



These Test Guidelines have been superseded by a later version. The latest adopted version of Test Guidelines can be found at http://www.upov.int/test_guidelines/en/list.jsp

Ces principes directeurs d'examen ont été remplacés par une version ultérieure. La version adoptée la plus récente des principes directeurs d'examen figure à l'adresse suivante : http://www.upov.int/test_guidelines/fr/list.jsp

Diese Prüfungsrichtlinien wurden durch eine neuere Fassung ersetzt. Die neueste angenommene Fassung von Prüfungsrichtlinien ist unter http://www.upov.int/test_guidelines/de/list.jsp zu finden.

Las presentes directrices de examen han sido reemplazadas por una versión posterior. La versión de las directrices de examen de más reciente aprobación está disponible en http://www.upov.int/test_guidelines/es/list.jsp.

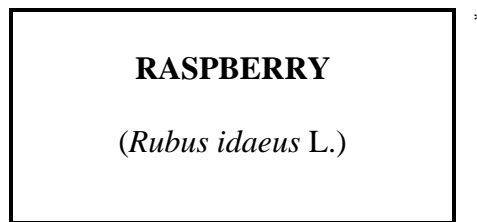


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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA



GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names: *

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Rubus idaeus L.</i>	Raspberry	Framboisier	Himbeere	Frambueso

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, “General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants” (hereinafter referred to as 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 *Rubus idaeus* L. and their hybrids as far as they are morphologically similar to *Rubus idaeus* 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 plants with good root formation and with a satisfactory number of adventitious buds on the roots.

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

10 plants.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. It should especially be free from viruses as required by the competent authorities. If it has been produced by *in vitro* propagation this fact has to be stated by the applicant.

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 *Duration of Tests*

The minimum duration of tests should normally be two independent growing cycles. For the purpose of these Test Guidelines, a growing cycle refers to the fruiting cycle.

3.2 *Testing Place*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

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 10 plants.

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

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations determined by measuring or counting should be made on 10 plants or parts taken from each of 10 plants. In the case of fruit, a single typical fruit should be taken from each of the 10 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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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 10 plants, 1 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 is 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) Very young shoot: anthocyanin coloration of apex during rapid growth (characteristic 3);
- (b) Spines: presence (characteristic 12);
- (c) Fruit: color (characteristic 35);
- (d) Fruit: main bearing type (characteristic 39);
- (e) Varieties which fruit on previous year's cane in summer: Time of beginning of fruit ripening on previous year's cane (characteristic 44);

or

Varieties which fruit on current year's cane in autumn: Time of beginning of fruit ripening on current year's cane (characteristic 45).

