



TG/98/6

INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES OF
PLANTS

UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES

INTERNATIONALER
VERBAND ZUM SCHUTZ
VON PFLANZEN-
ZÜCHTUNGEN

UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

ACTINIDIA

(Actinidia Lindl.)

GENEVA
2001

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These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

<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.....	4
V. Grouping of Varieties	4
VI. Characteristics and Symbols	5
VII. Table of Characteristics	6
VIII. Explanations on the Table of Characteristics	29
IX. Literature	36
X. Technical Questionnaire	37

I. Subject of these Guidelines

These Test Guidelines have primarily been prepared for vegetatively propagated varieties of kiwifruit, but they may be applied to all vegetatively propagated female, male and hermaphroditic varieties of the genus *Actinidia* Lindl. of the family Actinidiaceae.

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 quarantine and customs formalities are complied with. As a minimum, the following quantity of plant material is recommended:

8 plants on their own roots or 8 plants on a clonal rootstock.
The competent authorities to select the most appropriate rootstock.

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases. It should preferably not be obtained from *in vitro* propagation. If test material is grafted onto a clonal rootstock, there should be information available stating how the rootstock may affect the expression of characteristics. In the case of a female variety the applicant should send in or at least indicate one male variety which flowers at the same time and is compatible with the female variety under test. The male variety should preferably be of the same taxon and at the same ploidy level as the female variety.

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 of female and fruiting hermaphrodite varieties it is essential that the plants under test bear a satisfactory crop of fruit for at least two growing periods. To assess distinctness of fruit size and fruit shape it is important to ensure adequate seed set, either by hand pollination or by providing sufficient pollinators.

2. To assess distinctness of male and non-fruiting varieties it is essential that the plants under test produce two full flowerings over at least two growing periods. If it is claimed that a variety is hermaphroditic, tests should be carried out to determine whether it is self-fertile and self-setting. Pollen viability should be tested separately in addition to flowers being bagged to prevent pollination by outside pollen. Hand pollination is recommended.

3. The testing 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.

4. The tests should be carried out under conditions ensuring normal growth. As a minimum, each test should include 8 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.
5. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise stated, all observations should be made on 8 plants or two parts from each of 8 plants.
2. For the assessment of uniformity and stability, a population standard of 1% and an acceptance probability of at least 95% should be applied for varieties resulting from a crossing and a population standard of 2% with the same acceptance probability for mutations. For a sample size of 8 plants, the maximum number of off-types allowed in both cases would be 1.
3. The shape, size and hairiness of leaves can vary greatly according to the type and vigor of the shoot on which they are borne. Unless specified, the shoots should be replacement canes, i.e., those that will be tied down and retained for the following season's flowering.
4. Unless otherwise stated, all observations on the young shoot should be made during active vegetative growth, on internodes 10 to 20 cm from the tip of growing shoots.
5. All observations on the stem (including observations on the over-wintering buds and bud support) should be made in the middle third of the replacement stem after leaf fall.
6. All observations on the leaf should be made near the middle of the current season's growth on sufficiently mature, but not old leaves. The most basal leaves of a shoot should be excluded since they do not usually attain full size or typical shape.
7. All observations on the presence or absence of anthocyanin coloration in vegetative organs refer to the general appearance of the organ, irrespective of whether red pigments are present in hairs or in the underlying skin.
8. All observations on the flower should be made on recently fully-opened terminal (king) flowers.
9. Unless otherwise stated, all observations on the fruit should be made on fruits at harvest maturity.
10. Internal fruit characteristics should be observed at maturity for consumption.

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.

For male varieties:

- (a) Petal: type of coloration (adaxial side) (characteristic 52)
- (b) Time of beginning of flowering (characteristic 91)

For female and hermaphrodite varieties:

- (a) Fruit: size (characteristic 63)
- (b) Fruit: general shape (characteristic 64)
- (c) Fruit: hairiness of skin (characteristic 74)
- (d) Fruit: color of outer pericarp (characteristic 82)
- (e) Time of maturity for harvest (characteristic 92)

