E

TG/73/7(proj.4)
ORIGINAL: English
DATE: 2005-10-17

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

BLACKBERRY

UPOV Code: RUBUS_EUB

Rubus subgenus *Eubatus*
sect. Moriferi & Ursini and hybrids

*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Germany

to be considered by the Enlarged Editorial Committee at its meeting
to be held in Geneva, Switzerland, January 10, 2006

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Rubus subgenus *Eubatus* sect. Moriferi & Ursini	Blackberry, Loganberry, Boysenberry	Ronce fruitière	Brombeere	Zarzamora

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/43: Test Guidelines for Raspberry

* 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

1.1 These Test Guidelines apply to all varieties of *Rubus* subgenus *Eubatus* sect. Moriferi & Ursini of the family *Rosaceae* and their hybrids as far as they are morphologically similar.

1.2 In the case of hybrids between species within the genus *Rubus* L., the Test Guidelines to be used should be those for which the overall appearance of fruit is most suited. However, if the variety cannot be clearly distinguished from all varieties covered by other Test Guidelines, those other Test Guidelines should also be used to examine the variety. In particular the Test Guidelines for Raspberry (TG/43) should be taken into consideration.

1.3 In the case of hybrids between species within the genus *Rubus* L., even where the variety is clearly distinguishable from all other varieties covered by other Test Guidelines, it may still be necessary to use additional characteristics to examine the variety. In these circumstances the characteristics from the Test Guidelines covering the parent species may be particularly useful.

1.4 For all blackberry varieties, their hybrids and closely related varieties, the berry does not detach completely from the plug, whereas for all raspberry varieties and their related types, the berry does completely detach from the plug. These Test Guidelines are suited for varieties which do not completely detach from the plug.

2. Material Required

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

2.2 The material is to be supplied in the form of one-year-old plants propagated from stem or leaf cuttings.

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

5 one-year-old plants.

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

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 parts of plants, the number to be taken from each of the plants should be 3.

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-type is 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) Plant: growth habit (characteristic 1);
(b) Dormant cane: spines (characteristic 9);
(c) Leaf: predominant number of leaflets (characteristic 24);
(d) Leaf: type (characteristic 25);
(e) Time of beginning of flowering on current year's cane (characteristic 42);
(f) Time of beginning of fruit ripening on previous year's cane (characteristic 43);
(g) Time of beginning of fruit ripening on current year's cane (characteristic 44).