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 Section 6.1.2

QL Qualitative characteristic – see Section 6.3

QN Quantitative characteristic – see Section 6.3

PQ Pseudo-Qualitative characteristic – see Section 6.3

(a)-(f) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 8.2

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

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
1.	Plant: habit	Plante: port	Pflanze: Wuchsform	Planta: porte		
(+)						
PQ	upright	dressée	aufrecht	erecto	Ontario, Watson	1
	semi-upright	demi dressée	halbaufrecht	semierecto	Autumn Bliss, Preußen, Schönemann	2
	arching	arquée	überhängend	arqueado	Joan Squire, Malling Joy, Meeker	3
2.	Plant: number of current season's canes	Plante: nombre de jeunes pousses	Pflanze: Anzahl diesjähriger Ruten	Planta: número de brotes del año		
(*) (+)						
QN	few	petit	gering	bajo	Rubaca, Rucami	3
	medium	moyen	mittel	medio	Glen Ample, Multiraspa, Rumiloba	5
	many	grand	groß	alto	Glen Clova, Skeena	7
	very many	très grand	sehr groß	muy alto	Sumner	9
3.	(a) Very young shoot: anthocyanin coloration of apex during rapid growth	Très jeune pousse: pigmentation anthocyanique de l'apex pendant la croissance rapide	Sehr junger Trieb: Anthocyanfärbung der Spitze während des schnellen Wachstums	Brote muy joven: pigmentación antociánica del ápice durante el crecimiento rápido		
(*)						
QL	absent	absente	fehlend	ausente	Gelbe Antwerpener	1
	present	présente	vorhanden	presente	Malling Promise	9
4.	(a) Very young shoot: intensity of anthocyanin coloration of apex during rapid growth	Très jeune pousse: intensité de la pigmentation anthocyanique de l'apex pendant la croissance rapide	Sehr junger Trieb: Intensität der Anthocyanfärbung der Spitze während des schnellen Wachstums	Brote muy joven: intensidad de la pigmentación antociánica del ápice durante el crecimiento rápido		
(*)						
QN	weak	faible	gering	débil	Rumiloba, Rusilva	3
	medium	moyenne	mittel	media	Cola 1, Rucami, Vetén	5
	strong	forte	stark	fuerte	Malling Joy, Rubaca	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. (b)	Current season's cane: bloom	Jeune canne: pruine	Diesjährige Rute: Bereifung	Rama del año: pruina		
QN	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Heritage, Willamette	1
	weak	faible	gering	ausente	Malling Promise, Zefa 2	3
	medium	moyenne	mittel	media	Malling Delight	5
	strong	forte	stark	fuerte	Glen Ample, September	7
	very strong	très forte	sehr stark	muy fuerte	Ontario	9
6. (b)	Current season's cane: anthocyanin coloration	Jeune canne: pigmentation anthocyanique	Diesjährige Rute: Anthocyanfärbung	Rama del año: pigmentación antocianica		
QN	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Chiliwak, Golden Bliss	1
	weak	faible	gering	débil	Malling Leo, Tulameen	3
	medium	moyenne	mittel	media	Malling Orion	5
	strong	forte	stark	fuerte	Rode Radboud, Rubaca	7
7. (b)	Current season's cane: length of internode	Jeune canne: longueur de l'entre-nœud	Diesjährige Rute: Internodienlänge	Rama del año: longitud del entrenudo		
QN	short	court	kurz	corto	Zefa 3	3
	medium	moyen	mittel	medio	Rusilva, Zefa 2	5
	long	long	lang	largo	Caliber, Malling Joy	7
8. (+)	Current season's cane: length of vegetative bud	Jeune canne: longueur de l'œil à bois	Diesjährige Rute: Länge der vegetativen Knospe	Rama del año: longitud de la yema de madera		
QN	short	court	kurz	corta	Wilcran	3
	medium	moyen	mittel	media	Veten	5
	long	long	lang	larga	Baronne de Wavre, Phyllis King	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. (*)	<u>Varieties which fruit on previous season's cane in summer:</u> Dormant cane: length	<u>Variétés dont la récolte est sur la canne de la saison précédente en été:</u> Canne dormante: longueur	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Winterrute: Länge	<u>Variedades con frutos en verano en la rama del año anterior:</u> Rama latente: longitud		
QN	short	courte	kurz	corta	Loganlike	3
	medium	moyenne	mittel	media	Zefa 2	5
	long	longue	lang	larga	Meeker, Schönemann	7
10. (b) (*)	<u>Varieties which fruit on current season's cane in autumn:</u> Current season's cane: length	<u>Variétés dont la récolte est sur la canne de la saison en cours en automne:</u> Canne de la saison en cours: longueur	<u>Sorten, die ihre Haupternte an der Jahresrute im Herbst erbringen:</u> Jahresrute: Länge	<u>Variedades con frutos en otoño en la rama del año: Rama del año: longitud</u>		
QN	short	courte	kurz	corta	Orange Marie	3
	medium	moyenne	mittel	media	Dinkum	5
	long	longue	lang	larga	Watson	7
11. (*) (+)	<u>Varieties which fruit on previous season's cane in summer:</u> Dormant cane: color	<u>Variétés dont la récolte est sur la canne de la saison précédente en été:</u> Canne dormante: couleur	<u>Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u> Winterrute: Farbe	<u>Variedades con frutos en verano en la rama del año precedente:</u> Rama latente: color		
PQ	brownish grey	gris brunâtre	bräunlichgrau	gris parduzco	Malling Leo, Schönemann	1
	greyish brown	brun grisâtre	graubraun	marrón grisáceo	Malling Orion	2
	brown	brun	braun	marrón	Caliber, Glen Cova	3
	purplish brown	brun pourpre	purpurbraun	marrón violáceo	Festival, Malling Landmark	4
	brownish purple	pourpre brunâtre	bräunlichpurpur	púrpura parduzco	Royalty, Titan	5
12. (c) (*)	Spines: presence	Épines: présence	Stacheln: Vorhandensein	Espinas: presencia		
QL	absent	absentes	fehlend	ausentes	Glen Moy	1
