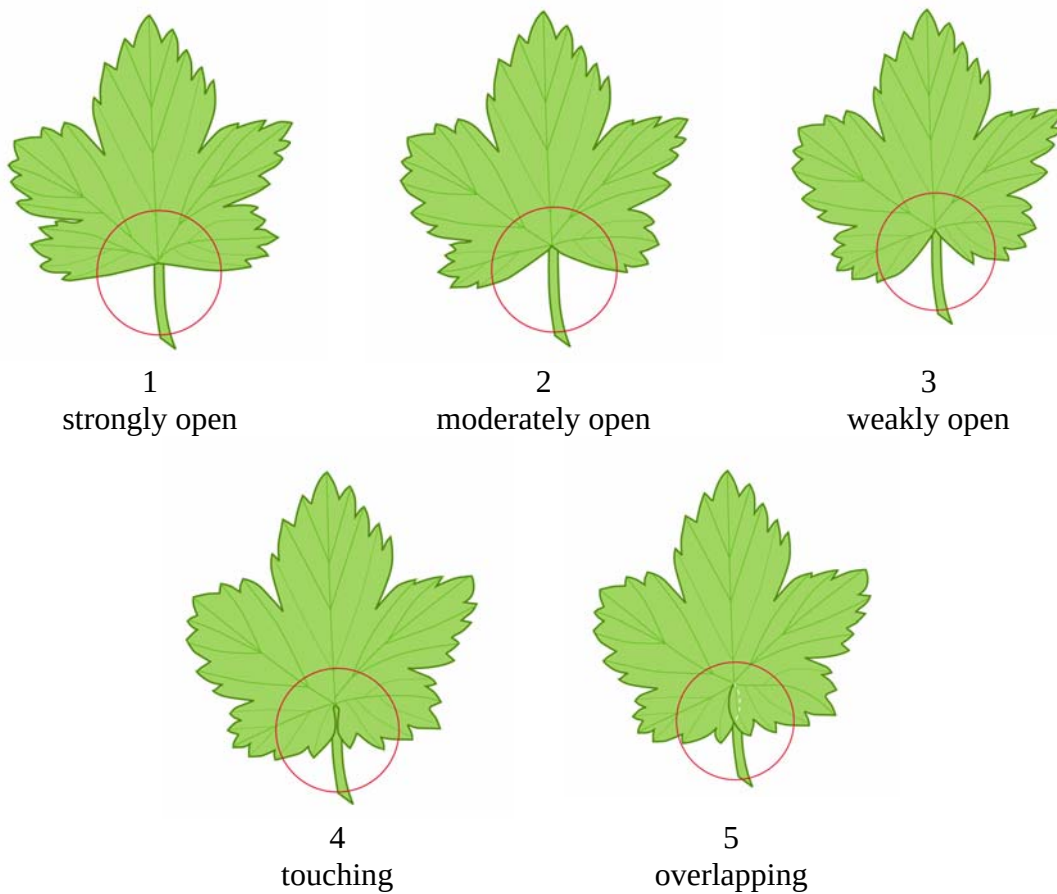
Ad. 7: Vegetative bud: shape of apex



Ad. 9: Vegetative bud: bloom

Vegetative bud bloom refers to the level of glaucosity on the bud.

Ad. 14: Leaf blade: base

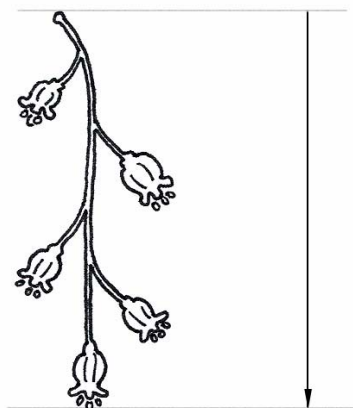


Ad. 18: Plant: number of inflorescences per axil

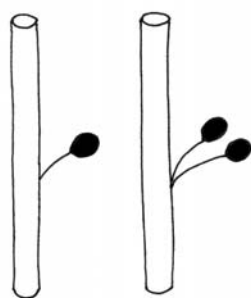
The number of inflorescences per axil is determined by observing the leaf axils in the upper third of a one year old shoot, at flowering.

Ad. 19: Inflorescence: length

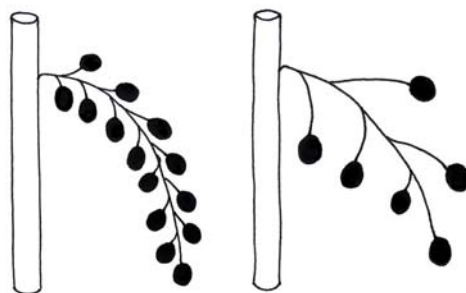
The inflorescence length includes the peduncle.



