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TWF/31/10

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

**TECHNICAL WORKING PARTY
FOR
FRUIT CROPS**

**Thirty-First Session
Budapest, July 3 to 7, 2000**

WORKING PAPER ON REVISED TEST GUIDELINES FOR QUINCE
(*Cydonia* Mill. sensu stricto)

Document prepared by experts from Germany

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
I. Subject of these Guidelines	3
II. Material Required	3
III. Conduct of Tests	3
IV. Methods and Observations.....	3
V. Grouping of Varieties	4
VI. Characteristics and Symbols	4
VII. Table of Characteristics	5
VIII. Explanations on the Table of Characteristics	14
IX. Literature	19
X. Technical Questionnaire	20

I. Subject of these Guidelines

These Guidelines apply to all vegetatively propagated varieties for fruit production of *Cydonia* Mill. sensu stricto.

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:

5 plants (two-years-old grafts).

It is recommended that the competent authority prescribes either the rootstock quince 'East Malling A' or 'BA 29' or specifies another rootstock. If the applicant intends to use another rootstock he has to ask the competent authority for permission.

2. The plant material supplied should be virusfree and visibly healthy, not lacking in vigor or affected by any important pests or diseases. It should preferably not be obtained from *in vitro* propagation.

2. 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 trees under test should produce 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 5 trees for varieties resulting from crossing. 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 should be made on 5 plants or parts of 5 plants. All observations on the fruit should be made in minimum on 10 typical fruits, selected from 5 trees.

2. For 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 5 plants no off-type should be allowed.

3. Unless otherwise stated, all observations on the tree and on the one-year-old shoot should be made during winter on trees that have fruited at least once. The length of the internodes should be observed in the middle third of a well developed one-year-old shoot.
4. Unless otherwise stated, all observations on the flower should be made on fully developed flowers at the beginning of anther dehiscence.
5. Unless otherwise stated, all observations on the leaf should be made in summer on fully developed leaves from the middle third of a well developed current season shoot.
6. All observations on the fruit should be made on fruits at the time of maturity for consumption.

V. Grouping of Varieties

1. The collection 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 the 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) Plant: habit (characteristic 2)
 - (b) Leaf blade: shape (characteristic 12)
 - (c) Fruit: general shape (in lateral view) (characteristic 30)

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

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. Plant: vigor (*)		Pflanze: Wuchsstärke			
weak		gering		Portugal	3
medium		mittel		Champion	5
strong		stark		Ronda	7
Proposal (GB): To have the varieties 'Ronda' as example variety for state 5-medium and 'Bourgeault' for state 7-strong.					
2. Plant: habit (*)		Pflanze: Wuchsform			
erect		aufrecht		Vranja	1
semi-erect		halbaufrecht		Champion	2
spreading		breitwüchsig		Bourgeault	3
3. One-year-old shoot: growth		Einjähriger Trieb: Wuchs			
straight		gerade		Selena	3
wavy		gewellt		Vranja	5
zig-zag		zickzackförmig		Hov. No. 2	7
4. One-year-old shoot: thickness (*)		Einjähriger Trieb: Dicke			
thin		dünn		Portugal	3
medium		mittel		Champion	5
thick		dick		Vranja	7
Proposal (DE, GB): This characteristic can be dependent on outer circumstances, it should be taken into consideration to delete this one.					
5. One-year-old shoot: length of internode at midlength (*)		Einjähriger Trieb: Länge des Internodiums in der Mitte			
short		kurz		Bencikli	3
medium		mittel		Bourgeault	5
long		lang		Matador	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (*)	One-year-old shoot: hairiness (upper part)		Einjähriger Trieb: Behaarung (obere Hälfte)			
	weak		gering		Ronda	3
	medium		mittel		Bereczki	5
	strong		stark		Champion	7
Proposal (GB): The wording should be "intensity of pubescence (upper third)" as in Pear.						
7. (*)	One-year-old shoot: color		Einjähriger Trieb: Farbe			
	grey brown		graubraun			1
	greenish brown		grünlichbraun		Selena	2
	reddish brown		rötlichbraun		Cydopom	3
	brown		braun		Ronda	4
	dark brown		dunkelbraun		Shams	5
8.	One-year-old shoot: size of lenticels		Einjähriger Trieb: Grösse der Lentizellen			
	small		klein		Champion	3
	medium		mittel		Bereczki	5
	large		groß		Cydopom	7
9. (+)	Shoot: position of vegetative bud in relation to shoot		Trieb: Stellung der vegetativen Knospe im Verhältnis zum Trieb			
	adpressed		anliegend		Vranja	1
	slightly held out		leicht abstehend		Krymska	2
	markedly held out		deutlich abstehend			3
10. (*)	Leaf blade: attitude in relation to shoot (new)		Blattspreite: Haltung im Verhältnis zum Trieb (neu)			
	upwards		aufwärtsgerichtet		Pinter	1
	outwards		abstehend		Lescowacz	2
	downwards		abwärtsgerichtet		Hruskovita	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11.	Leaf blade: size		Blattspreite: Größe			
(*)						
[No. 10a in TG/ 100/3]	small		klein		Pinter	3
	medium		mittel		Ronda	5
	large		groß		Matador	7
12.	Leaf blade: shape		Blattspreite: Form			
(*)(+)						
[11.]	elliptic		elliptisch		Della Cina	1
	round		rund		Mollesca	2
	ovate		eiförmig		Fabre	3
	obovate		verkehrt eiförmig		Tavsambas	4
13.	Leaf blade: shape of base		Blattspreite: Form der Basis			
(+)						
[12.]	cuneate		keilförmig		Bereczki	1
	rounded		abgerundet		Guzuk Gobek	2
	straight		gerade		Alesa	2
	cordate		herzförmig		Kocurova	4
14.	Leaf blade: angle at apex (changed)		Blattspreite: Winkel an der Spitze (verändert)			
(*)(+)						
[13.]	acute		spitz		Shams	1
	approximately right-angled		annähernd rechtwinklig		Portugal	2
	obtuse		stumpf		Di Bazine	3
15.	Leaf blade: shape of tip		Blattspreite: Form der Spitze			
(*)(+)						
[14.]	mucronate		kurz aufgesetzt		Della Cina	1
	cuspidate		keilförmig		Havan	2
	acuminate		zugespitzt		Limon	3