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 purpose 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 Beispielsorten Variedades ejemplo	Note/ Nota
1. Plant: sex (*)	Plante: sexe	Pflanze: Geschlecht	Planta: sexo		
female	femelle	weiblich	femenino	Hayward	1
male	mâle	männlich	masculino	Matua	2
hermaphrodite	hermaphrodite	zwitterig	hermafrodita		3
2. <u>Hermaphrodite varieties only:</u> Plant: self fruit setting	<u>Variétés hermaphrodites</u> <u>seulement:</u> Plante: auto-nouaison	<u>Nur zwitterige Sorten:</u> Pflanze: Selbstfertilität-	<u>Las variedades hermafroditas solamente:</u> Planta: autofructificación		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9
3. Plant: ploidy (+)	Plante: ploïdie	Pflanze: Ploidie	Planta: ploidía		
diploid	diploïde	diploid	diploide	Hort16A	2
tetraploid	tétraploïde	tetraploid	tetraploide		4
pentaploid	pentaploïde	pentaploid	pentaploide		5
hexaploid	hexaploïde	hexaploid	hexaploide	Hayward	6
octoploid	octoploïde	oktoploid	octoploide		8
4. Plant: vigor	Plante: vigueur	Pflanze: Wuchsstärke	Planta: vigor		
weak	faible	gering	débil		3
medium	moyenne	mittel	media	Hayward	5
strong	forte	stark	fuerte		7
very strong	très forte	sehr stark	muy fuerte	Matua	9
5. Young shoot: hairiness (*)	Jeune pousse: pilosité	Jungtrieb: Behaarung	Rama joven: vellosidad		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente	King	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. (*)	Young shoot: density of hair	Jeune pousse: densité de la pilosité	Jungtrieb: Dichte der Behaarung	Rama joven: densidad del vello		
	sparse	faible	locker	escasa		3
	medium	moyenne	mittel	media	Hayward	5
	dense	forte	dicht	densa	King	7
7. (+)	Young shoot: type of hairiness	Jeune pousse: type de pilosité	Jungtrieb: Art der Behaarung	Rama joven: tipo de vellosidad		
	downy	pubescente	flaumig	pubescente		1
	velutinous	velouteuse	samtig	aterciopelado		2
	tomentose	tomenteuse	filzig	tomentoso		3
	hirsute	hirsute	steifhaarig	hirsuto		4
	bristly	raide	stachelig	erizado		5
	hispid	hisvide	kurzborstig	hispido		6
8. (*)	Young shoot: anthocyanin coloration of growing tip	Jeune pousse: pigmentation anthocyanique du somet en croissance	Jungtrieb: Anthocyanfärbung der wachsenden Spitze	Rama joven: pigmentación antociánica del apice de crecimiento		
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Hort16A	1
	weak	faible	gering	débil	King	3
	medium	moyenne	mittel	media	Tomua	5
	strong	forte	stark	fuerte		7
9.	Stem: thickness	Tige: épaisseur	Trieb: Dicke	Tallo: grosor		
	thin	mince	dünn	delgado		3
	medium	moyenne	mittel	medio	Hayward	5
	thick	épaisse	dick	grueso	Bruno	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. Stem: color of shoot on sunny side (*)	Tige: couleur de la pousse sur le côté ensoleillé	Trieb: Farbe auf der Sonnenseite	Tallo: color de la rama del lado del sol		
grey white	blanc-gris	grauweiß	blanco grisáceo		1
green white	blanc-vert	grünweiß	blanco verdoso		2
grey brown	brun-gris	graubraun	marrón verdoso	King	3
yellow brown	brun-jaune	gelbbraun	marrón amarillento	Sparkler	4
light brown	brun clair	hellbraun	marrón claro	Hort16A	5
red brown	brun-rouge	rotbraun	marrón rojizo	Ranger	6
purple brown	brun-pourpre	purpurbraun	marrón púrpura	Bruno	7
dark brown	brun foncé	dunkelbraun	marrón oscuro		8
11. Stem: roughness of bark	Tige: rugosité de l'écorce	Trieb: Rauheit der Rinde	Tallo: rugosidad de la corteza		
smooth	lisse	glatt	lisa	Sparkler	3
medium	intermédiaire	mittel	media	Meteor	5
rough	grossière	rau	áspera	Hayward	7
12. Stem: hairiness	Tige: pilosité	Trieb: Behaarung	Tallo: vellosidad		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9
13. Stem: density of hair	Tige: densité de la pilosité	Trieb: Dichte der Behaarung	Tallo: densidad del vello		
sparse	faible	locker	escaso	Meteor	3
medium	moyenne	mittel	medio	Hayward	5
dense	forte	dicht	denso		7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14. Stem: type of hairiness (+)	Tige: type de pilosité	Trieb: Art der Behaarung	Tallo: tipo de vellosidad		
downy	pubescente	flaumig	pubescente	Kaimai	1
velutinous	velouteuse	samtig	aterciopelado		2
tomentose	tomenteuse	filzig	tomentoso		3
hirsute	hirsute	steifhaarig	hirsuto		4
bristly	raide	stachelig	erizado	Hayward	5
hispid	hisvide	kurzborstig	híspido		6
15. Stem: size of lenticels (*)	Tige: taille des lenticelles	Trieb: Größe der Lentizellen	Tallo: tamaño de las lenticelas		
very small	très petites	sehr klein	muy pequeño	Kaimai	1
small	petites	klein	pequeño	Monty	3
medium	moyennes	mittel	medio	Hayward	5
large	grandes	groß	grande	Hort16A	7
16. Stem: number of lenticels (*)	Tige: nombre de lenticelles	Trieb: Anzahl Lentizellen	Tallo: número de lenticelas		
few	petit	gering	bajo	Meteor	3
medium	moyen	mittel	medio	Hayward	5
many	grand	groß	alto	Bruno	7
17. Stem: color of lenticels (*)	Tige: couleur des lenticelles	Trieb: Farbe der Lentizellen	Tallo: color de las lenticelas		
whitish	blanchâtres	weißlich	blanquecino	Gracie	1
yellowish	jaunâtres	gelblich	amarillento	Bruno	2
brownish	brunâtres	bräunlich	parduzco	Hort16A	3
18. Stem: proximal face of bud support (+)	Tige: face proximale du support du bourgeon	Trieb: proximale Seite des Knospenwulstes	Tallo: cara proximal del soporte de la yema		
perpendicular	perpendiculaire	rechtwinklig	perpendicular	Sparkler	1
sloping	inclinée	abfallend	inclinada	Bruno	2

