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GENEVA

**TECHNICAL WORKING PARTY  
FOR  
FRUIT CROPS**

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WORKING PAPER ON REVISED TEST GUIDELINES FOR RASPBERRY  
(*Rubus idaeus* L.)

*Document prepared by experts from Germany*

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## I. Subject of these Guidelines

These Test Guidelines apply to all vegetatively propagated varieties for fruit production of *Rubus idaeus* L. and their hybrids as far as they are morphologically similar to *Rubus idaeus* L.

## II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As a minimum, the following quantity of plant material is recommended:

10 plants.

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases *and should especially be free from viruses as required by the competent authorities*. The plants supplied should have good root formation, with a satisfactory number of adventitious buds on the roots. It should preferably not be obtained from *in vitro* propagation. If it has been produced by *in vitro* propagation this fact has to be stated by the applicant.

**(NZ): The TWF to rethink the requirement that plant material should preferably not be obtained from *in vitro* propagation, as this is nowadays a standard method for raspberry. In addition, to look at two fruiting seasons would (normally) overcome any juvenility or maturity issues that can be related to *in vitro* plants.**

3. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

## III. Conduct of Tests

1. To assess distinctness, it is essential that the plants under test bear at least two satisfactory crops of fruit.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out under conditions ensuring normal growth. As a minimum, each test should include a total of 10 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

#### IV. Methods and Observations

1. Unless otherwise stated, all observations determined by measurement, weighing or counting should be made on 10 plants or parts of 10 plants. All observations on the fruit should be made on 10 typical fruits.
  2. For the assessment of uniformity, a population standard of 1% and an acceptance probability of 95% should be applied. In the case of a sample size of 10 plants the number of off-types would be 1.
  3. All observations on the very young current season's shoot (characteristics 3 and 4) should be made when the shoots are 15 cm long. All observations on the current season's shoot (characteristics 5 to 8) should be made when the shoots are 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 shoot (characteristic 5) should only be observed when fully grown.
  4. The number of young shoots should be observed as the number per meter length of row before thinning for the first time beginning with the second year.
  5. The habit of all winter characteristics of the canes should be observed when the canes are dormant (after frost has occurred). If the canes peel, the dominant color should be the color of the bark **in an unpeeled** area.
  6. **Observations on the bud should be made from the middle third of the shoot.**
- (HU): To indicate when to observe the spines – 'All observations on the spines should be made when the the current season's shoot is 1-1,5 m long'.**
7. All observations on the leaf should be made on fully developed leafs from the middle third of the shoot.
  8. All observations on the fruit should be made on fruits collected during the second and third pickings.
  9. All observations on the flower and the fruit as well as the length of the fruiting period should be recorded from the summer harvest 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.
  10. The beginning of time of flowering should be observed when 10% of the flowers have opened.
  11. The time of fruit ripening should be recorded as the time of first picking.

## V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
  - (a) Current season's shoot: anthocyanin coloration of apex (during rapid growth) (characteristic 3)
  - (b) Young shoot: spines (characteristic 11)
  - (c) Main fruiting (characteristic 34)
  - (d) Time of maturity for consumption on previous year's shoots (characteristic 38a)  
or, respectively  
Time of maturity for consumption on current year's shoots (characteristic 38b).

## VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic.
3. Legend:
  - (\*) Characteristics that should be used on all varieties in every growing period over which examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
  - (+) See Explanations on the Table of Characteristics in Chapter VIII.

VII. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres**(NZ): To use the term "cane" instead of "shoot" through the whole document.**

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
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**(GB): In order to keep char. recorded at the same time together, it should be checked whether char. 1 and 2 should be moved to 5 to 8.**

1. (+)	Plant: attitude of shoots	Pflanze: Haltung der Triebe		
new	upright	aufrecht	Ontario, Watson	3
?	<i>semi</i> -semi-upright	halbaufrecht	Preußen, Schönemann, Autumn Bliss	5
	arching	hängend	Meeker, Malling Joy, Joan Squire	7