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: growth habit**	**Plante: port**	**Pflanze: Wuchsform**	**Planta: porte**		
PQ	**(a)**	upright	dressé	aufrecht	erecto	Wilson's Early, Arapaho	1
		upright to semi-upright	dressé à demi-dressé	aufrecht bis halbaufrecht	erecto a semierecto	Kiowa	2
		semi-upright	demi-dressé	halbaufrecht	semierecto	Jersey Black	3
		semi-upright to spreading	demi-dressé à étalé	halbaufrecht bis breitwüchsig	semierecto a rastrero	Tayberry	4
		spreading	étalé	breitwüchsig	rastrero	Himalaya, Aurora	5
2.		**Plant: number of new canes**	**Plante: nombre de jeunes cannes**	**Pflanze: Anzahl neuer Ruten**	**Planta: número de ramas nuevas**		
QN	**(a)**	very few	très petit	sehr gering	muy bajo	Himalaya	1
		few	petit	gering	bajo	Thornfree	3
		medium	moyen	mittel	medio	Jersey Black	5
		many	grand	groß	alto	Philadelphia	7
3.		**Dormant cane: length**	**Canne dormante: longueur**	**Winterrute: Länge**	**Rama latente: longitud**		
QN	**(a)**	short	courte	kurz	corta	Philadelphia	3
		medium	moyenne	mittel	media	Jersey Black	5
		long	longue	lang	larga	Tayberry	7
		very long	très longue	sehr lang	muy larga	Ranui, Marahau	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
4.		**Dormant cane: diameter (in central third)**	**Canne dormante: diamètre (au tiers moyen)**	**Winterrute: Durchmesser (im mittleren Drittel)**	**Rama latente: diámetro (en el tercio central)**		
QN	**(a)**	very small	très petit	sehr klein	muy pequeño	Aurora	1
		small	petit	klein	pequeño	Philadelphia	3
		medium	moyen	mittel	medio	Tayberry	5
		large	grand	groß	grande	Himalaya	7
		very large	très grand	sehr groß	muy grande	Jersey Black	9
5. (*)		**Dormant cane: anthocyanin coloration**	**Canne dormante: pigmentation anthocyanique**	**Winterrute: Anthocyanfärbung**	**Rama latente: pigmentación antociánica**		
QN	**(a)**	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Taylor's Prolific	1
		weak	faible	gering	débil	Black Satin	3
		medium	moyenne	mittel	media	Alfred	5
		strong	forte	stark	fuerte	Wilson's Early	7
6.		**Dormant cane: number of branches**	**Canne dormante: nombre de ramifications**	**Winterrute: Anzahl Seitentriebe**	**Rama latente: número de ramos**		
QN	**(a)**	few	petit	gering	bajo	Himalaya	3
		medium	moyen	mittel	medio	Jersey Black	5
		many	grand	groß	alto	Kittatinny	7
7.		**Dormant cane: predominant position of branches**	**Canne dormante: répartition prédominante des ramifications**	**Winterrute: vorwiegender Sitz der Seitentriebe**	**Rama latente: posición predominante de los ramos**		
PQ	**(a)**	only on upper third	sur le tiers supérieur	nur am oberen Drittel	sólo en el tercio superior	Mammoth	1
		only on upper half	sur la moitié supérieure	nur an der oberen Hälfte	sólo en la primera mitad	Taylor's Prolific	2
		over whole length	sur toute la longueur	auf der gesamten Länge	en toda la longitud	Himalaya	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
8. (*) (+)		**Dormant cane: cross section**	**Canne dormante: section transversale**	**Winterrute: Querschnitt**	**Rama latente: sección transversal**		
PQ	**(a)**	rounded	arrondie	abgerundet	redondeada	Sunberry	1
		rounded to angular	arrondie à anguleuse	abgerundet bis winklig	redondeada a angular	Douglas	2
		angular	anguleuse	winklig	angular	Wilson's Early	3
		angular to grooved	anguleuse à cannelée	winklig bis gerieft	angular a acanalada	Kiowa	4