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19. Stem: size of bud support (* (+)	Tige: taille du support du bourgeon	Trieb: Größe des Knospenwulstes	Tallo: tamaño del soporte de la yema		
small	petite	klein	pequeño	Sparkler	3
small to medium	petite à moyenne	klein bis mittel	pequeño a medio	Hayward	4
medium	moyenne	mittel	medio	King	5
medium to large	moyenne à grande	mittel bis groß	medio a grande	Kaimai	6
large	grande	groß	grande		7
20. Stem: profile of proximal face of bud support (if sloping)	Tige: profil de la face proximale du support du bourgeon (si inclinée)	Trieb: Profil der proximalen Seite des Knospenwulstes (falls abfallend)	Tallo: perfil de la cara proximal del soporte de la yema (si está inclinada)		
convex	convexe	konvex	convexo	Hayward	1
straight	droit	gerade	recto	Bruno	2
concave	concave	konkav	cóncavo	Matua	3
21. Stem: presence of bud cover (* (+)	Tige: présence de l'opercule du bourgeon	Trieb: Vorhandensein einer Knospenhülle	Tallo: presencia del opérculo		
absent	absent	fehlend	ausente	Hort16A	1
present	présent	vorhanden	presente	Hayward	9
22. Stem: size of hole in bud cover (* (+)	Tige: taille de l'ouverture de l'opercule du bourgeon	Trieb: Größe der Öffnung in der Knospenhülle	Tallo: tamaño del orificio del opérculo		
small	petite	klein	pequeño	Abbott	3
medium	moyenne	mittel	medio	Hayward	5
large	grande	groß	grande	Elmwood	7
23. Stem: leaf scar (*	Tige: cicatrice pétioleaire	Trieb: Blattnarbe	Tallo: cicatriz foliar		
flat	plate	eben	plana	Meteor	1
shallow	peu profonde	leicht eingesenkt	superficial	Hort16A	2
deep	profonde	deutlich eingesenkt	profunda	Monty	3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. Stem: presence of pith	Tige: présence de moelle	Trieb: Vorhandensein von Mark	Tallo: presencia de médula		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9
25. Stem: type of pith	Tige: type de moelle	Trieb: Art des Marks	Tallo: tipo de médula		
solid	solide	vollständig gefüllt	sólida		1
lamellate	lamellaire	lamellenartig	laminada		2
hollow	creuse	hohl	hueca		3
26. Leaf blade: shape (* (+)	Limbe: forme	Blattspreite: Form	Limbo: forma		
lanceolate	lancéolée	lanzettlich	lanceolada	Kaimai	1
ovate	ovale	eiförmig	oval		2
broad ovate	ovale large	breit eiförmig	oval ancha	Hayward	3
very broad ovate	ovale très large	sehr breit eiförmig	oval muy ancha	Meteor	4
broad obovate	obovale large	breit verkehrt eiförmig	oboval ancha	Bruno	5
very broad obovate	obovale très large	sehr breit verkehrt eiförmig	oboval muy ancha	Matua	6
27. Leaf blade: shape of apex (* (+)	Limbe: forme du sommet	Blattspreite: Form der Spitze	Limbo: forma del ápice		
caudate	en forme de queue	langgezogen	apiculado		1
acuminate	acuminée	zugespitzt	acuminado	Kaimai	2
acute	pointue	spitz	agudo	Hayward	3
rounded	arrondie	abgerundet	redondeado		4
retuse	échancrée	ingedrückt	retuso		5
emarginate	émargée	eingekerbt	emarginado		6

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28. Leaf blade: arrangement of (+) basal lobes	Limbe: disposition des lobes	Blattspreite: Anordnung der Basallappen	Limbo: disposición de los lóbulos basales		
far apart	très éloignés	weit auseinander stehend	alejados	Kaimai	1
slightly apart	légèrement éloignés	leicht auseinander stehend	ligeramente alejados	Matua	2
touching each other	en contact l'un avec l'autre	sich berührend	en contacto uno con otro	Hort16A	3
slightly overlapping	légèrement chevauchants	leicht überlappend	ligeramente solapados	Hayward	4
strongly overlapping	très chevauchants	stark überlappend	muy solapados		5
29. Leaf blade: hair on upper side	Limbe: pilosité sur la face supérieure	Blattspreite: Behaarung an der Oberseite	Limbo: vello en el haz		
absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy escaso	Hort16A	1
sparse	lâche	locker	escaso	Kaimai	3
medium	moyenne	mittel	medio	Bruno	5
dense	dense	dicht	denso	Meteor	7
30. Leaf blade: hair on lower side	Limbe: pilosité sur la face inférieure	Blattspreite: Behaarung an der Unterseite	Limbo: vello en el envés		
absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy escaso		1
sparse	lâche	locker	escaso		3
medium	moyenne	mittel	medio	Hayward	5
dense	dense	dicht	denso	Ranger	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31. Leaf blade: puckering/blistering on upper side	Limbe: cloûre sur la face supérieure	Blattspreite: Faltigkeit/Blasigkeit an der Oberseite	Limbo: abullonado del haz		
absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Kaimai	1
weak	faible	gering	débil	Hort16A	3
medium	moyenne	mittel	medio	Hayward	5
strong	forte	stark	fuerte		7
32. (*) Leaf blade: green color of upper side	Limbe: couleur verte de la face supérieure	Blattspreite: Grünfärbung der Oberseite	Limbo: color verde del haz		
light	claire	hell	claro		3
medium	moyenne	mittel	medio	Hayward	5
dark	foncée	dunkel	oscuro	Bruno	7
33. (*) Leaf blade: color of lower side	Limbe: couleur de la face inférieure	Blattspreite: Farbe der Unterseite	Limbo: color del envés		
whitish	blanchâtre	weißlich	blanquecino		1
light green	vert clair	hellgrün	verde claro		2
medium green	vert moyen	mittelgrün	verde medio	Bruno	3
yellow green	vert-jaune	gelbgrün	verde amarillento	Hayward	4
yellow brown	brun-jaune	gelbbraun	marrón amarillento		5
34. Leaf blade: presence of variegation	Limbe: présence de panachure	Blattspreite: Vorhandensein einer Panaschierung	Limbo: presencia de variegado		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9
35. Leaf blade: color of variegation	Limbe: couleur de la panachure	Blattspreite: Farbe der Panaschierung	Limbo: color del variegado		
only white and green	blanc et vert seulement	nur weiß und grün	sólo blanco y verde		1
white, green and red	blanc, vert et rouge	weiß, grün und rot	blanco, verde y rojo		2