**(PL): To clarify which shoots to look at and when (attitude of very young shoots or current season's shoots).****(PL): Characteristics 2 to 8 – to have the singular form "current season's shoot".**

2. (*) [no. in TG/43/6: 3.]	Plant: number of current season's shoots	Pflanze: Anzahl diesjähriger Ruten		
	few	wenig	Rubaca, Rucami	3
	medium	mittel	Multiraspa, Rumiloba, Glen Ample	5
	many	viele	Skeena, Glen Clova	7

3. (*) [1.]	Current season's shoot: anthocyanin coloration of apex (during rapid growth)	Diesjährige Rute: Anthocyanfärbung der Spitze (während des schnellen Wachstums)		
	absent	fehlend	Gelbe Antwerpener	1
	present	vorhanden	Malling Promise	9

**(GB): Char. 3 and 4 – to have "young shoot" instead of "current season's shoot".**

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>4. (*)</b>					
<b>Current season's shoot: intensity of anthocyanin coloration of very young shoot (below apex) (during rapid growth)</b>		<b>Diesjährige Rute: Intensität der Anthocyanfärbung des sehr jungen Triebes (unterhalb der Spitze) (während des schnellen Wachstums)</b>			
[2.]					
weak		gering		Rusilva, Rumiloba	3
medium		mittel		Veten, Rucami, Cola 1	5
strong		stark		Malling Joy, Rubaca	7
<b>5. [7.]</b>					
<b>Current season's shoot: intensity of bloom</b>		<b>Diesjährige Rute: Intensität der Bereifung</b>			
absent or very weak		fehlend oder sehr gering		Heritage, Willamette	1
weak		gering		Malling Promise, Zefa 2	3
medium		mittel		Malling Delight	5
strong		stark		September, Glen Ample	7
very strong		sehr stark		Ontario	9
<b>6.</b>					
<b>Current season's shoot: intensity of anthocyanin coloration</b>		<b>Diesjährige Rute: Intensität der Anthocyanfärbung</b>			
<b>new</b>					
absent or very weak		fehlend oder sehr gering			1
weak		gering		Tulameen, Malling Leo	3
medium		mittel		Malling Orion	5
strong		stark		Rubaca, Rode Radboud	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>7.</b>					
<b>Current season's shoot: length of internode</b>		<b>Diesjährige Rute: Internodienlänge</b>			
<b>new</b> short		kurz		Gevalo, Sirius, Baronne de Wavre	3
medium		mittel		Schönemann, Preußen	5
long		lang		Caliber, Malling Joy	7
<b>8.</b>					
<b>(+) Current season's shoot: length of bud</b>		<b>Diesjährige Rute: Länge der Knospe</b>			
short		kurz		Wilcran	3
medium		mittel		Malling Admiral	5
long		lang		Phyllis King, Baronne de Wavre	7
<b>(NZ): To be more precise what to look at (length of what?).</b>					
<b>9a.</b>					
<b>(*) <u>Only varieties whose main fruiting is on previous year's shoot in summer:</u></b>		<b><u>Nur Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u></b>			
<b>[9.] Dormant shoot: length</b>		<b>Winterrute: Länge</b>			
short		kurz		Loganlike	3
medium		mittel		Zefa 2	5
long		lang		Meeker, Schönemann	7
<b>9b.</b>					
<b>(*) <u>Only varieties whose main fruiting is on current season's shoot in autumn:</u></b>		<b><u>Nur Sorten, die ihre Haupternte an der Jahresrute im Herbst erbringen:</u></b>			
<b>[8.] Current season's shoot: length</b>		<b>Jahresrute: Länge</b>			
short		kurz		Orange Marie	3
medium		mittel		Dinkum, September	5
long		lang		Watson	7