Proposal (GB): To use the wording "length of pointed tip", as in Pear.

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. [15.]	Leaf blade: green color of upper side (changed)		Blattspreite: Grünfärbung der Oberseite (verändert)			
	light		hell			3
	medium		mittel			5
	dark		dunkel			7
Proposal (DE, GB): To be deleted because markedly influenced by outer circumstances.						
17. [16.]	Leaf blade: pubescence of lower side		Blattspreite: Behaarung der Unterseite			
	weak		gering			3
	medium		mittel			5
	strong		stark	Vranja		7
Proposal (DE, GB): To be deleted, because all varieties we know show strong pubescence on the lower side of leaf blade.						
18. [17.]	Leaf blade: profile in cross section		Blattspreite: Profil im Querschnitt			
	concave		konkav	Vranja		1
	flat		flach	Guzuk Gobek		2
19. [18.]	Leaf blade: undulation of margin		Blattspreite: Wellung des Randes			
	absent or very slight		fehlend oder sehr gering	Muskatnaja		1
	slight		gering	Champion		3
	medium		mittel	Bereczki		5
	strong		stark	Ekmek Ayvasi		7
	very strong		sehr stark			9
20. (*)	Leaf blade: serrations of margin		Blattspreite: Randeinschnitte			
[19.]	absent		fehlend			1
	present		vorhanden			9
Proposal (DE, GB): To be deleted, because all well known varieties do not show any serration of the leaf blade.						

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	Petiole: length		Blattstiel: Länge			
[20.]	short		kurz		Portugal	3
	medium		mittel		Bourgeault	5
	long		lang		Champion	7
22.	Stipule: size		Nebenblatt: Größe			
[21.]	small		klein		Adamsova	3
	medium		mittel		Pear Shapes	5
	large		groß		Vranja	7
Proposal (DE): To check whether a characteristic "Leaf: stipule (absent, present)" should be added first.						
23.	Flower: diameter of crown (when fully opened)		Blüte: Durchmesser der Krone (wenn voll geöffnet)			
[22.]	small		klein		Della Cina	3
	medium		mittel		Champion	5
	large		groß		Turuncuskaja	7
Proposal (GB): To change the wording into "size of flower".						
24.	Flower: color		Blüte: Farbe			
[23.]	white		weiß		De Angera	1
	pink		rosa		Vranja	2
25.	Flower: relative position of margins of petals (changed)		Blüte: relative Stellung der Ränder der Blütenblätter (verändert)			
	free		freistehend		Della Cina	3
	touching		einander berührend		Hemus	5
	overlapping		überlappend		Vranja	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26. (*)(+)	Petal: shape	Blütenblatt: Form			
[24.]	elliptic	elliptisch		Patrasso	1
	circular	rund		Smyre	2
	quadrangular	quadratisch		Portugal	3
	rectangular	rechteckig		Tekes	4
Proposal (GB): To check the correct wording for state 3 and 4.					
27. [26.]	Stigma: position compared to anthers	Narbe: Stellung im Verhältnis zu den Antheren			
	above	oberhalb		Constantinopel	3
	same level	auf gleicher Höhe		Maliforme	5
	below	unterhalb		Ekmek	7
28. (*) [27.]	Calyx: pubescence at base of stamens	Kelch: Behaarung an der Basis der Staubfäden			
	weak	gering		Della Cina	3
	medium	mittel		Sekor Gevrek	5
	strong	stark		Constantinopel	7
29. (*)	Fruit: size	Frucht: Größe			
[28.]	small	gering		Bourgeault	3
	medium	mittel		Champion	5
	large	groß		Vranja	7