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36. Leaf blade: spines along main vein on lower side	Limbe: épines sur la nervure principale de la face inférieure	Blattspreite: Stacheln entlang der Hauptader an der Unterseite	Limbo: espinas a lo largo del nervio principal del envés		
absent	absentes	fehlend	ausente		1
present	présentes	vorhanden	presente		9
37. Leaf: ratio petiole length/blade length	Feuille: rapport longueur du pétiole/longueur du limbe	Blatt: Verhältnis Blattstiellänge/Spreitenlänge	Hoja: relación entre la longitud del peciolo/longitud del limbo		
very small	très petit	sehr klein	muy pequeña	Kaimai	1
small	petit	klein	pequeña	Gracie	3
medium	moyen	mittel	media	Meteor	5
large	grand	groß	grande	Hayward	7
38. Petiole: density of hair	Pétiole: densité de la pilosité	Blattstiel: Dichte der Behaarung	Peciolo: densidad del vello		
absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy escasa		1
sparse	faible	locker	escasa	Kaimai	3
medium	moyenne	mittel	media	Meteor	5
dense	forte	dicht	densa	Bruno	7
very dense	très forte	sehr dicht	muy densa	Tomua	9
39. Petiole: anthocyanin coloration of upper side	Pétiole: pigmentation anthocyanique de la face supérieure	Blattstiel: Anthocyanfärbung der Oberseite	Peciolo: coloración antociánica de la cara superior		
absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Kaimai	1
weak	faible	gering	débil	Sparkler	3
medium	moyenne	mittel	media	Hayward	5
strong	forte	stark	fuerte	Tomua	7

English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
40. Flower bud: anthocyanin coloration of protruding petal ends (at calyx split)	Bouton floral: pigmentation anthocyanique des extrémités saillantes des pétales (à la fente du calice)	Blütenknospe: Anthocyanfärbung der herausragenden Blütenblatt-enden (am Kelchspalt)	Botón floral: coloración antocianica de los extremos del pétalo saliente (en la separación del cáliz)		
absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Hort16A	1
weak	faible	gering	débil		3
medium	moyenne	mittel	media	Hayward	5
strong	forte	stark	fuerte	Meteor	7
41. Inflorescence: predominant number of flowers	Inflorescence: nombre prédominant de fleurs	Blütenstand: überwiegende Anzahl Blüten	Inflorescencia: número predominante de flores		
1	1	1	1	Hayward	1
2-5	2 à 5	2-5	2-5	Matua	2
6-10	6 à 10	6-10	6-10	Tomuri	3
> 10	> 10	> 10	> 10		4
42. Flower stalk: length (*)(+)	Pédoncule floral: longueur	Blütenstiel: Länge	Pedúnculo floral: longitud		
short	court	kurz	corto	Matua	3
medium	moyen	mittel	medio	Hort16A	5
long	long	lang	largo	Tomua	7
very long	très long	sehr lang	muy largo	Jade Moon	9
43. Flower stalk: density of hair	Pédoncule floral: densité de la pilosité	Blütenstiel: Dichte der Behaarung	Pedúnculo floral: densidad del vello		
absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy escaso		1
sparse	faible	locker	escaso		2
dense	forte	dicht	denso		3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
44. Flower stalk: length of hair	Péduncule floral: longueur des poils	Blütenstiel: Länge der Behaarung	Pedúnculo floral: longitud del vello		
short	courts	kurz	corto	Hort16A	3
medium	moyens	mittel	medio	Hayward	5
long	longs	lang	largo	Tomuri	7
45. Flower: number of sepals	Fleur: nombre de sépales	Blüte: Anzahl Kelchblätter	Flor: número de sépalos		
2 or 3	2 ou 3	2 oder 3	2 ó 3		1
4 or 5	4 ou 5	4 oder 5	4 ó 5		2
> 5	> 5	> 5	> 5		3
46. (*) Sepal: general color	Sépale: couleur générale	Kelchblatt: allgemeine Farbe	Sépalo: color general		
white	blanc	weiß	blanco		1
green	vert	grün	verde	Hort16A	2
brown	brun	braun	marrón	Tomua	3
reddish brown	brun rougeâtre	rötlich braun	marrón rojizo		4
47. Sepal: density of hair	Sépale: densité de la pilosité	Kelchblatt: Dichte der Behaarung	Sépalo: densidad del vello		
absent or very sparse	nulle ou très faible	fehlend oder sehr locker	ausente o muy escaso		1
sparse	faible	locker	escaso		2
dense	forte	dicht	denso		3
48. Sepal: length of hair	Sépale: longueur des poils	Kelchblatt: Länge der Behaarung	Sépalo: longitud del vello		
short	courts	kurz	corto		3
medium	moyens	mittel	medio		5
long	longs	lang	largo		7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
49. Flower: diameter (*)	Fleur: diamètre	Blüte: Durchmesser	Flor: diámetro		
small	petit	klein	pequeño	Sparkler	3
medium	moyen	mittel	medio	Matua	5
large	grand	groß	grande		7
very large	très grand	sehr groß	muy grande	Hayward	9
50. Flower: (*) (+) arrangement of petals (viewed from beneath)	Fleur: disposition des pétales (vus de dessous)	Blüte: Anordnung der Blütenblätter (von unten gesehen)	Flor: disposición de los pétalos (vistos desde abajo)		
apart	séparés	auseinanderstehend	separados	Abbott	1
touching	tangents	sich berührend	en contacto	Matua	2
overlapping	chevauchants	überlappend	solapados	Hayward	3
51. Petal: curvature of apex	Pétale: courbure du sommet	Blütenblatt: Biegung der Spitze	Pétalo: curvatura del ápice		
absent or very weakly expressed	absente ou très faiblement exprimée	fehlend oder sehr gering ausgeprägt	ausente o muy débilmente expresada		1
weakly expressed	faiblement exprimée	gering ausgeprägt	débilmente expresada	Bruno	2
strongly expressed	fortement exprimée	stark ausgeprägt	fuertemente expresada	Hayward	3
52. Petal: type of (*) coloration (adaxial side)	Pétale: type de pigmentation (face ventrale)	Blütenblatt: Art der Färbung (auf der dem Stiel zugewandten Seite)	Pétalo: tipo de coloración (cara ventral)		
single-colored	unicolore	einfarbig	monocolor		1
bicolored	bicolore	zweifارbig	bicolor	Meteor	2