English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>10. (*)</b>					
<b><u>Only varieties whose main fruiting is on previous year's shoot in summer:</u></b>		<b><u>Nur Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u></b>			
<b>Dormant shoot: color</b>		<b>Winterrute: Farbe</b>			
greyish brown		graubraun		Schönemann	1
greyish brown to brown		graubraun bis braun		Willamette	2
brown		braun		Caliber, Rucami	3
brown to purple brown		braun bis purpurbraun		Malling Landmark, Festival, Cola 1	4
purple brown		purpurbraun		Titan, Royalty	5
<b>(PL): Characteristics 11 and 12 – to replace "young shoot" by "current season's shoot" and to keep the char. where they are now, or, alternatively, to keep the wording and move char. 11, 12, 13 and 15 just after char. 4.</b>					
<b>11. (*)</b>					
<b>Young shoot: spines</b>		<b>Jungtrieb: Stacheln</b>			
[4.]					
absent		fehlend		Glen Moy	1
present		vorhanden		Malling Promise	9
<b>12. (*)</b>					
<b>Young shoot: density of spines on middle third (if present)</b>		<b>Jungtrieb: Dichte der Stacheln im mittleren Drittel (wenn vorhanden)</b>			
[5.]					
sparse		locker		Spica, Malling Orion, Rafzmach	3
medium		mittel		Multiraspa, Zefa 2	5
dense		dicht		Malling Exploit, Autumn Bliss	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>13. Spine: size of base</b>		<b>Stachel: Größe der Basis</b>			
<b>new</b> very small		sehr klein		Reveille	1
small		klein		Pujallup, Resa	3
medium		mittel		Malling Exploid, Gevalo	5
large		groß		Köstliche Selita, Autumn Bliss	7
very large		sehr groß		Malling Landmark, Matterhorn	9
<b>14. Spine: length</b>		<b>Stachel: Länge</b>			
short		kurz		Veten, Malling Delight, Rucami	3
medium		mittel		Malling Leo	5
long		lang		Malling Exploit, Meeker	7
<b>15. Spine: color</b> [6.]		<b>Stachel: Farbe</b>			
green		grün		Multiraspa, Malling Delight	1
green to brownish green		grün bis bräunlichgrün		Malling Landmark, Rumiloba	2
brownish green		bräunlichgrün		Watson	3
brownish green to brown		bräunlichgrün bis braun		Malling Exploit, Preußen	4
brown		braun		Malling Orion, Spica	5
brown to brownish purple		braun bis bräunlichpurpur		Meeker	6
brownish purple		bräunlichpurpur		Malling Leo, Pajullap	7
brownish purple to purple		bräunlichpurpur bis purpur		Resa, Tulameen	8
purple		purpur		Zefa 3, Comox, Veten, Pechts Herbst-freude	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>16. Leaf: green color of upper side</b> (*) [14.]		<b>Blatt: Grünfärbung der Oberseite</b>			
light		hell		Watson, Skeena	3
medium		mittel		Malling Orion	5
dark		dunkel		Malling Landmark, Rubaca, Resa	7
<b>17. Leaf: number of leaflets</b> (*) [11.]		<b>Blatt: Anzahl Fiederblätter</b>			
predominantly three		vorwiegend drei		Zefa 3, Vetem	1
sometimes three, sometimes five		teils drei, teils fünf		Sirius, Multiraspa, Malling Exploid	2
predominantly five		vorwiegend fünf		Ontario, Pujallup, Rusilva	3
<b>18. Leaf: shape of upper side of leaflets in cross section</b>		<b>Blatt: Form der Oberseite der Fiederblättchen im Querschnitt</b>			
<b>new</b> concave		konkav		Glen Moy, Glen Clova	1
flat		eben		Gevalo	2
convex		konvex		Gigant	3
<b>(PL): To delete "upper side of", and to add a char. "shape of terminal leaflet in cross section" [DE: <i>this one to be moved</i>].</b>					
<b>(GB): To read: Profile of leaflets in cross section - concave (1), straight (29), convex (3).</b>					