		grooved	cannelée	gerieft	acanalada	Mammoth	5
9. (*)		**Dormant cane: spines**	**Canne dormante: épines**	**Winterrute: Stacheln**	**Rama latente: espinas**		
QL	**(a)**	absent	absentes	fehlend	ausentes	Loch Ness	1
		present	présentes	vorhanden	presentes	Himalaya	9
10.		**Dormant cane: number of spines**	**Canne dormante: nombre d'épines**	**Winterrute: Anzahl Stacheln**	**Rama latente: número de espinas**		
QN	**(a)**	very few	très petit	sehr gering	muy bajo	Philadelphia	1
		few	petit	gering	bajo	Wilson's Early	3
		medium	moyen	mittel	medio	Himalaya	5
		many	grand	groß	alto	Bedford Giant	7
		very many	très grand	sehr groß	muy alto	Sunberry	9
11. (*)		**Spine: size**	**Épine: taille**	**Stachel: Größe**	**Espina: tamaño**		
QN	**(a)**	small	petite	klein	pequeño	Sunberry	3
		medium	moyenne	mittel	medio	Bedford Giant	5
		large	grande	groß	grande	Himalaya	7
		very large	très grande	sehr groß	muy grande	Jersey Black	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12. **(+)**		**Spine: attitude of apex in relation to cane**	**Épine: orientation de la pointe par rapport à la canne**	**Stachel: Stellung der Spitze im Verhältnis zur Rute**	**Espina: porte del ápice en relación con la rama**		
QN	**(a)**	upwards	vers le haut	aufwärts	hacia arriba	Kittatinny	1
		outwards	horizontal	abstehend	hacia afuera	Jersey Black	2
		downwards	vers le bas	abwärts	hacia abajo	Mammoth	3
13.		**Young shoot: anthocyanin coloration (during rapid growth)**	**Jeune pousse: pigmentation anthocyanique (pendant la croissance rapide)**	**Junger Trieb: Anthocyanfärbung (während des schnellen Wachstums)**	**Brote joven: pigmentación antociánica (durante el crecimiento rápido)**		
QN	**(b)**	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Philadelphia	1
		weak	faible	gering	débil	Black Satin	3
		medium	moyenne	mittel	media	Bedford Giant	5
		strong	forte	stark	fuerte	Tayberry	7
14.		**Young shoot: intensity of green color**	**Jeune pousse: intensité de la couleur verte**	**Junger Trieb: Intensität der Grünfärbung**	**Brote joven: intensidad del color verde**		
QN	**(b)**	light	claire	hell	claro	Philadelphia	3
		medium	moyenne	mittel	medio	Ashton Cross	5
		dark	foncée	dunkel	oscuro	Thornless Evergreen	7
15. **(+)**		**Young shoot: number of glandular hairs**	**Jeune pousse: nombre de poils glandulaires**	**Junger Trieb: Anzahl der Drüsenhaare**	**Brote joven: densidad de la pilosidad glandular**		
QN	**(b)**	absent or few	nul ou faible	fehlend oder gering	ausente o baja	Silvan	1
		medium	moyen	mittel	media	Navaho	2
		many	grand	groß	alta	Karaka Black	3
16.		**Terminal leaflet: length**	**Foliole terminale: longueur**	**Endfieder: Länge**	**Folíolo superior: longitud**		
QN	**(c)**	short	courte	kurz	corta	Ashton Cross	3
		medium	moyenne	mittel	media	Loch Ness	5
		long	longue	lang	larga	Taylor's Prolific	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
17.		**Terminal leaflet: width**	**Foliole terminale: largeur**	**Endfieder: Breite**	**Folíolo superior: anchura**		
QN	**(c)**	narrow	étroite	schmal	estrecha	Alfred	3
		medium	moyenne	mittel	media	Navaho	5
		broad	large	breit	ancha	Douglas	7
18. **(+)**		**Terminal leaflet: lobing**	**Foliole terminale: découpure**	**Endfieder: Lappung**	**Folíolo superior: lobulado**		
QL	**(c)**	absent	absente	fehlend	ausente	Wilson's Early	1