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
53. (*)	Petal: main color on adaxial side	Pétale: couleur principale de la face ventrale	Blütenblatt: Hauptfarbe auf dem Stiel zugewandten Seite	Pétalo: color principal de la cara ventral	
white	blanche	weiß	blanco	Hayward	1
greenish white	blanc-verdâtre	grünlichweiß	blanco verdoso		2
yellowish white	blanc-jaunâtre	gelblichweiß	blanco amarillento		3
yellowish green	vert-jaunâtre	gelblichgrün	verde amarillento		4
yellow	jaune	gelb	amarillo		5
orange	orange	orange	naranja		6
light pink	rose clair	hellrosa	rosa claro		7
red pink	rose-rouge	rotrosa	rosa rojizo		8
red	rouge	rot	rojo		9
54. (*)	Single-colored varieties only: Petal: different shades of color	Variétés unicolores seulement: Pétale: différentes teintes de la couleur	Nur einfarbige Sorten: Blütenblatt: verschiedene Farbtöne	Variedades monocolor solamente: Pétalo: diferentes matices de colores	
absent	absentes	fehlend	ausente		1
present	présentes	vorhanden	presente		9
55. (*)	Single-colored varieties only: Petal: distribution of color	Variétés unicolores seulement: Pétale: répartition de la couleur	Nur einfarbige Sorten: Blütenblatt: Verteilung der Farbe	Variedades monocolor solamente: Pétalo: distribución del color	
lighter towards base	plus claire vers la base	zur Basis hin heller	más claro hacia la base		1
lighter towards apex	plus claire vers le sommet	zur Spitze hin heller	más claro hacia el ápice		2

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
56. Bicolored varieties only: Petal: secondary color	Variétés bicolores seulement: Pétale: couleur secondaire	Nur zweifarbige Sorten: Blütenblatt: sekundäre Farbe	Variedades bicolor solamente: Pétalo: color secundario		
white	blanche	weiß	blanco		1
green	verte	grün	verde	Hayward	2
orange	orange	orange	naranja		3
light pink	rose clair	hellrosa	rosa claro		4
dark pink	rose foncé	dunkelrosa	rosa oscuro	Meteor	5
57. Bicolored varieties only: Petal: distribution of secondary color	Variétés bicolores seulement: Pétale: répartition de la couleur secondaire	Nur zweifarbige Sorten: Blütenblatt: Verteilung der sekundären Farbe	Variedades bicolor solamente: Pétalo: distribución del color secundario		
marginal	sur les bords	am Rand	marginal		1
blotched	en taches	gefleckt	con manchas	Meteor	2
basal spot	à la base	als basaler Fleck	mancha basal	Hayward	3
58. Filament: color	Filament: couleur	Staubfaden: Farbe	Filamento: color		
white	blanc	weiß	blanco	Ranger	1
light green	vert clair	hellgrün	verde claro	Matua	2
light pink	rose clair	hellrosa	rosa claro		3
dark pink	rose foncé	dunkelrosa	rosa oscuro		4
59. Anther: color	Anthère: couleur	Staubblatt: Farbe	Antera: color		
yellow	jaune	gelb	amarillo	Hayward	1
yellow orange	jaune orangé	gelborange	naranja amarillento		2
grey	gris	grau	gris		3
dark purple	pourpre foncé	dunkelpurpur	púrpura oscuro		4
black	noir	schwarz	negro		5