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>19. Leaf: relief between (*) veins [12.]</b>		<b>Blatt: Faltung zwischen den Nebenadern</b>			
very weak		sehr gering		Heritage, Watson	1
weak		gering		Rusilva	3
medium		mittel		Caliber, Pujallup, Malling Landmark	5
strong		stark		Spica, Malling Exploit	7
very strong		sehr stark		Korbfüller	9
<b>To check the wording ("relief", "unevenness" or "folding").</b>					
<b>(NZ): To have "unevenness".</b>					
<b>(PL): To prefer "folding".</b>					
<b>(GB): To prefer "blistering" or "folding".</b>					
<b>20. Leaf: relative (+) position of lateral [13.] leaflets</b>		<b>Blatt: Relative Stellung der seitlichen Fiederblättchen</b>			
apart		freistehend		Willamette	3
touching		einander berührend		Malling Orion,	5
overlapping		überlappend		Gigant, Rumiloba, Resa	7
<b>21. Terminal leaflet: length</b>		<b>Endfieder: Länge</b>			
<b>new</b> short		kurz		Royalty	3
medium		mittel		Norfolk Giant, Wilkran	5
long		lang		Malling Joy	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>(NZ): Char. 22-24 - To check whether "peduncle" or "flore pedicels" are meant, as cultivated raspberries usually have inflorescences.</b>					
<b>22. Pedicel: spines</b>		<b>Blütenstiel: Bestachelung</b>			
absent		fehlend		Glen Ample	1
weak		gering		Multiraspa, Pechts Gigant	3
medium		mittel		Glen Clova, Malling Leo	5
strong		stark		Malling Joy, Orange Marie	7
very strong		sehr stark		Golden Bliss	9
<b>23. Pedicel: anthocyanin coloration</b> (*) [17.]		<b>Blütenstiel: Anthocyanfärbung</b>			
absent		fehlend		Gelbe Antwerpener	1
present		vorhanden		Willamette	9
<b>24. Pedicel: intensity of anthocyanin coloration (if present)</b> (*) [18.]		<b>Blütenstiel: Intensität der Anthocyanfärbung (wenn vorhanden)</b>			
very weak		sehr gering		Schönemann, Rumilo	1
weak		gering		Joan Squire, Malling Delight	3
medium		mittel		Gevalo, Pujallup	5
strong		stark		Willamette, Loganlike	7
very strong		sehr stark		Rafzmach	9
<b>25. Flower: size</b> [16.]		<b>Blüte: Größe</b>			
small		klein		Ontario	3
medium		mittel		Spica, Rucami	5
large		groß		Schönemann, Gevalo	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>26.</b>	<b><u>Only varieties whose main fruiting is on the previous year's cane in summer:</u></b>	<b><u>Nur Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u></b>			
	<b>Fruiting lateral: attitude</b>	<b>Fruchtender Trieb: Haltung</b>			
	erect	aufrecht			1
	semi-erect	halbaufrecht			2
	spreading	breitwüchsig			3
<b>27.</b>	<b><u>Only varieties whose main fruiting is on the previous year's cane in summer:</u></b>	<b><u>Nur Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u></b>			
<b>(*)</b>	<b><u>the previous year's cane in summer:</u></b>	<b><u>Fruchtender Trieb:</u></b>			
<b>[19.]</b>	<b>length</b>	<b>Länge</b>			
	very short	sehr kurz		Glen Moy, Galante	1
	short	kurz		Rafzmach, Malling Orion	3
	medium	mittel		Tulameen, Gradina	5
	long	lang		Meeker	7
	very long	sehr lang		Malling Joy, Malling Leo	9
<b>28.</b>	<b>Fruit: size</b>	<b>Frucht: Größe</b>			
<b>(*)</b>					
<b>[21.]</b>					
	very small	sehr klein		Baumforth Seedling	1
	small	klein		Preußen, Zenith	3
	medium	mittel		Spica, Willamette	5
	large	groß		Glen Moy, Gevalo, Malling Delight	7
	very large	sehr groß		Glen Ample	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>(PL): To change the order – first char. 30 then 29.</b>					
<b>29. Fruit: size of single drupe</b>		<b>Frucht: Größe der Einzelsteinfrucht</b>			
<b>new</b> small		klein		Malling Admiral, Polana	3
medium		mittel		Resa, Heritage, Autumn Bliss	5
large		groß		Glen Ample, Festival, Dinkum, Rafzeter	7
<b>30. Fruit: ratio length/width</b> (*) [22.]		<b>Frucht: Verhältnis Länge/Breite</b>			
as long as broad		so lang wie breit		Zefa 2, Caliber	1
longer than broad		länger als breit		Glen Clova	2
much longer than broad		viel länger als breit		Malling Delight, Tulameen	3
<b>31. Fruit: color</b> [20.]		<b>Frucht: Farbe</b>			
yellow		gelb		Gelbe Antwerpener, Golden Bliss	1
orange		orange		Orange Marie	2
light red		hellrot		Malling Delight	3
medium red		mittelrot		Glen Clova, Malling Orion	4
dark red		dunkelrot		Gigant, Schönemann, Zefa 2	5
purple		purpur		Royalty	6
black purple		schwarzpurpur		Deep Purple	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>32. Fruit: glossiness</b> [24.]		<b>Frucht: Glanz</b>			
weak		gering		Gigant, Rumilo	3
medium		mittel		Comox	5
strong		stark		Tulameen, Rafzmach	7
very strong		sehr stark		Resa	9
<b>33. Fruit: firmness</b> (* [23.]		<b>Frucht: Festigkeit</b>			
very soft		sehr weich		Malling Delight, Caliber	1
soft		weich		Malling Landmark, Gigant	3
medium		mittel		Malling Promise, Glen Clova	5
firm		fest		Tulameen	7
very firm		sehr fest		Glen Prosen	9
<b>(NZ): As raspberry varieties are being bred specifically for ease of fruit removal with the aim of machine harvesting, and that it is probable that this character could be the only difference between two varieties, it should be taken into consideration to reintroduce this characteristic into the guidelines and to discuss at the next TWF meeting:</b>					
[25.] <b><i>Fruit: adherence to plug</i></b>		<b><i>Frucht: Haften am Zapfen</i></b>			
<i>very weak</i>		<i>sehr gering</i>			1
<i>weak</i>		<i>gering</i>			3
<i>medium</i>		<i>mittel</i>		<i>Glen Clova, Meeker</i>	5
<i>strong</i>		<i>stark</i>		<i>Malling Delight</i>	7
<i>very strong</i>		<i>sehr stark</i>		<i>Jochems Roem, September</i>	9