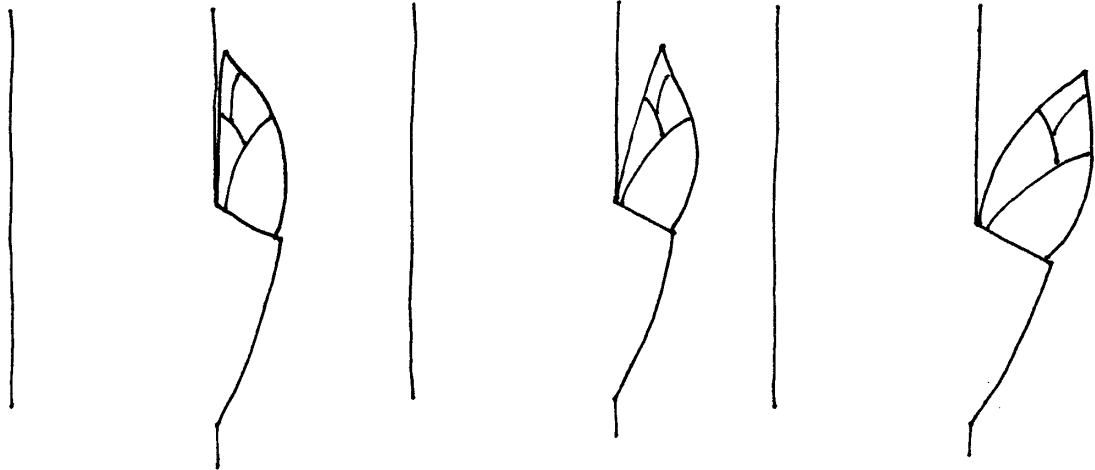
English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30. (*)(+) [29.]	Fruit: general shape (in lateral view) (changed)	Frucht: allgemeine Form (in der Seitenansicht) (verändert)			
	oblong	länglich		Della Cina	1
	globose	kugelförmig		Maliforme Aurii	2
	ovate	eiförmig		Ispolinskaja	3
	pyriform	birnenförmig		Hruskovita	4
	rectangular	rechteckig		Bourgeault	5
Proposal (DE): state 5 to add "approximately ...".					
31. (*)	Fruit: symmetry in longitudinal section (new)	Frucht: Symmetrie im Längsschnitt (neu)			
	symmetric	symmetrisch		Lescovacz	1
	assymmetric	assymmetrisch		Radonia	2
32. (*) [30.]	Fruit: position of maximum diameter	Frucht: Position des größten Durchmessers			
	in middle	in der Mitte		Ronda	1
	towards calyx	zum Kelch hin		Vranja	2
33. (*) [31.]	Fruit: narrowing in proximal part	Frucht: Verengung im proximalen Teil			
	absent	fehlend		Ronda	1
	present	vorhanden		Vranja	9
Proposal (GB): To be deleted, as eve 'Ronda' shows some narrowing.					
34. (*) [32.]	Fruit: length of narrow part in proximal part	Frucht: Länge der Verengung im proximalen Teil			
	short	kurz		Portugal	3
	medium	mittel		Limon	5
	long	lang		Hruskovita	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35. (*)(+) [33.]	Fruit: aspect of narrow part in proximal part	Frucht: Aussehen der Verengung im proximalen Teil			
	gradually narrowing	sich langsam verengend		Champion	1
	abruptly narrowing	sich abrupt verengend		Hruskovita	2
36. (*) [34.]	Fruit: prominence of ribs in <u>proximal</u> part	Frucht: Ausprägung der Rippen im <u>proximalen</u> Teil			
	weak	gering		Ronda	3
	medium	mittel		Portugal	5
	strong	stark		Constantinopel	7
37. (*) [35.]	Fruit: prominence of ribs in <u>distal</u> part	Frucht: Ausprägung der Rippen im <u>distalen</u> Teil			
	weak	gering		Ronda	3
	medium	mittel		Champion	5
	strong	stark		Bereczki	7
38. (*) [36.]	Fruit: stalk cavity (changed)	Frucht: Stielgrube (verändert)			
	absent	fehlend		Champion	1
	present	vorhanden		Tekes	9
39. [37.]	Fruit: conspicuousness of stalk cavity (changed)	Frucht: Ausprägung der Stielgrube (verändert)			
	weak	gering		Patrasso	3
	medium	mittel		Portugal	5
	strong	stark		Tekes	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40. [38.]	Fruit: conspicuousness of pistil cavity	Frucht: Ausprägung der Kelchhöhle			
	weak	gering		Ronda	3
	medium	mittel		Vranja	5
	strong	stark		Tekes	7
Proposal (DE): To check whether the wording "pistil cavity" (char. 38, 39, 40) should be replaced by "eye basin" (as in Apple and Pear Guidelines) and to simplify "conspicuousness" into "size" (char. 39, 40).					
41.[39.]	Fruit: color	Frucht: Farbe			
	yellow green	gelbgrün		Ispolinskaja	1
	yellow	gelb		Constantinopel	2
	yellow orange	gelborange			3
42. (*)	Time of leaf bud burst	Zeitpunkt des Blatt- austriebs			
[40.]	early	früh			3
	medium	mittel			5
	late	spät			7
Proposal (GB): To have the example varieties 'Champion ' or 'Portugal' for state 3-early, 'Bourgeault' for state 5-medium and 'Shams' for state7-late.					
43. (*) [41.]	Time of beginning of flowering (changed)	Zeitpunkt des Blühbeginns (verändert)			
	early	früh		Turuncuskaja	3
	medium	mittel		Vranja	5
	late	spät		Champion	7
44. (*) [42.]	Time of fruit ripening	Zeitpunkt der Fruchtreife			
	early	früh		Bourgeault	3
	medium	mittel		Meeches Prolific	5
	late	spät		Portugal	7