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60. Styles: number	Styles: nombre	Griffel: Anzahl	Estilos: número		
few	petit	gering	bajo		3
medium	moyen	mittel	medio	Hort16A	5
many	grand	groß	alto	Hayward	7
61. Styles: color	Styles: couleur	Griffel: Farbe	Estilos: color		
white	blancs	weiß	blanco		1
whitish yellow	jaune-blanchâtre	weißlichgelb	amarillo blanquecino	Hayward	2
light green	vert clair	hellgrün	verde claro		3
62. Styles: attitude (*)	Styles: port	Griffel: Stellung	Estilos: porte		
erect	dressés	aufrecht	erecto		1
semi-erect	demi-dressés	halbaufrecht	semierecto	Hort16A	2
horizontal	horizontaux	waagerecht	horizontal	Bruno	3
both erect and horizontal	à la fois dressés et horizontaux	aufrecht und waagerecht	erecto y horizontal	Hayward	4
63. Fruit: size (*)	Fruit: taille	Frucht: Größe	Fruto: tamaño		
small	petite	klein	pequeño		3
medium	moyenne	mittel	medio	Tomua	5
large	grande	groß	grande	Hayward	7
very large	très grande	sehr groß	muy grande	Jade Moon	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
64. (* (+)	Fruit: general shape	Fruit: forme générale	Frucht: allgemeine Form	Fruto: forma general	
ellipsoid	ellipsoïdale	ellipsoid	elipsoide	Hayward	1
oblong	oblongue	länglich	oblongo	Bruno	2
ovoid	ovoïde	eiförmig	ovoide	Hort16A	3
obovoid	obovoïde	verkehrt eiförmig	obovoide	Monty	4
spheroid	sphérique	kugelförmig	esférico		5
obloid	obloïde	breit kugelförmig	oblato	Kuimi	6
65. (* (+)	Fruit: shape in cross section (at median)	Fruit: forme en section transversale (au niveau médian)	Frucht: Form im Querschnitt (in der Mitte)	Fruto: forma en la sección transversal (a nivel medio)	
circular	circulaire	kreisförmig	circular	Bruno	1
oblate	aplatie	quer breitelliptisch	achatado		2
transverse elliptic	elliptique transverse	quer elliptisch	elíptico transversal	Hayward	3
66. (* (+)	Fruit: general shape of stylar end	Fruit: forme générale de l'extrémité stylaire	Frucht: allgemeine Form des Griffelendes	Fruto: forma general en el extremo donde están los estilos	
deeply depressed	profondément déprimée	stark eingesenkt	muy deprimida		1
slightly depressed	légèrement déprimée	leicht eingesenkt	ligeramente deprimida	Jade Moon	2
flat	plate	flach	plana	Hayward	3
rounded	arrondie	abgerundet	redondeada	Tomua	4
slightly blunt protruding	saillante légèrement tronquée	leicht stumpf herausragend	saliente ligeramente truncado	Skelton	5
strongly blunt protruding	saillante fortement tronquée	stark stumpf herausragend	saliente muy truncado	Hort16A	6
slightly pointed protruding	saillante légèrement pointue	leicht spitz herausragend	saliente ligeramente puntiagudo		7
strongly pointed protruding	saillante fortement pointue	stark spitz herausragend	saliente muy puntiagudo		8