English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>34. Main fruiting</b> (*) [26.]		<b>Haupternte</b>			
on previous year's shoot in summer		an der Vorjahresrute im Sommer		Malling Promise	1
on current year's shoot in autumn		an der Jahresrute im Herbst		Autumn Bliss	2
<b>35. <u>Only varieties whose main fruiting is on previous year's shoot in summer:</u></b> (*) [27.] <b>Plant: time of bud burst</b>		<b><u>Nur Sorten, die ihre Haupternte an der Vorjahresrute im Sommer erbringen:</u></b> <b><u>Pflanze: Zeitpunkt des Knospenaufbruchs</u></b>			
very early		sehr früh			1
early		früh		Glen Moy, Malling Promise	3
medium		mittel		Glen Clova	5
late		spät		Malling Orion, Multiraspa	7
very late		sehr spät		Malling Joy	9
<b>36. <u>Only varieties whose main fruiting is on current year's shoot in autumn:</u></b> (*) [28.] <b>Time of shoot emergence</b>		<b><u>Nur Sorten, die ihre Haupternte an der Jahresrute im Herbst erbringen:</u></b> <b><u>Beginn des Triebwachstums</u></b>			
early		früh		Polana	3
medium		mittel		Autumn Bliss	5
late		spät		Watson	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>37. Time of beginning of flowering on previous year's shoot (10% of flowers opened) (changed)</b> (*) [29.]		<b>Zeitpunkt des Blühbeginns an Vorjahresruten (10% der Blüten geöffnet) (verändert)</b>			
very early		sehr früh		Glen Moy, Rafzmach	1
early		früh		Willamette, Gevalo	3
medium		mittel		Skeena, Rumiloba	5
late		spät		Glen Prosen	7
very late		sehr spät		Malling Leo, Malling Joy	9
<b>38a. Time of maturity for consumption on previous year's shoots</b> (*) [30.]		<b>Zeitpunkt der Reife an <u>Vorjahresruten</u></b>			
very early		sehr früh			1
early		früh		Glen Clova, Glen Moy, Rafzmach	3
medium		mittel		Willamette, Rusilva	5
late		spät		Schönemann, Malling Landmark	7
very late		sehr spät		Malling Leo	9
<b>38b. Time of maturity for consumption on current year's shoots</b> (*) [32.]		<b>Zeitpunkt der Reife an <u>Jahresruten</u></b>			
very early		sehr früh		Ariadne	1
early		früh		Polana	3
medium		mittel		Orange Marie, Watson	5
late		spät		Korbfüller	7
very late		sehr spät		Baronne de Wavre	9