	present	présentes	vorhanden	presentes	Malling Promise	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13. (c) (*)	<u>Varieties with spines present only: Spines: density</u>	<u>Variétés avec épines seulement: Épines: densité</u>	<u>Nur Sorten mit Stacheln: Stacheln: Dichte</u>	<u>Sólo variedades con espinas: Espinas: densidad</u>		
QN	sparse	lâche	locker	escasa	Malling Orion, Rafzmach, Spica	3
	medium	moyenne	mittel	media	Multiraspa, Zefa 2	5
	dense	dense	dicht	densa	Autumn Bliss, Malling Exploit	7
14. (c)	<u>Varieties with spines present only: Spines: size of base</u>	<u>Variétés avec épines seulement: Épines: taille de la base</u>	<u>Nur Sorten mit Stacheln: Stacheln: Größe der Basis</u>	<u>Sólo variedades con espinas: Espinas: tamaño de la base</u>		
QN	very small	très petite	sehr klein	muy pequeña	Reveille	1
	small	petite	klein	pequeña	Pujallup, Resa	3
	medium	moyenne	mittel	media	Gevalo, Malling Exploit	5
	large	grande	groß	grande	Autumn Bliss, Köstliche Selita	7
	very large	très grande	sehr groß	muy grande	Malling Landmark, Matterhorn	9
15. (c)	<u>Varieties with spines present only: Spines: length</u>	<u>Variétés avec épines seulement: Épines: longueur</u>	<u>Nur Sorten mit Stacheln: Stacheln: Länge</u>	<u>Sólo variedades con espinas: Espinas: longitud</u>		
QN	short	courtes	kurz	cortas	Gigant, Malling Delight, Vetén	3
	medium	moyennes	mittel	medias	Malling Leo	5
	long	longues	lang	largas	Malling Exploit, Meeker	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. (c)	<u>Varieties with spines present only</u>: Spines: color	<u>Variétés avec épines seulement</u>: Épines: couleur	<u>Nur Sorten mit Stacheln</u>: Stacheln: Farbe	<u>Sólo variedades con espinas</u>: Espinas: color		
PQ	green	vert	grün	verde	Golden Bliss, Malling Delight	1
	brownish green	vert brunâtre	bräunlichgrün	verde parduzco	Malling Landmark	2
	greenish brown	brun verdâtre	grünlichbraun	marrón verdoso	Rode Radboud, Watson	3
	brown	brun	braun	marrón	Malling Orion, Spica	4
	purplish brown	brun pourpre	purpurbraun	marrón violáceo	Malling Leo, Pujallup	5
	brownish purple	pourpre brunâtre	bräunlichpurpur	púrpura parduzco	Resa, Tulameen	6
	purple	pourpre	purpur	púrpura	Sirius, Veten, Zefa 3	7
17. (d) (*)	Leaf: green color of upper side	Feuille: couleur verte de la face supérieure	Blatt: Grünfärbung der Oberseite	Hoja: color verde del haz		
QN	light	légère	hell	claro	Watson, Skeena	3
	medium	moyenne	mittel	medio	Malling Orion	5
	dark	foncée	dunkel	oscuro	Malling Landmark, Resa, Rubaca	7
18. (d) (*)	Leaf: predominant number of leaflets	Feuille: nombre prédominant de folioles	Blatt: vorwiegende Anzahl von Blattfiedern	Hoja: número predominante de folíolos		
PQ	three	trois	drei	tres	Veten, Zefa 3	1
	equally three and five	parfois trois, parfois cinq	drei und fünf zu gleichen Teilen	tanto tres como cinco	Malling Exploit, Multiraspa, Sirius	2
	five	cinq	fünf	cinco	Ontario, Pujallup, Rusilva	3
19. (d)	Leaf: profile of leaflets in cross section	Feuille: profil des folioles en section transversale	Blatt: Profil der Blattfiedern im Querschnitt	Hoja: perfil de los folíolos en sección transversal		
QN	concave	concaves	konkav	cóncavo	Glen Clova, Glen Moy	1
	straight	droites	gerade	plano	Gevalo	2
	convex	convexes	konvex	convexo	Gigant	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
20. (d) Leaf: rugosity (*)		Feuille: rugosité	Blatt: Runzeligkeit	Hoja: rugosidad		
QN	very weak	très faible	sehr gering	muy débil	Heritage, Watson	1
	weak	faible	gering	débil	Rusilva	3
	medium	moyenne	mittel	media	Caliber, Malling Landmark, Pujallup	5
	strong	forte	stark	fuerte	Malling Exploit, Spica	7
	very strong	très forte	sehr stark	muy fuerte	Korbfüller	9
21. (d) Leaf: relative position of lateral leaflets (+)		Feuille: position relative des folioles latérales	Blatt: relative Stellung der seitlichen Blattfiedern	Hoja: posición relativa de los folíolos laterales		
QN	free	disjointes	freistehend	libres	Willamette	1
	touching	tangentes	einander berührend	en contacto	Malling Orion	2
	overlapping	chevauchantes	überlappend	solapados	Gigant, Resa, Rumiloba	3
22. (d) Terminal leaflet: length		Foliole terminale: longueur	Endfieder: Länge	Folíolo superior: longitud		
QN	short	courte	kurz	corto	Royalty	3
	medium	moyenne	mittel	medio	Norfolk Giant, Wilkran	5
	long	longue	lang	largo	Malling Joy	7
23. Terminal leaflet: width		Foliole terminale: largeur	Endfieder: Breite	Folíolo superior: anchura		
QN	narrow	étroite	schmal	estrecho	Rusilva	3
	medium	moyenne	mittel	medio	Zefa 2	5
	broad	large	breit	ancho	Glen Ample	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	Pedichel: number of spines	Pédicelle: nombre d'épines	Blütenstiel: Anzahl Stacheln	Pedicelo: número de espinas		
QN	absent or very few	nul ou très petit	fehlend oder sehr gering	nulo o muy bajo	Glen Ample	1
	few	petit	gering	bajo	Multiraspa, Pechts Gigant	3
	medium	moyen	mittel	medio	Glen Clova, Malling Leo	5
	many	grand	groß	alto	Malling Joy, Orange Marie	7
	very many	très grand	sehr groß	muy alto	Ariadne, Golden Bliss	9
25. (*)	Peduncle: presence of anthocyanin coloration	Pédoncule: présence de pigmentation anthocyanique	Blütenstandstiel: Vorhandensein von Anthocyanfärbung	Pedúnculo: presencia de pigmentación antociánica		
QL	absent	absente	fehlend	ausente	Gelbe Antwerpener, Golden Bliss	1
	present	présente	vorhanden	presente	Willamette	9
26. (*)	Peduncle: intensity of anthocyanin coloration	Pédoncule: intensité de la pigmentation anthocyanique	Blütenstandstiel: Intensität der Anthocyanfärbung	Pedúnculo: intensidad de pigmentación antociánica		
QN	very weak	très faible	sehr gering	muy débil	Julia, Rumilo	1
	weak	faible	gering	débil	Joan Squire, Malling Delight	3
	medium	moyenne	mittel	media	Gevalo, Pujallup	5