VIII. Explanations on the Table of Characteristics

Ad. 9: Shoot: position of vegetative bud in relation to shoot

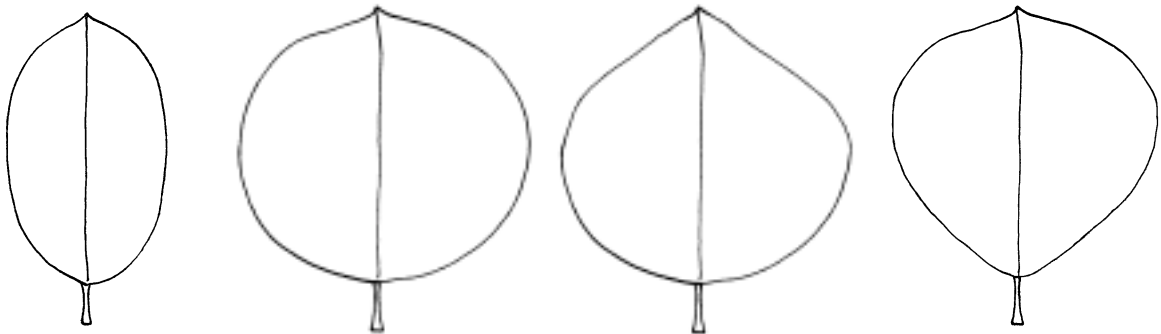


1
adpressed

2
slightly held out

3
markedly held out

Ad. 12: Leaf blade: shape



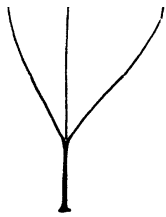
1
elliptic

2
round

3
ovate

4
obovate

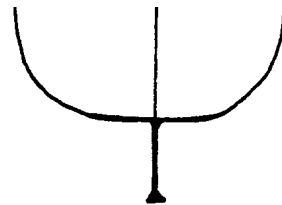
Ad. 13: Leaf blade: shape of base



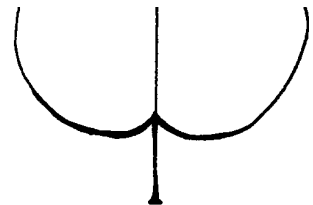
1
cuneate



2
rounded

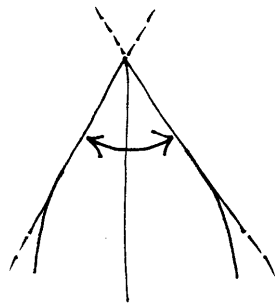


3
straight

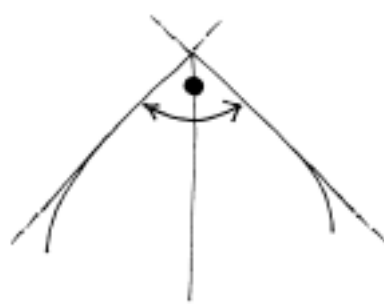


4
cordate

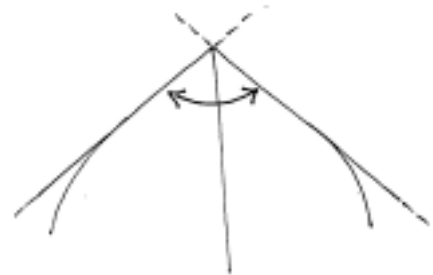
Ad. 14: Leaf blade: angle at apex



1
acute

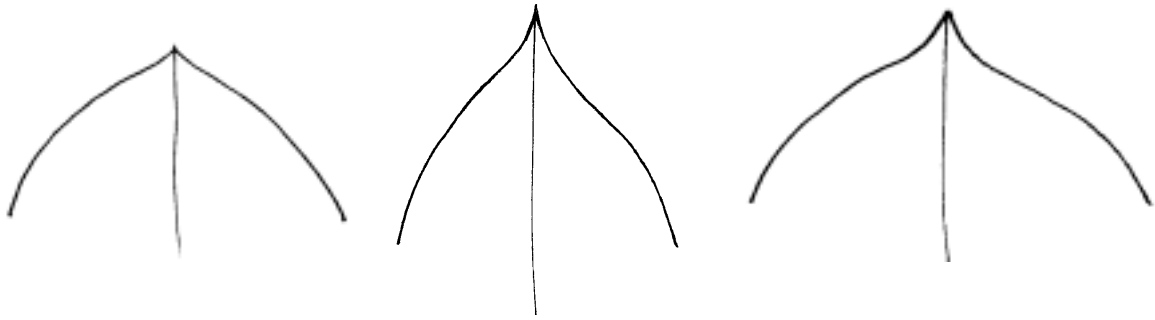


2
approximately right-angled



3
obtuse

Ad. 15: Leaf blade: shape of tip

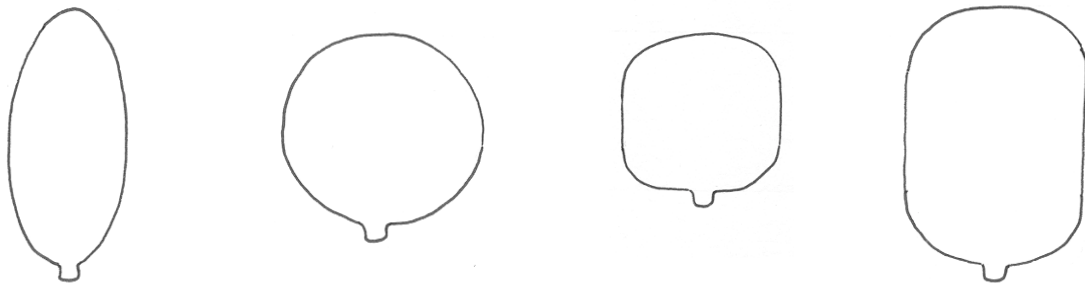


1
mucronate

2
cuspidate

3
acuminate

Ad. 26: Petal: shape



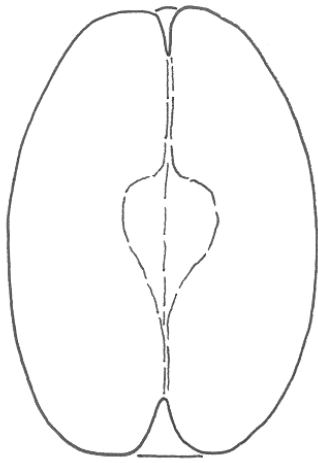