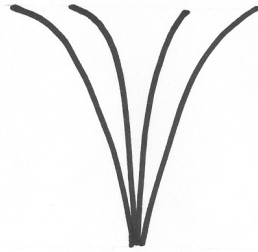
English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>39a.</b>					
[31.] <b>Length of harvest season on <u>previous</u> year's shoots</b>		<b>Dauer der Ernteperiode an <u>Vorjahresruten</u></b>			
short		kurz		Glen Moy	3
medium		mittel		Glen Clova	5
long		lang		Schönemann	7
<b>39b.</b>					
[33.] <b>Length of harvest season on <u>current</u> year's shoots</b>		<b>Dauer der Ernteperiode an <u>Jahresruten</u></b>			
short		kurz		Zefa 3	3
medium		mittel		Heritage	5
long		lang		Korbfüller	7

VIII. Explanations on the Table of Characteristics

Ad. 1: Plant: attitude of shoots



3  
upright



5  
semi-semi-upright



7  
arching

Ad. 8: Current season's shoot: length of bud



3  
short

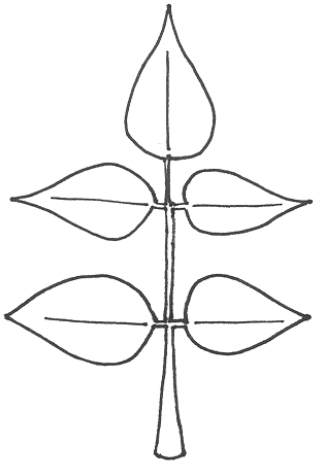


5  
medium

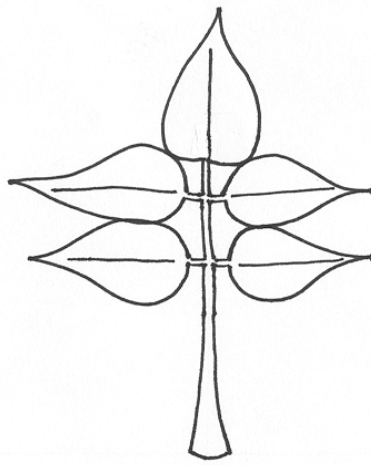


7  
long

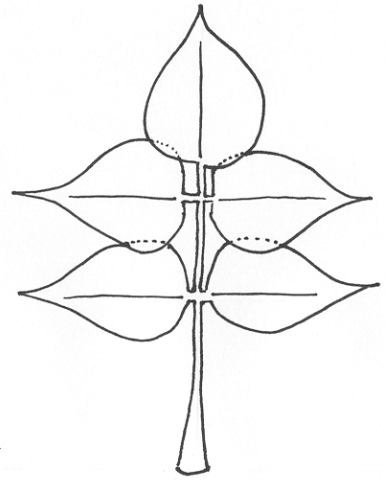
Ad. 20: Leaf: relative position of lateral leaflets



3  
apart



5  
touching



7  
overlapping

IX. Literature

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

"Internordic Index of Ribes and Rubus Cultivars", AVD för Frukt och Bärödling, Alnarp, SE.