		present	présente	vorhanden	presente	Thornless Evergreen	9
19.		**Terminal leaflet: shape in cross-section**	**Foliole terminale: forme en section transversale**	**Endfieder: Form im Querschnitt**	**Folíolo superior: forma en sección transversal**		
QL	**(c)**	u-shaped	en forme de U	u-förmig	en forma de U	Bedford Giant	1
		v-shaped	en forme de V	v-förmig	en forma de V	Mammoth	2
20.		**Terminal leaflet: undulation of margin**	**Foliole terminale: ondulation du bord**	**Endfieder: Wellung des Randes**	**Folíolo superior: ondulación del borde**		
QN	**(c)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Hull Thornless	1
		weak	faible	gering	débil	Loch Ness, Thornfree	2
		strong	forte	stark	fuerte	Navaho	3
21.		**Terminal leaflet: blistering between veins**	**Foliole terminale: cloqûre entre les nervures**	**Endfieder: Blasigkeit zwischen den Nebenadern**	**Folíolo superior: abullonado entre las venas**		
QN	**(c)**	very weak	très faible	sehr gering	muy débil	Himalaya	1
		weak	faible	gering	débil	Jersey Black	3
		medium	moyenne	mittel	medio	Thornfree	5
		strong	forte	stark	fuerte	Philadelphia	7
		very strong	très forte	sehr stark	muy fuerte	Tayberry	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
22. **(+)**		**Leaflet: type of incision of margin**	**Foliole: type d'incision du bord**	**Fiederblatt: Typ des Randeinschnitts**	**Folíolo: tipo de incisión del margen**		
QL	**(c)**	serrate	dentée	gesägt	serrada	Himalaya	1
		bi-serrate	bi-dentée	doppelt gesägt	biserrada	Thornless Evergreen	2
23.		**Leaflet: depth of incisions**	**Foliole: profondeur des incisions**	**Fiederblatt: Tiefe der Randeinschnitte**	**Folíolo: profundidad de las incisiones**		
QN	**(c)**	shallow	peu profondes	flach	poco profunda	Philadelphia	3
		medium	moyennes	mittel	media	Himalaya	5
		deep	profondes	tief	profunda	Loch Ness	7
		very deep	très profondes	sehr tief	muy profunda	Thornless Evergreen	9
24. **(*)**		**Leaf: predominant number of leaflets**	**Feuille: nombre prédominant de folioles**	**Blatt: vorwiegende Anzahl Fiederblätter**	**Hoja: número predominante de folíolos**		
PQ	**(c)**	three	trois	drei	tres	Marionberry	1
		five	cinq	fünf	cinco	Himalaya, Jumbo	2
		seven	sept	sieben	siete	Karaka Black	3
25. **(*)** **(+)**		**Leaf: type**	**Feuille: type**	**Blatt: Typ**	**Hoja: tipo**		
QL	**(c)**	odd-pinnate	imparipenné	unpaarig gefiedert	imparipinnada	Philadelphia	1
		intermediate	intermédiaire	intermediär	intermedia	Karaka Black	2
		palmate	palmé	fingerförmig gefiedert	palmada	Thornless Evergreen	3
26.		**Leaf: intensity of green color of upper side**	**Feuille: intensité de la couleur verte de la face supérieure**	**Blatt: Intensität der Grünfärbung der Oberseite**	**Hoja: intensidad del color verde del haz**		
QN	**(c)**	light	claire	hell	claro	Philadelphia	3
		medium	moyenne	mittel	medio	Kittatinny	5
		dark	foncée	dunkel	oscuro	Thornless Evergreen	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27.		**Leaf: glossiness of upper side**	**Feuille: brillance de la face supérieure**	**Blatt: Glanz der Oberseite**	**Hoja: brillo del haz**		
QN	**(c)**	weak	faible	gering	débil	Thornless Evergreen	3
		medium	moyenne	mittel	medio	Mammoth	5
		strong	forte	stark	fuerte	Kittatinny	7
28.		**Petiole: size of stipules**	**Pétiole: taille des stipules**	**Blattstiel: Größe der Nebenblätter**	**Peciolo: tamaño de las estípulas**		