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
67. Fruit: presence of calyx ring (+)	Fruit: présence de l'anneau du calice	Frucht: Vorhandensein eines Kelchrings	Fruto: presencia del anillo del cáliz		
absent or very weakly expressed	absent ou très faiblement exprimé	fehlend oder sehr schwach ausgeprägt	ausente o muy debilmente expresada	Bruno	1
weakly expressed	faiblement exprimé	schwach ausgeprägt	debilmente expresada	Hayward	2
strongly expressed	fortement exprimé	stark ausgeprägt	fuertemente expresada	Hort16A, Qinmei	3
68. Fruit: shape of shoulder at stalk end (*)(+)	Fruit: forme de l'épaulement à l'extrémité pédonculaire	Frucht: Form der Schulter am Stielansatz	Fruto: forma del hombro en el extremo peduncular		
squared	quadrangulaire	gerade	cuadrangular		1
rounded	arrondi	abgerundet	redondeado	Hayward	2
sloping	incliné	abfallend	inclinado	Skelton	3
69. Fruit: length of stalk	Fruit: longueur du pédoncule	Frucht: Länge des Stiels	Fruto: longitud del pedúnculo		
short	petit	kurz	corto		3
medium	moyen	mittel	medio		5
long	grand	lang	largo		7
70. Fruit: ratio stalk length/fruit length	Fruit: rapport longueur du pédoncule/ longueur du fruit	Frucht: Verhältnis Stiellänge/Fruchtlänge	Fruto: relación entre la longitud del pedúnculo/longitud del fruto		
very small	très petit	sehr klein	muy pequeño	Wuzhi 3	1
small	petit	klein	pequeño	Bruno	3
medium	moyen	mittel	medio	Allison	5
large	grand	groß	grande	Hayward	7
very large	très grand	sehr groß	muy grande	Jade Moon	9
71. Fruit: persistence of sepals	Fruit: persistance des sépales	Frucht: Anhaften der Kelchblätter	Fruto: persistencia de los sépalos		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
72. Fruit: conspicuousness of lenticels on skin	Fruit: netteté des lenticelles sur l'épiderme	Frucht: Ausprägung der Lentizellen auf der Schale	Fruto: notabilidad de las lenticelas en la epidermis		
inconspicuous	peu nettes	undeutlich	poco notables		1
conspicuous	nettes	deutlich	notables	Topstar Vantini	2
73. Fruit: color of skin (*)	Fruit: couleur de l'épiderme	Frucht: Farbe der Schale	Fruto: color de la epidermis		
light green	vert clair	hellgrün	verde claro		1
medium green	vert moyen	mittelgrün	verde medio		2
reddish green	vert-rougeâtre	rötlich grün	verde rojizo		3
greenish brown	brun-verdâtre	grünlich braun	marrón verdoso	Hayward	4
yellow brown	brun-jaune	gelbbraun	marrón amarillo	Hort16A	5
reddish brown	brun-rougeâtre	rötlich braun	marrón rojizo		6
medium brown	brun moyen	mittelbraun	marrón medio	Topstar Vantini	7
dark brown	brun foncé	dunkelbraun	marrón oscuro		8
74. Fruit: hairiness of skin (*)	Fruit: pilosité de l'épiderme	Frucht: Behaarung der Schale	Fruto: velloso de la epidermis		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente		9
75. Fruit: density of hair (*)	Fruit: densité de la pilosité	Frucht: Dichte der Behaarung	Fruto: densidad del vello		
very sparse	très faible	sehr locker	muy escaso	Topstar Vantini	1
sparse	faible	locker	escaso	Hort16A	3
medium	moyenne	mittel	medio	Hayward	5
dense	forte	dicht	denso	Bruno	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
76. Fruit: type of hairiness (* (+)	Fruit: type de pilosité	Frucht: Art der Behaarung	Fruto: tipo de vellosidad		
downy	pubescente	flaumig	pubescente	Hort16A	1
velutinous	velouteuse	samtig	aterciopelado		2
tomentose	tomenteuse	filzig	tomentoso		3
hirsute	hirsute	steifhaarig	hirsuto	Hayward	4
bristly	raide	stachelig	erizado	Bruno	5
hispid	hisvide	kurzborstig	híspido		6
77. Fruit: distribution of hairs (*	Fruit: répartition des poils	Frucht: Verteilung der Behaarung	Fruto: distribución del vello		
evenly spread	uniforme	gleichmäßig verteilt	uniforme	Hayward	1
mainly at stylar end	principalement à l'extrémité stylaire	vorwiegend am Griffelende	principalmente en el extremo de los estilos	Topstar Vantini	2
78. Fruit: color of hairs	Fruit: couleur des poils	Frucht: Farbe der Behaarung	Fruto: color del vello		
white	blancs	weiß	blanco		1
yellow	jaunes	gelb	amarillo		2
yellow brown	jaune-brun	gelbbraun	marrón amarillento	Hort16A	3
reddish brown	brun-rougeâtre	rötlich braun	marrón rojizo		4
medium brown	brun moyen	mittelbraun	marrón medio	Hayward	5
dark brown	brun foncé	dunkelbraun	marrón oscuro	Bruno	6
79. Fruit: adherence of hairs to skin (when rubbed) (*	Fruit: adhérence des poils à l'épiderme (au frottement)	Frucht: Anhaften der Haare an der Schale (beim Reiben)	Fruto: adherencia del vello a la epidermis (al frotar)		
weak	faible	gering	débil	Hort16A	3
medium	moyenne	mittel	media		5
strong	forte	stark	fuerte	Hayward	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
80. Fruit: color of skin at maturity for consumption (*)	Fruit: couleur de l'épiderme à la maturité pour la consommation	Frucht: Farbe der Schale bei Genußreife	Fruto: color de la epidermis a la madurez para el consumo		
light green	vert clair	hellgrün	verde claro		1
medium green	vert moyen	mittelgrün	verde medio		2
reddish green	vert-rougeâtre	rötlichgrün	verde rojizo		3
yellow	jaune	gelb	amarillo		4
orange yellow	jaune-orangé	orangeengelb	amarillo anaranjado		5
orange	orange	orange	naranja		6
greenish brown	brun-verdâtre	grünlichbraun	marrón verdoso		7
reddish brown	brun-rougeâtre	rötlichbraun	marrón rojizo		8
light brown	brun clair	hellbraun	marrón claro	Hort16A	9
medium brown	brun moyen	mittelbraun	marrón medio		10
dark brown	brun foncé	dunkelbraun	marrón oscuro	Tomua	11
purple red	rouge-pourpre	purpurrot	rojo púrpura		12
81. Fruit: adherence of skin to flesh at maturity for consumption	Fruit: adhérence de l'épiderme à la chair à la maturité pour la consommation	Frucht: Anhaften der Schale am Fleisch bei Genußreife	Fruto: adherencia de la epidermis a la pulpa a la madurez para el consumo		
weak	faible	gering	débil		3
medium	moyenne	mittel	media		5
strong	forte	stark	fuerte		7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
82. Fruit: color of outer pericarp (* (+)	Fruit: couleur du péricarpe externe	Frucht: Farbe der äußeren Fruchthülle	Fruto: color del pericarpio exterior		
light green	vert clair	hellgrün	verde claro		1
medium green	vert moyen	mittelgrün	verde medio	Hayward	2
dark green	vert foncé	dunkelgrün	verde oscuro		3
greenish yellow	jaune-verdâtre	grünlichgelb	amarillo verdoso		4
medium yellow	jaune moyen	mittelgelb	amarillo medio	Hort16A	5
dark yellow	jaune foncé	dunkelgelb	amarillo oscuro		6
yellowish orange	orange-jaunâtre	gelblichorange	naranja amarillento		7
orange	orange	orange	naranja		8
red	rouge	rot	rojo		9
red purple	rouge-pourpre	rotpurpur	púrpura rojizo		10
83. Fruit: color of inner pericarp (locules) (* (+)	Fruit: couleur du péricarpe interne (loges)	Frucht: Farbe der inneren Fruchthülle (Kammern)	Fruto: color del pericarpio interior (lóculos)		
light green	vert clair	hellgrün	verde claro		1
medium green	vert moyen	mittelgrün	verde medio	Hayward	2
dark green	vert foncé	dunkelgrün	verde oscuro		3
greenish yellow	jaune-verdâtre	grünlich gelb	amarillo verdoso		4
medium yellow	jaune moyen	mittelgelb	amarillo medio	Hort16A	5
dark yellow	jaune foncé	dunkelgelb	amarillo oscuro		6
yellowish orange	orange-jaunâtre	gelblich orange	naranja amarillento		7
orange	orange	orange	naranja		8
red	rouge	rot	rojo		9
red purple	rouge-pourpre	rotpurpur	púrpura rojizo		10