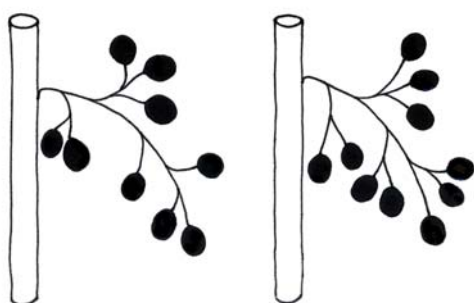
Ad. 23: Infructescence: type



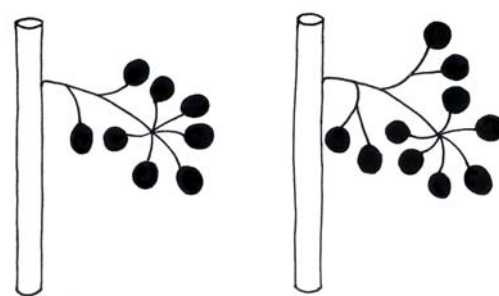
simple



raceme



panicle 1



panicle 2

Ad. 24: Infructescence: range of fruit size

The range of fruit size is determined by observing the range of individual fruit sizes within a single infructescence (fruiting truss).

Ad. 25: Fruit: size

Fruit size can be assessed by weight because the density of fruit flesh of all varieties is very similar. Fruit size should be determined by the weight of a minimum of 50 fruits, covering all fruit sizes present, harvested from the 5 plants.

Ad. 28: Time of beginning of vegetative bud burst

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

Ad. 29: Time of beginning of flowering

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

Ad. 30: Time of beginning of fruit harvest

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

9. Literature

Hedrick, U.P., 1925: The small fruits of New York. J.B. Lyon Company, Albany, US, 614 pp.

Keipert, K., 1981: Beerenobst. Angebaute Arten und Wildfrüchte. Eugen Ulmer Verlag, Stuttgart, DE, 349 pp.

Mühl, F., 1996: Beerenobst und Wildfrüchte. Obst- und Gartenbauverlag des Bayerischen Landesverbandes für Gartenbau und Landespflege, München, DE, 152 pp.

Sorge, P., 1991: Beerenobstsorten. Melsungen, Verlag J. Neumann-Neudamm, 2nd edition, Melsungen, DE, 259 pp.

Todd, J.C., 1962: Black Currant Varieties: Their Classification and Identification. Technical Bulletin No. 11, Ministry of Agriculture, Fisheries and Food, Her Majesty's Stationary Office, London, GB, 94 pp.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	<i>Ribes nigrum</i> L. (<i>Ribes dikuscha</i> Fisch. ex Turcz.; <i>Ribes ussuriense</i> Jancz.)	
1.2 Common name	Blackcurrent; Black Currant	
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 <table><tbody><tr><td>(a) controlled cross (please state parent varieties)</td><td>[]</td></tr><tr><td>(b) partially known cross (please state known parent variety(ies))</td><td>[]</td></tr><tr><td>(c) unknown cross</td><td>[]</td></tr></tbody></table> 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 4.2.1 Vegetative propagation <table><tbody><tr><td>(a) cuttings</td><td>[]</td></tr><tr><td>(b) <i>in vitro</i> propagation</td><td>[]</td></tr><tr><td>(c) other (state method)</td><td>[]</td></tr></tbody></table> 4.2.2 Other [] (please provide details)			(a) controlled cross (please state parent varieties)	[]	(b) partially known cross (please state known parent variety(ies))	[]	(c) unknown cross	[]	(a) cuttings	[]	(b) <i>in vitro</i> propagation	[]	(c) other (state method)	[]
(a) controlled cross (please state parent varieties)	[]													
(b) partially known cross (please state known parent variety(ies))	[]													
(c) unknown cross	[]													
(a) cuttings	[]													
(b) <i>in vitro</i> 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 Plant: growth habit (2)			
upright	Magnus, Westra	1[]	
semi-upright	Baldwin, Blackdown	2[]	
spreading	Tenah	3[]	
5.2 One-year-old shoot: color (4)			
yellow brown	Tenah	1[]	
red brown		2[]	
brown	Hatton Black, Jet	3[]	
grayish	Cotswold Cross	4[]	
5.3 Young shoot: anthocyanin coloration (10)			
absent or very weak	Goliath	1[]	
weak	Roodknop	3[]	
medium	Hatton Black	5[]	
strong	Malvern Cross	7[]	
5.4 Fruit: size (25)			
small	Goliath, Sarolata	3[]	
medium	Baldwin	5[]	
large	Titania	7[]	
very large	Bona	9[]	

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

Characteristics	Example Varieties	Note
5.5 Fruit: color (26)		
green	Stuart's Green	1[]
brownish black	Westwick Choice	2[]
black	Titania	3[]
5.6 Time of beginning of fruit harvest (30)		
very early	Boskoop Giant, Kimberley	1[]
early	Andega, Magnus	3[]
medium	Baldwin Hilltop, Goliath	5[]
late	Ben Alder, Ben Lomond, Hatton Black	7[]
very late	Jet	9[]

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

6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Plant: growth habit</i>	<i>semi-upright</i>	<i>upright</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
#7. Additional information which may help in the examination of the variety 7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety? Yes ☐ No ☐ (If yes, please provide details) 7.2 Are there any special conditions for growing the variety or conducting the examination? Yes ☐ No ☐ (If yes, please provide details) 7.3 Other information A representative color photograph of the variety should accompany the Technical Questionnaire.		
8. Authorization for release (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health? Yes ☐ No ☐ (b) Has such authorization been obtained? Yes ☐ No ☐ If the answer to (b) is yes, please attach a copy of the authorization.		

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

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

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

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

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

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

Please provide details for where you have indicated “yes”.

.....

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

Yes []

(please provide details as specified by the Authority)

No []

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

Applicant's name			
Signature			

[End of document]