QN	**(c)**	small	petits	klein	pequeño	Wilson's Early	3
		medium	moyens	mittel	medio	Thornless Hull	5
		large	grands	groß	grande	Loch Ness	7
29.		**Flower: diameter**	**Fleur: diamètre**	**Blüte: Durchmesser**	**Flor: diámetro**		
QN		very small	très petit	sehr klein	muy pequeño	Dyke	1
		small	petit	klein	pequeño	Tayberry	3
		medium	moyen	mittel	medio	Thornfree	5
		large	grand	groß	grande	Himalaya	7
		very large	très grand	sehr groß	muy grande	Silvan, Marionberry	9
30.		**Flower: color of petal**	**Fleur: couleur du pétale**	**Blüte: Farbe des Blütenblatts**	**Flor: color del pétalo**		
PQ		white	blanc	weiß	blanco	Philadelphia	1
		white with violet tinge	blanc teinté de violet	weiß mit violettem Anflug	blanco con trazas de violeta	Black Satin	2
		pinkish	rosâtre	blaßrosa	rosáceo	Dirksen Thornless, Theodor Reimers	3
31.		**Fruiting lateral: length**	**Rameau fructifère: longueur**	**Fruchttrieb: Länge**	**Fructificación lateral: longitud**		
QN		short	court	kurz	corta	Mammoth	3
		medium	moyen	mittel	media	Jersey Black	5
		long	long	lang	larga	Thornless Evergreen	7
		very long	très long	sehr lang	muy larga	Tayberry	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
32.		**Fruit: length**	**Fruit: longueur**	**Frucht: Länge**	**Fruto: longitud**		
QN	**(d)**	short	court	kurz	corta	Himalaya	3
		medium	moyen	mittel	media	Taylor's Prolific	5
		long	long	lang	larga		7
		very long	très long	sehr lang	muy larga	Tayberry	9
33.		**Fruit: width**	**Fruit: largeur**	**Frucht: Breite**	**Fruto: anchura**		
QN	**(d)**	narrow	étroit	schmal	estrecha	Tayberry	3
		medium	moyen	mittel	media	Loch Ness	5
		broad	large	breit	ancha		7
		very broad	très large	sehr breit	muy ancha	Douglas	9
34.		**Fruit: ratio length/width**	**Fruit: rapport longueur/largeur**	**Frucht: Verhältnis Länge/Breite**	**Fruto: relación longitud/anchura**		
QN	**(d)**	small	petit	klein	pequeña	Himalaya	3
		medium	moyen	mittel	media	Taylor's Prolific	5
		large	grand	groß	grande	Tayberry	7
		very large	très grand	sehr groß	muy grande	Karaka Black	9
35.		**Fruit: number of drupelets**	**Fruit: nombre de fructules**	**Frucht: Anzahl der Einzelsteinfrüchte**	**Fruto: número de drupas**		
QN	**(d)**	few	petit	wenig	bajo	Marionberry	3
		medium	moyen	mittel	medio	Himalaya	5
		many	grand	viele	alto	Tayberry	7
		very many	très grand	sehr viele	muy alto	Karaka Black	9
36.		**Fruit: size of drupelet**	**Fruit: taille du fructule**	**Frucht: Größe der Einzelsteinfrucht**	**Fruto: tamaño de la drupa**		
QN	**(d)**	very small	très petit	sehr klein	muy pequeño	Waldo, Siskiyou	1
		small	petit	klein	pequeño	Wilson's Early, Siskiypu	3
		medium	moyen	mittel	medio	Navaho	5
		large	grand	groß	grande	Douglas	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
37. (*) (+)		**Fruit: shape in longitudinal section**	**Fruit: forme en section longitudinale**	**Frucht: Form im Längsschnitt**	**Fruto: forma en sección longitudinal**		
PQ	**(d)**	circular	circulaire	rund	circular	Himalaya	1
		elliptic	elliptique	elliptisch	elíptica	Taylor's Prolific	2
		narrow ovate	ovale étroit	schmal eiförmig	oval estrecha		3
		medium ovate	ovale moyen	mittel eiförmig	oval media	Wilson's Early	4
		long conical	conique long	lang konisch	cónica alargada	Tayberry	5
		oblong	oblong	länglich	oblonga	Karaka Black	6
38.		**Fruit: color**	**Fruit: couleur**	**Frucht: Farbe**	**Fruto: color**		