	strong	forte	stark	fuerte	Loganlike, Willamette	7
	very strong	très forte	sehr stark	muy fuerte	Rafzmach	9
27. (f)	Flower: size	Fleur: taille	Blüte: Größe	Flor: tamaño		
QN	small	petite	klein	pequeña	Ontario	3
	medium	moyenne	mittel	media	Rucami, Spica	5
	large	grande	groß	grande	Gevalo, Isabel	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28. (f)	<u>Varieties which fruit on previous year's cane in summer:</u> Fruiting lateral: attitude	<u>Variétés dont la récolte est sur la canne de l'année précédente en été:</u> Rameau fructifère: port	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Fruchtender Seitentrieb: Haltung	<u>Variedades con frutos en la rama del año anterior en verano:</u> Fructificación lateral: porte		
QN	erect	dressé	aufrecht	erecto	Malling Landmark, Ontario	1
	semi-erect	demi dressé	halbaufrecht	semierecto	Schönemann	2
	horizontal to drooping	horizontal à retombant	waagrecht bis hängend	horizontal a colgante	Rucami	3
29. (f) (*)	<u>Varieties which fruit on previous year's cane in summer:</u> Fruiting lateral: length	<u>Variétés dont la récolte est sur la canne de l'année précédente en été:</u> Rameau fructifère: longueur	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Fruchtender Seitentrieb: Länge	<u>Variedades con frutos en la rama del año anterior en verano:</u> Fructificación lateral: longitud		
QN	very short	très court	sehr kurz	muy corta	Galante, Glen Moy	1
	short	court	kurz	corta	Multiraspa, Rafzmach	3
	medium	moyen	mittel	media	Gradina, Tulameen	5
	long	long	lang	larga	Meeker	7
	very long	très long	sehr lang	muy larga	Malling Joy, Malling Leo	9
30. (e) (*) (f)	Fruit: length	Fruit: longueur	Frucht: Länge	Fruto: longitud		
QN	short	court	kurz	corto	Malling Promise, Ontario	3
	medium	moyen	mittel	medio	Rafzmach	5
	long	long	lang	largo	Malling Delight	7
31. (e) (*) (f)	Fruit: width	Fruit: largeur	Frucht: Breite	Fruto: anchura		
QN	narrow	étroit	schmal	estrecho	Haida	3
	medium	moyen	mittel	medio	Meeker, Schönemann	5
	broad	large	breit	ancho	Glen Ample	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32. (*)(f)	Fruit: ratio length/width	Fruit: rapport longueur/largeur	Frucht: Verhältnis Länge/Breite	Fruto: relación longitud/anchura		
QN	small	petit	klein	pequeña	Caliber, Zefa 2	3
	medium	moyen	mittel	media	Glen Clova, Rafzeter	5
	large	grand	groß	grande	Malling Delight, Tulameen	7
33. (*)(+)(f)	Fruit: general shape in lateral view	Fruit: forme générale en vue latérale	Frucht: allgemeine Form in der Seitenansicht	Fruto: forma general en vista lateral		
PQ	circular	circulaire	rund	circular	Malling Landmark, Ontario	1
	broad conical	conique large	breit konisch	cónica ancha	Malling Orion, Meeker	2
	conical	conique	konisch	cónica	Annamaria, Rafzmach	3
	trapezoidal	trapézoïdal	trapezförmig	trapezoidal	Gradina	4
34. (*)(f)	Fruit: size of single drupe	Fruit: taille d'une drupe simple	Frucht: Größe der Einzelsteinfrucht	Fruto: tamaño de la drupa		
QN	small	petite	klein	pequeña	Malling Admiral, Polana	3
	medium	moyenne	mittel	media	Autumn Bliss, Malling Orion	5
	large	grande	groß	grande	Dinkum, Festival, Rafzeter	7
35. (*)(f)	Fruit: color	Fruit: couleur	Frucht: Farbe	Fruto: color		
PQ	yellow	jaune	gelb	amarillo	Gelbe Antwerpener, Golden Bliss	1
	orange	orange	orange	naranja	Orange Marie	2
	light red	rouge clair	hellrot	rojo claro	Malling Delight	3
	medium red	rouge moyen	mittelrot	rojo medio	Glen Clova, Malling Orion	4
	dark red	rouge foncé	dunkelrot	rojo oscuro	Gigant, Schönemann, Zefa 2	5
	purple	pourpre	purpur	púrpura	Royalty	6
	dark purple	pourpre foncé	dunkelpurpur	púrpura oscuro	Deep Purple	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36.	(e) Fruit: glossiness (f)	Fruit: brillance	Frucht: Glanz	Fruto: brillo		
QN	weak	faible	gering	débil	Gigant, Rumilo	3
	medium	moyenne	mittel	medio	Comox	5
	strong	forte	stark	fuerte	Rafzmach, Tulameen	7
	very strong	très forte	sehr stark	muy fuerte	Resa	9
37.	(e) Fruit: firmness (*) (f)	Fruit: fermeté	Frucht: Festigkeit	Fruto: firmeza		
QN	very soft	très mou	sehr weich	muy blando	Caliber, Malling Delight	1
	soft	mou	weich	blando	Gigant, Malling Landmark	3
	medium	moyen	mittel	medio	Glen Clova, Malling Promise	5
	firm	ferme	fest	firme	Tulameen	7
	very firm	très ferme	sehr fest	muy firme	Glen Prosen	9
38.	(e) Fruit: adherence (f) to plug	Fruit: adhérence au réceptacle	Frucht: Haften am Zapfen	Fruto: adherencia al receptáculo		
QN	very weak	très faible	sehr gering	muy débil	Nootka	1
	weak	faible	gering	débil	Rumilo, Zefa 2	3
	medium	moyenne	mittel	media	Glen Clova, Meeker	5
	strong	forte	stark	fuerte	Malling Delight	7
	very strong	très forte	sehr stark	muy fuerte	Malling Landmark	9
39.	(e) Fruit: main (*) (f) bearing type	Fruit: principal type de récolte	Frucht: Haupterte	Fruto: principal tipo de producción		
PQ	only on previous year's cane in summer	seulement sur la canne de l'année précédente en été	nur an der Vorjahresrute im Sommer	solamente en la rama del año anterior en verano	Malling Promise	1
	both on previous year's cane in summer and on current year's cane in autumn	à la fois sur la canne de l'année précédente en été et sur la jeune canne en automne	sowohl an der Vorjahresrute im Sommer als auch an der Jahresrute im Herbst	tanto en la rama del año anterior en verano como en la rama del año en curso en otoño	Isabel	2