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

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

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p><b>TECHNICAL QUESTIONNAIRE</b> to be completed in connection with an application for plant breeders' rights</p>	
1. Species	<p style="text-align: center;"><i>Rubus idaeus</i> L.  RASPBERRY (fruit varieties only)</p>
2. Applicant (name and address)	
3. Proposed denomination or breeder's reference	

## 4. Information on origin, maintenance and reproduction of the variety

## 4.1 Origin

(a) Seedling of unknown parentage

(b) Produced by controlled pollination   
(indicate parent varieties)

– Seed bearing parent (indicate parent)   
.....

– Pollen parent (indicate parent)   
.....

(c) Produced by open pollination of   
(indicate seed bearing parent plant)  
.....

(d) Mutation or sport from (indicate original parent variety)   
.....

(e) Discovery (indicate where and when)   
.....

4.2. *In vitro* propagation:

The plant material of the candidate variety has been obtained  
by *in vitro* propagation

yes   
no

4.3 Other type of multiplication (seed, leaf cutting, hardwood cutting, layer)



4.4 Virus status:

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

.....

(b) The plant material is virus tested  
(indicate against which virus) [ ]

.....

(c) The virus status is unknown [ ]

4.5 Other information:

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

Characteristics	Example Varieties	Note
<b>5.1 Plant: number of current season's shoots (2)</b>		
few	Rubaca, Rucami	3[ ]
medium	Multiraspa, Rumiloba, Glen Ample	5[ ]
many	Skeena, Glen Clova	7[ ]
<b>5.2 Current season's shoot: anthocyanin coloration of apex (during (3) rapid growth)</b>		
absent	Gelbe Antwerpener	1[ ]
present	Malling Promise	9[ ]
<b>5.3 <u>Only varieties whose main fruiting is on previous year's shoot in (10) summer: Dormant shoot: color</u></b>		
greyish brown	Schönemann	1[ ]
greyish brown to brown	Willamette	2[ ]
brown	Caliber, Rucami	3[ ]
brown to purple brown	Malling Landmark, Festival, Cola 1	4[ ]
purple brown	Titan, Royalty	5[ ]
<b>5.4 Young shoot: spines (11)</b>		
absent	Glen Moy	1[ ]
present	Malling Promise	9[ ]
<b>(HU): To delete this characteristic in the Technical Questionnaire.</b>		

Characteristics	Example Varieties	Note
<b>5.5 Fruit: size (28)</b>		
very small	Baumforth Seedling	1[ ]
small	Preußen, Zenith	3[ ]
medium	Spica, Willamette	5[ ]
large	Glen Moy, Malling Delight, Gevalo	7[ ]
very large	Glen Ample	9[ ]
<b>5.6 Fruit: ratio length/width (30)</b>		
as long as broad	Zefa 2, Caliber	1[ ]
longer than broad	Glen Clova	2[ ]
much longer than broad	Malling Delight, Tulameen	3[ ]
<b>5.7 Fruit: color (31)</b>		
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[ ]
black purple	Deep Purple	7[ ]
<b>5.8 Main fruiting (34)</b>		
on previous year's shoot in summer	Malling Promise	1[ ]
on current year's shoot in autumn	Autumn Bliss	2[ ]

Characteristics	Example Varieties	Note	
<b>5.9 Time of maturity for consumption on <u>previous year's</u> shoots (38a)</b>			
very early		1[ ]	
early	Glen Clova, Glen Moy, Rafzmach	3[ ]	
medium	Willamette, Rusilva	5[ ]	
late	Schönemann, Malling Landmark	7[ ]	
very late	Malling Leo	9[ ]	
<b>5.10 Time of maturity for consumption on <u>current year's</u> shoots (38b)</b>			
very early	Ariadne	1[ ]	
early	Polana	3[ ]	
medium	Orange Marie, Watson	5[ ]	
late	Korbfüller	7[ ]	
very late	Baronne de Wavre	9[ ]	
<b>6. Similar varieties and differences from these varieties</b>			
Denomination of similar variety	Characteristic in which the similar variety is different <sup>o)</sup>	State of expression of similar variety	State of expression of candidate variety
<p><sup>o)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference.</p>			