PQ	**(d)**	red	rouge	rot	rojo	Sunberry	1
		reddish purple	pourpre rougeâtre	rötlichpurpurn	púrpura rojizo	Tayberry	2
		reddish black	noir rougeâtre	rötlichschwarz	negro rojizo	Alfred	3
		bluish black	noir bleuâtre	bläulichschwarz	negro azulado	Himalaya	4
		black	noir	schwarz	negro	Black Satin	5
39.		**Time of leaf bud burst**	**Époque du débourrement foliaire**	**Zeitpunkt des Öffnens der Blattknospe**	**Época de aparición de la yema foliar**		
QN		very early	très précoce	sehr früh	muy temprana	Ranui	1
		early	précoce	früh	temprana	Wilson's Early	3
		medium	moyenne	mittel	media	Black Satin	5
		late	tardive	spät	tardía	Jumbo	7
40.		**Flower: bearing on current year's cane**	**Fleur: présence sur la canne de l'année en cours**	**Blüte: Ertrag an der diesjährigen Rute**	**Flor: producción en la rama del año en curso**		
QL		absent	absente	fehlend	ausente	Navaho	1
		present	présente	vorhanden	presente	Taylor's Prolific	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
41. (*)	**Time of beginning of flowering on previous year's cane**	**Époque du début de la floraison sur la canne de l'année précédente**	**Zeitpunkt des Blühbeginns an der Vorjahresrute**	**Época de comienzo de la floración en la rama del año anterior**		
QN	very early	très précoce	sehr früh	muy temprana	Wilson's Early	1
	early	précoce	früh	temprana	Taylor's Prolific	3
	medium	moyenne	mittel	media	Himalaya	5
	late	tardive	spät	tardía	Thornfree	7
	very late	très tardive	sehr spät	muy tardía	Thornless Evergreen	9
42. (+)	**Time of beginning of flowering <u>on current year's cane</u>**	**Époque du début de la floraison <u>sur la canne de l'année en cours</u>**	**Zeitpunkt des Blühbeginns <u>an der diesjährigen Rute</u>**	**Época de comienzo de la floración <u>en la rama del año en curso</u>**		
QN	very early	très précoce	sehr früh	muy temprana		1
	early	précoce	früh	temprana		3
	medium	moyenne	mittel	media		5
	late	tardive	spät	tardía		7
	very late	très tardive	sehr spät	muy tardía		9
43. (*) (+)	**Time of beginning of fruit ripening <u>on previous year's cane</u>**	**Époque du début de maturité des fruits <u>sur la canne de l'année précédente</u>**	**Zeitpunkt des Beginns der Fruchtreife <u>an der vorjährigen Rute</u>**	**Época de comienzo de madurez del fruto <u>en la rama del año anterior</u>**		
QN	very early	très précoce	sehr früh	muy temprana	Loch Tay, Ranui	1
	early	précoce	früh	temprana	Taylor's Prolific, Karaka Black, Sunberry	3
	medium	moyenne	mittel	media	Himalaya, Marionberry	5
	late	tardive	spät	tardía	Thornfree	7
	very late	très tardive	sehr spät	muy tardía	Thornless Evergreen	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
44. (*) (+)	**Time of beginning of fruit ripening <u>on current year's cane</u>**	**Époque du début de maturité des fruits <u>sur la canne de l'année en cours</u>**	**Zeitpunkt des Beginns der Fruchtreife <u>an der diesjährigen Rute</u>**	**Época de comienzo de madurez del fruto <u>en la rama del año en curso</u>**		
QN	very early	très précoce	sehr früh	muy temprana		1
	early	précoce	früh	temprana		3
	medium	moyenne	mittel	media		5
	late	tardive	spät	tardía		7
	very late	très tardive	sehr spät	muy tardía		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) Observations on the plant and the dormant cane which should be made during winter dormancy.