	only on current year's cane in autumn	seulement sur la jeune canne en automne	nur an der Jahresrute im Herbst	solamente en la rama del año en curso en otoño	Autumn Bliss	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40. (*) (+)	<u>Varieties which fruit on previous year's cane in summer:</u> Plant: time of vegetative bud burst	<u>Variétés dont la récolte est sur la canne de l'année précédente en été:</u> Plante: époque de débourrement	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Pflanze: Zeitpunkt des Aufbruchs der vegetativen Knospe	<u>Variedades con frutos en verano en la rama del año anterior:</u> Planta: época de aparición de la yema de madera		
QN	early	précoce	früh	temprana	Glen Moy, Malling Promise	3
	medium	moyenne	mittel	media	Delmes, Glen Clova	5
	late	tardive	spät	tardía	Malling Orion, Multiraspa	7
	very late	très tardive	sehr spät	muy tardía	Malling Joy	9
41. (*) (+)	<u>Varieties which fruit on current year's cane in autumn:</u> Time of cane emergence	<u>Variétés dont la récolte est sur la jeune canne en automne:</u> Début de la croissance de la canne	<u>Sorten, die an der Jahresrute im Herbst fruchten:</u> Beginn des Triebwachstums	<u>Variedades con frutos en otoño en la rama del año en curso:</u> Época de crecimiento de la rama		
QN	early	précoce	früh	temprana	Polana	3
	medium	moyenne	mittel	media	Autumn Bliss	5
	late	tardive	spät	tardía	Watson	7
42. (*) (+)	(f) <u>Varieties which fruit on previous year's cane in summer:</u> Time of beginning of flowering on previous year's cane	<u>Variétés dont la récolte est sur la canne de l'année précédente</u> Époque du début de la floraison sur la canne de l'année précédente	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Zeitpunkt des Blühbeginns an der Vorjahresrute	<u>Variedades con frutos en verano en la rama del año anterior:</u> Época de comienzo de la floración en la rama del año anterior		
QN	very early	très précoce	sehr früh	muy temprana	Glen Moy, Rafzmach	1
	early	précoce	früh	temprana	Gevalo, Willamette	3
	medium	moyenne	mittel	media	Rumiloba, Skeena	5
	late	tardive	spät	tardía	Glen Prosen	7
	very late	très tardive	sehr spät	muy tardía	Malling Joy, Malling Leo	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43. (f) (*) (+)	<u>Varieties which fruit on current year's cane in autumn:</u> Time of beginning of flowering on current season's cane	<u>Variétés dont la récolte est sur la jeune canne en automne:</u> Époque du début de la floraison sur la jeune canne	<u>Sorten, die an der Jahresrute im Herbst fruchten:</u> Zeitpunkt des Blühbeginns an der Jahresrute	<u>Variedades con frutos en otoño en la rama del año en curso:</u> Época de comienzo de la floración en la rama del año en curso		
QN	very early	très précoce	sehr früh	muy temprana	Ariadne	1
	early	précoce	früh	temprana	Autumn Bliss	3
	medium	moyenne	mittel	media	Orange Marie	5
	late	tardive	spät	tardía	Watson	7
	very late	très tardive	sehr spät	muy tardía	September	9
44. (f) (*) (+)	<u>Varieties which fruit on previous year's cane in summer:</u> Time of beginning of fruit ripening on previous year's cane	<u>Variétés dont la récolte est sur la canne de l'année précédente en été:</u> Époque du début de maturité des fruits sur la canne de l'année précédente	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Zeitpunkt des Beginns der Fruchtreife an der Vorjahresrute	<u>Variedades con frutos en verano en la rama del año anterior:</u> Época de comienzo de madurez del fruto en la rama del año anterior		
QN	very early	très précoce	sehr früh	muy temprana	Vene	1
	early	précoce	früh	temprana	Glen Clova, Glen Moy, Rafzmach	3
	medium	moyenne	mittel	media	Rusilva, Willamette	5
	late	tardive	spät	tardía	Malling Landmark, Schönemann	7
	very late	très tardive	sehr spät	muy tardía	Malling Leo	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
45. (*) (+)	<u>Varieties which fruit on current year's cane in autumn:</u> Time of beginning of fruit ripening on current year's cane	<u>Variétés dont la récolte est sur la jeune canne en automne:</u> Époque du début de maturité des fruits sur la jeune canne	<u>Sorten, die an der Jahresrute im Herbst fruchten:</u> Zeitpunkt des Beginns der Fruchtreife an der Jahresrute	<u>Variedades con frutos en otoño en la rama del año en curso:</u> Época de comienzo de madurez del fruto en la rama del año en curso		
QN	very early	très précoce	sehr früh	muy temprana	Ariadne	1
	early	précoce	früh	temprana	Polana	3
	medium	moyenne	mittel	media	Orange Marie, Watson	5
	late	tardive	spät	tardía	Korbfüller	7
	very late	très tardive	sehr spät	muy tardía	Baronne de Wavre	9
46. (*) (+)	<u>Varieties which fruit on previous year's cane in summer:</u> Length of fruiting period on previous year's cane	<u>Variétés dont la récolte est sur la canne de l'année précédente en été:</u> Longueur de la période de récolte sur la canne de l'année précédente	<u>Sorten, die an der Vorjahresrute im Sommer fruchten:</u> Dauer der Ernteperiode an der Vorjahresrute	<u>Variedades con frutos en verano en la rama del año anterior:</u> Duración del período de fructificación en la rama del año anterior		
QN	short	courte	kurz	corto	Glen Moy	3
	medium	moyenne	mittel	medio	Glen Clova	5
	long	longue	lang	largo	Schönemann	7
47. (*) (+)	<u>Varieties which fruit on current year's cane in autumn:</u> Length of fruiting period on current year's cane	<u>Variétés dont la récolte est sur la jeune canne en automne:</u> Longueur de la période de récolte sur la jeune canne	<u>Sorten, die an der Jahresrute im Herbst fruchten:</u> Dauer der Ernteperiode an der Jahresrute	<u>Variedades con frutos en otoño en la rama del año en curso:</u> Duración del período de fructificación en la rama del año en curso		
QN	short	courte	kurz	corto	Boheme	3
	medium	moyenne	mittel	medio	Autumn Bliss, Heritage	5
	long	longue	lang	largo	Polana	7