1
elliptic

2
circular

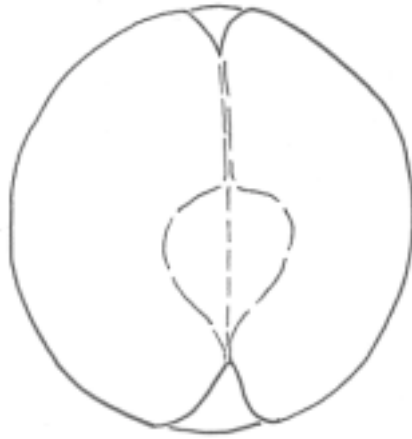
3
quadrangular

4
rectangular

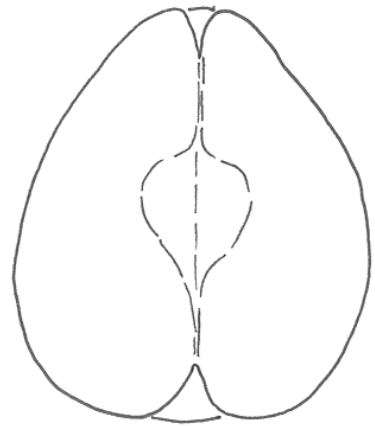
Ad. 30: Fruit: general shape (in lateral view)



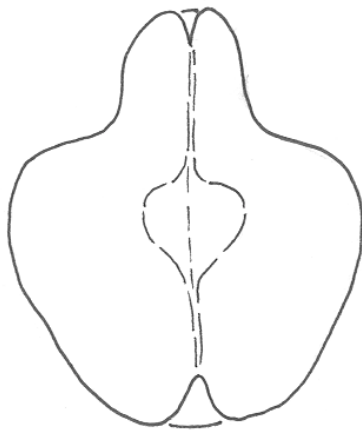
1
oblong



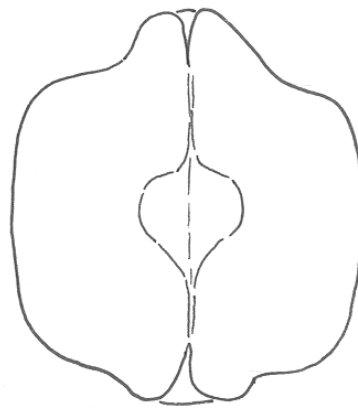
2
globose



3
ovate

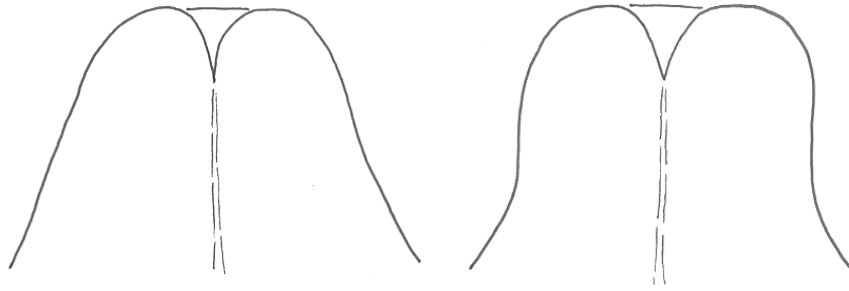


4
pyriform



5
rectangular

Ad. 35: Fruit: aspect of narrow part in proximal part



1
gradually narrowing

2
abruptly narrowing

IX. Literature

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X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for Plant Breeders' Rights</p>	
1. Species	<p><i>Cydonia</i> Mill. sensu stricto QUINCE (fruit varieties)</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 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 []

4.4 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
5.1 Plant: habit (2)		
erect	Vranja	1[]
semi-erect	Champion	2[]
spreading	Bourgeault	3[]
5.2 Leaf blade: shape (12)		
elliptic	Della Cina	1[]
round	Mollesca	2[]
ovate	Fabre	3[]
obovate	Tavsambas	4[]
5.3 Fruit: general shape (in lateral view) (30)		
oblong	Della Cina	1[]
globose	Maliforme Aurii	2[]
ovate	Ispolinskaja	3[]
pyriform	Hruskovita	4[]
rectangular	Bourgeault	5[]

6. Similar varieties and differences from these varieties

Denomination of similar variety	Characteristic in which the similar variety is different ^{o)}	State of expression of similar variety	State of expression of candidate variety
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^{o)} In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

7.3 Other information

A representative color photo of the variety should be added to 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 that question is yes, please attach a copy of such an authorization.

[End of document]