(b) Observations on the young shoot which should be made during rapid growth and before flowering.

(c) Observations on the new cane and the leaf which should be made during flowering.

(d) Observations on the fruit which should be made on fruits collected during the second, third and/or fourth picking.

8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit

1
upright

2
upright to semi-upright

3
semi-upright

4
semi-upright to spreading

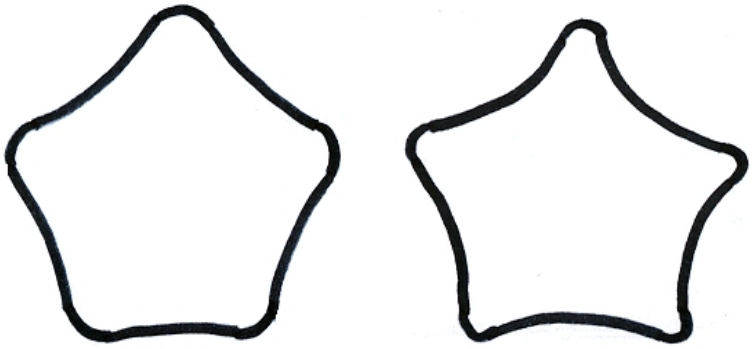
5
spreading

Ad. 8: Dormant cane: cross section

1
rounded

2
rounded to angular

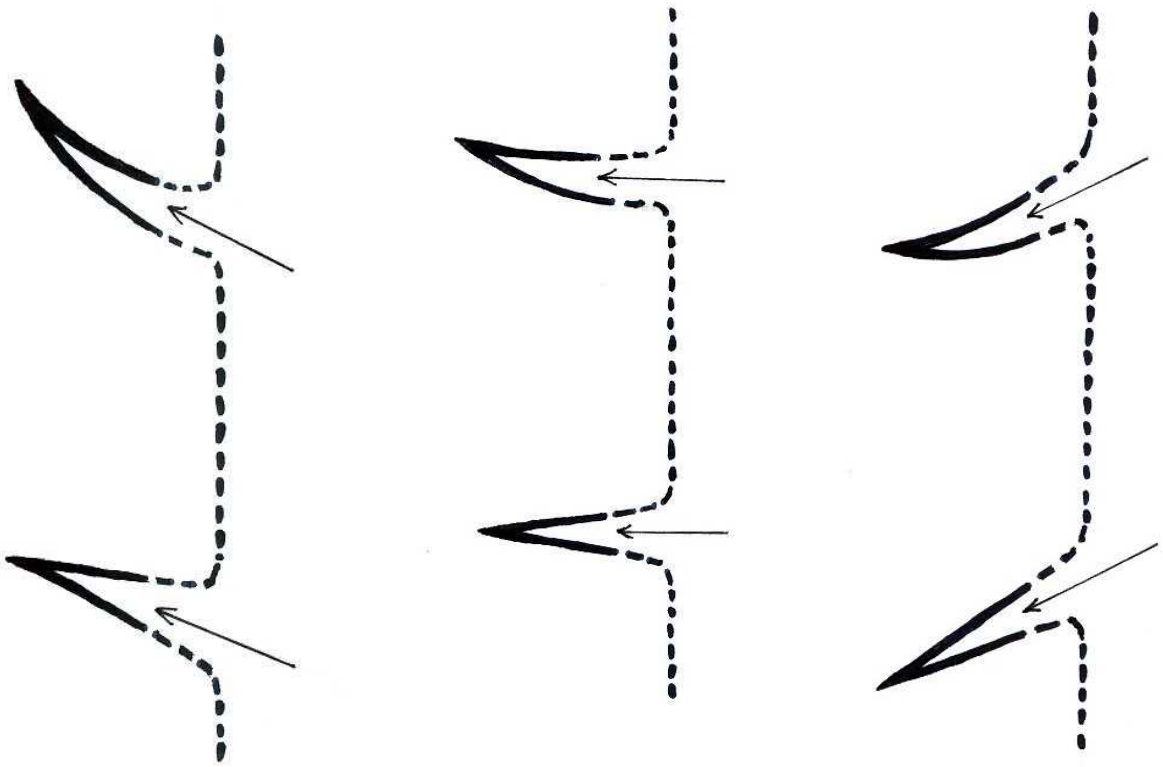
3
angular



4
angular to grooved

5
grooved

Ad. 12: Spine: attitude of apex in relation to cane



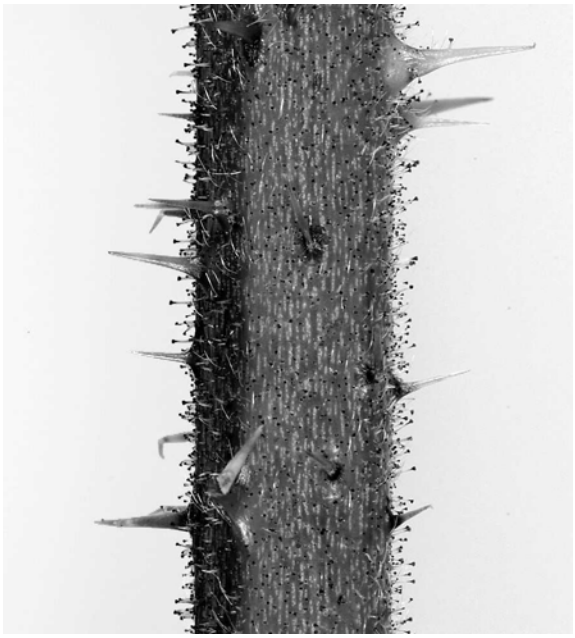
1
upwards

2
outwards

3
downwards

Ad. 15: Young shoot: number of glandular hairs

1
absent or few



3
many

Ad. 18: Terminal leaflet: lobing

1
absent

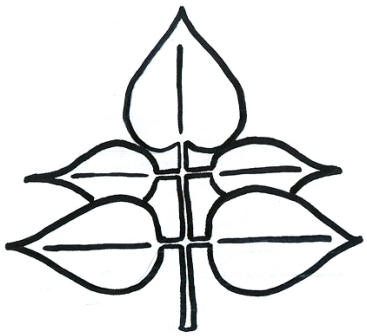
9
present

Ad. 22: Leaflet: type of incision of margin

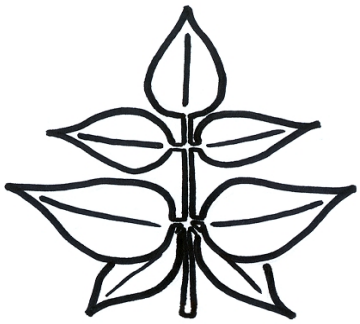
1
serrate

2
bi-serrate

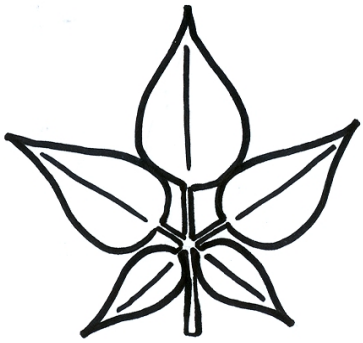
Ad. 25: Leaf: type



1
odd-pinnate

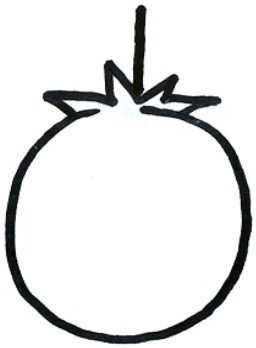


2
intermediate

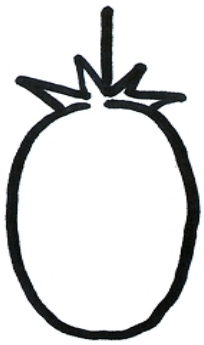


3
palmate

Ad. 37: Fruit: shape in longitudinal section



1
circular

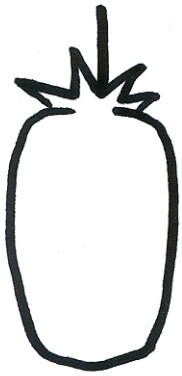


2
elliptic

3
narrow ovate

4
medium ovate

5
long conical



6
oblong

Ad. 42: Time of beginning of flowering on current year's cane
Ad. 43: Time of beginning of fruit ripening on previous year's cane

The time of beginning of flowering is reached when 10% of the flower buds are open.

Ad. 44: Time of beginning of fruit ripening on current year's cane

The time of beginning of fruit ripening is when the fruit is most easily removed from the plant.

9. Literature

Bordeianu, T.; Constantinescu, N.; Stefan, N., 1968: "Pomologia, Vol.. VII", Editura Academiei Republicii Socialiste Romania, Bukarest, Romania.

Bundessortenamt, 1995: Beschreibende Sortenliste Beerenobst – Erdbeere, Himbeere, Brombeere, Stachelbeere, Landbuch Verlagsgesellschaft, Hannover, Germany.

Hedrick, U.P., 1925: The small fruits of New York, Stae of New York – Department of Farms and Markets, Thirty-third Annual Report, Part II, Albany, J.B. Lyon Company.