8. Explanations on the Table of Characteristics

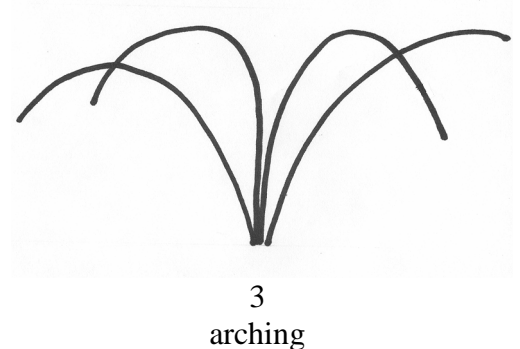
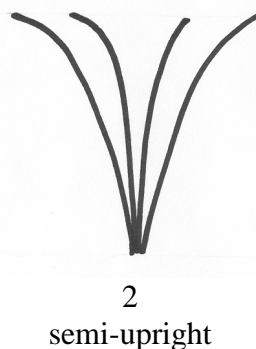
8.1 *Explanations covering several characteristics*

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

- (a) Very young shoot: Observations on the very young shoot should be made when the shoots are about 15 cm long.
- (b) Current season's cane: Observations on the current season's cane should be made when the cane is about 1 m to 1.50 m long. For summer bearing varieties, these observations should be made just after harvest, for autumn bearing ones just before or at harvest. The bloom of the current season's cane should only be observed when fully grown.
- (c) Spine: Observations on spines should be made in the middle third of the current season's cane, when the cane is about 1 m to 1.50 m long.
- (d) Leaf: Observations on the leaf should be made on fully developed leaves from the middle third of the cane.
- (e) Fruit: Observations on the fruit should be made on fruit picked during the second and third harvest.
- (f) Flower/fruit/length of the fruiting period: Observations on the flower and the fruit, as well as the length of the fruiting period, should be recorded from the summer harvest at the fruiting laterals only, except for varieties whose main fruiting is on the current year's cane in autumn. For these varieties, observations should be made during the autumn fruiting period.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: habit



Ad. 2: Plant: number of current season's canes

The number of current season's canes should be considered as the number per meter length of the row before thinning for the first time observed in the beginning of the second year.

Ad. 8: Current season's cane: length of vegetative bud

Observations on the vegetative bud should be made in the middle third of the cane.



3
short



5
medium

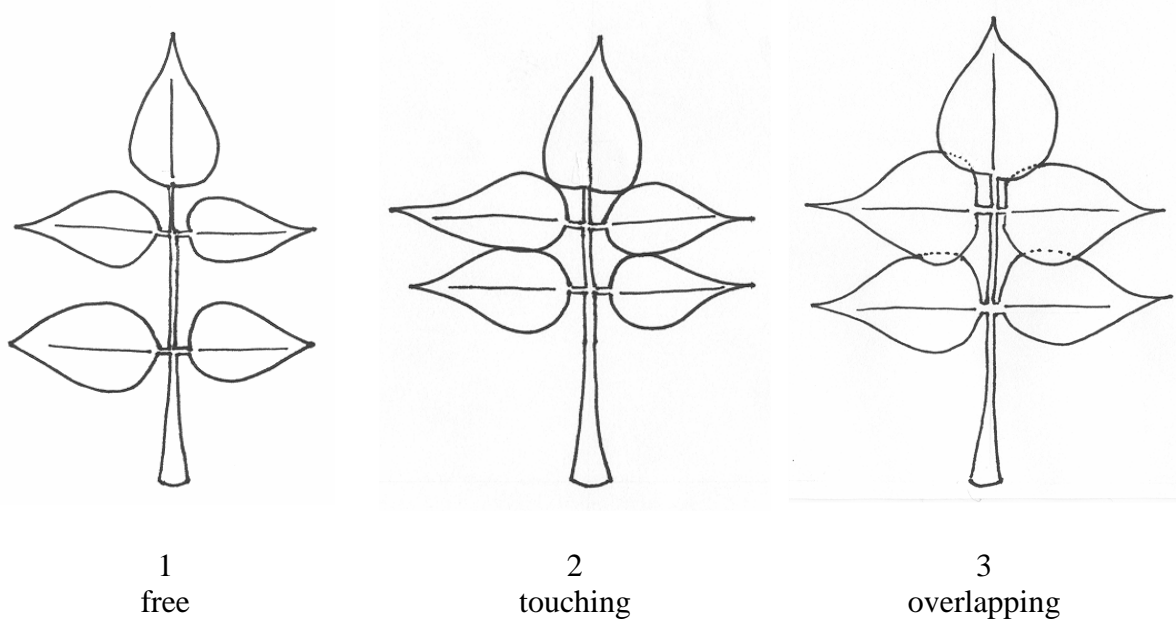


7
long

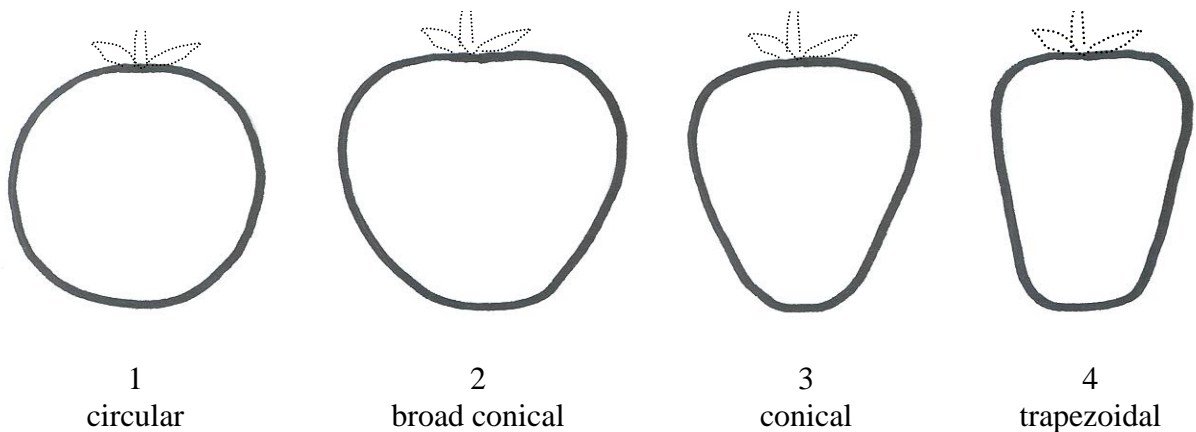
Ad. 11: Varieties which fruit on previous season's cane in summer: Dormant cane: color

If the canes peel, the dominant color should be the color of the bark in an unpeeled area.