"Internordic Index of Ribes and Rubus Cultivars", AVD för Fruktoch Bärodling, Alnarp, Sweden.

Jennings, D.L. 1988: Raspberries and Blackberries: Their breeding, diseases and growth, Academic Press, London, United Kingdom

Sorge, P., 1984: "Beerenobstsorten", Verlag J. Neumann-Neudamm, Melsungen, Germany.

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	*Rubus* L.
1.2 Common Name	Blackberry

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

4.2.1 Vegetative propagation

(a) cuttings [ ]
(b) other (state method) [ ]

4.2.2 Other [ ]
(please provide details)

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

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

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 (1)	**Plant: growth habit**		
	upright	Wilson's Early, Arapaho	1[ ]
	upright to semi-upright	Kiowa	2[ ]
	semi-upright	Jersey Black	3[ ]
	semi-upright to spreading	Tayberry	4[ ]
	spreading	Himalaya, Aurora	5[ ]
5.2 (9)	**Dormant cane: spines**		
	absent	Loch Ness	1[ ]
	present	Himalaya	9[ ]
5.3 (24)	**Leaf: predominant number of leaflets**		
	three	Marionberry	1[ ]
	five	Himalaya, Jumbo	2[ ]
	seven	Karaka Black	3[ ]
5.4 (25)	**Leaf: type**		
	odd-pinnate	Philadelphia	1[ ]
	intermediate	Karaka Black	2[ ]
	palmate	Thornless Evergreen	3[ ]
5.5 (41)	**Time of beginning of flowering on previous year's cane**		
	very early	Wilson's Early	1[ ]
	early	Taylor's Prolific	3[ ]
	medium	Himalaya	5[ ]
	late	Thornfree	7[ ]
	very late	Thornless Evergreen	9[ ]

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

	Characteristics	Example Varieties	Note
5.6 (42)	**Time of beginning of flowering <u>on current year's cane</u>**		
	very early		1[ ]
	early		3[ ]
	medium		5[ ]
	late		7[ ]
	very late		9[ ]
5.7 (43)	**Time of beginning of fruit ripening <u>on previous year's cane</u>**		
	very early	Loch Tay, Ranui	1[ ]
	early	Taylor's Prolific, Karaka Black, Sunberry	3[ ]
	medium	Himalaya, Marionberry	5[ ]
	late	Thornfree	7[ ]
	very late	Thornless Evergreen	9[ ]

6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the **similar** variety(ies)	Describe the expression of the characteristic(s) for **your** candidate variety
Example	*Fruit: size of drupelet*	*small*	*medium*

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”.

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]