Ad. 21: Leaf: relative position of lateral leaflets



Ad. 33: Fruit: general shape in lateral view



Ads. 40, 42, 44, 46: Varieties which fruit on previous year's cane in summer:

Plant: time of vegetative bud burst (40);

Time of beginning of flowering on previous year's cane (42);

Time of beginning of fruit ripening on previous year's cane (44);

Length of fruiting period on previous year's cane (46)

These characteristics apply to all varieties which either fruit on previous year's cane in summer only, or which fruit both on previous year's cane in summer and on current year's cane in autumn.

Ads. 41, 43, 45, 47: Varieties which fruit on current year's cane in autumn:

Time of cane emergence (41);

Time of beginning of flowering on current season's cane (43);

Time of beginning of fruit ripening on current year's cane (45);

Length of fruiting period on current year's cane (47)

These characteristics apply to all varieties which either fruit both on previous year's cane in summer and on current year's cane in autumn or which fruit on current year's cane in autumn only.

Ad. 42 and 43: Time of beginning of flowering

The time of beginning of flowering should be considered as the time when 10% of the flowers have opened.

Ad. 44 and 45: Time of beginning of fruit ripening

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

9. Literature

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

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

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

Leemans, I.A., Nannenga, E.T., 1957: "Raspberry Varieties", Instituut voor de Veredeling van Tuinbouwgewasswn (IVT), Wageningen, Netherlands.

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 Latin Name	<input type="text" value="Rubus idaeus L."/>	
1.2 Common Name	<input type="text" value="Raspberry"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

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

4.1 Breeding Scheme

Variety resulting from:

4.1.1 Crossing

- (a) controlled cross []
(please state parent varieties)
- (b) partially unknown cross []
(please state known parent variety(ies))
- (c) totally unknown cross []

4.1.2 Mutation []
(please state parent variety)

4.1.3 Discovery []
(please state where, when and how developed)

4.1.4 Other []
(please provide details)

4.2 Method of Propagating the Variety

4.2.1 Vegetative propagation

- (a) *in vitro* propagation []
- (b) other (e.g. leaf cutting, hardwood cutting, layer) []
(state method)

4.2.2 Other []
(please provide details)

4.3 Virus status

4.3.1 The variety is free from all known viruses as follows: []
(indicate from which viruses)

4.3.2 The plant material is virus tested: []
(indicate against which viruses)

4.3.3 The virus status is unknown []

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

Characteristics	Example Varieties	Note
5.1 Plant: number of current season's canes (2)		
few	Rubaca, Rucami	3[]
medium	Glen Ample, Multiraspa, Rumiloba	5[]
many	Glen Clova, Skeena	7[]
very many	Sumner	9[]
5.2 Very young shoot: anthocyanin coloration of apex during rapid growth (3)		
absent	Gelbe Antwerpener	1
present	Malling Promise	9
5.3 Varieties which fruit on previous season's cane in summer: (11) Dormant cane: color		
brownish grey	Malling Leo, Schönemann	1[]
greyish brown	Malling Orion	2[]
brown	Caliber, Glen Cova	3[]
purplish brown	Festival, Malling Landmark	4[]
brownish purple	Royalty, Titan	5[]
5.4 Spines: presence (12)		
absent	Glen Moy	1[]
present	Malling Promise	9[]
5.5 Fruit: ratio length/width (32)		
small	Caliber, Zefa 2	3[]
medium	Glen Clova, Rafzeter	5[]
large	Malling Delight, Tulameen	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
Characteristics	Example Varieties	Note	
5.6 Fruit: general shape in lateral view (33)			
circular	Malling Landmark, Ontario	1[]	
broad conical	Malling Orion, Meeker	2[]	
conical	Annamaria, Rafzmach	3[]	
trapezoidal	Gradina	4[]	
5.7 Fruit: color (35)			
yellow	Gelbe Antwerpener, Golden Bliss	1[]	
orange	Orange Marie	2[]	
light red	Malling Delight	3[]	
medium red	Glen Clova, Malling Orion	4[]	
dark red	Gigant, Schönemann, Zefa 2	5[]	
purple	Royalty	6[]	
dark purple	Deep Purple	7[]	
5.8 Fruit: main bearing type (39)			
only on previous year's cane in summer	Malling Promise	1[]	
both on previous year's cane in summer and on current year's cane in autumn	Isabel	2[]	
only on current year's cane in autumn	Autumn Bliss	3[]	
5.9 Varieties which fruit on previous year's cane in summer: (44) Time of beginning of fruit ripening on previous year's canes			
very early	Vene	1 []	
early	Glen Clova, Glen Moy, Rafzmach	3[]	
medium	Rusilva, Willamette	5[]	
late	Malling Landmark, Schönemann	7[]	
very late	Malling Leo	9[]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.2 Special conditions for the examination of the variety</p> <p>7.2.1 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [] No []</p> <p>7.2.2 If yes, please give details:</p> <p>7.3 Other information</p> <p>A representative color photograph of the variety should accompany the Technical Questionnaire.</p>		
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [] No []</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [] No []</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>		
<p>9. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant's name <input data-bbox="539 1827 1430 1886" type="text"/></p> <p>Signature <input data-bbox="424 1904 983 1962" type="text"/> Date <input data-bbox="1136 1904 1430 1962" type="text"/></p>		