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
84. Fruit: diameter of core relative to fruit (* (+)	Fruit: diamètre du cœur par rapport au fruit	Frucht: Durchmesser der Mittelzone im Verhältnis zur Frucht	Fruto: diámetro del corazón con relación al fruto		
small	petit	klein	pequeño	Hort16A	3
small to medium	petit à moyen	klein bis mittel	pequeño a medio		4
medium	moyen	mittel	medio	Bruno	5
medium to large	moyen à grand	mittel bis groß	medio a grande	Tomua	6
large	grand	groß	grande	Hayward	7
85. Fruit: general shape of core (in cross section) (* (+)	Fruit: forme générale du cœur (en section transversale)	Frucht: allgemeine Form der Mittelzone(im Querschnitt)	Fruto: forma general del corazón (en la parte transversal)		
circular	circulaire	kreisförmig	circular		1
oblate	aplatie	quer breitelliptisch	achatada		2
transverse elliptic	elliptique transverse	quer elliptisch	elíptica transversal	Hort16A	3
86. Fruit: fluting of core (in cross section)	Fruit: cannelure du cœur (en section transversale)	Frucht: Faltung der Mittelzone(im Querschnitt)	Fruto: acanaladura del corazón (en la parte transversal)		
absent	absente	fehlend	ausente		1
present	présente	vorhanden	presente	Hayward	9
87. Fruit: color of core (* (+)	Fruit: couleur du cœur	Frucht: Farbe der Mittelzone	Fruto: color del corazón		
white	blanc	weiß	blanco		1
greenish white	blanc-verdâtre	grünlichweiß	blanco verdoso	Hayward	2
yellow white	blanc-jaunâtre	gelblichweiß	blanco amarillento	Hort16A	3
orange	orange	orange	naranja		4
red purple	rouge-pourpre	rotpurpur	púrpura rojizo		5

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
88. Fruit: sweetness	Fruit: goût sucré	Frucht: Süße	Fruto: sabor dulce		
(+)					
very low	très faible	sehr gering	muy bajo	Jade Moon	1
low	faible	gering	bajo	Hayward	3
medium	moyenne	mittel	medio	Tomua	5
high	élevée	stark	alto	Hort16A	7
89. Fruit: acidity	Fruit: acidité	Frucht: Säure	Fruto: acidez		
(+)					
low	faible	gering	baja		3
medium	moyenne	mittel	media		5
high	élevée	stark	alta		7
90. Time of vegetative bud burst (*)	Époque du début du débourrement	Zeitpunkt des Aufbruchs der Blattknospe	Época de apertura de las yemas		
early	précoce	früh	precoz	Tomua	3
medium	moyenne	mittel	medio	Hayward	5
late	tardive	spät	tardío		7
91. Time of beginning of flowering (*)	Époque du début de la floraison	Zeitpunkt des Blühbeginns	Época de inicio de la floración		
early	précoce	früh	precoz	Hort16A	3
medium	moyenne	mittel	medio	Abbott	5
late	tardive	spät	tardío	Hayward	7
92. Time of maturity for harvest (*)	Époque de la maturité pour la récolte	Zeitpunkt der Pflückreife	Época de maduración para la cosecha		
early	précoce	früh	precoz		3
medium	moyenne	mittel	medio	Tomua	5
late	tardive	spät	tardío	Hayward	7

VIII. Explanations on the Table of Characteristics

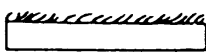
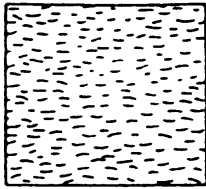
Ad. 3: Plant: ploidy

Ploidy is determined by counting chromosomes or by flow cytometry. The basic chromosome number $n = 29$.

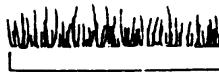
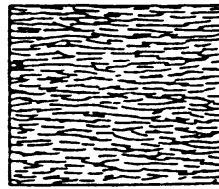
Ad. 7: Young shoot: type of hairiness

Ad. 14: Stem: type of hairiness

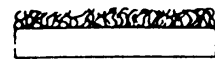
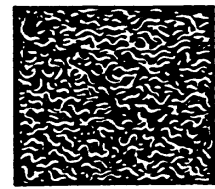
Ad. 76: Fruit: type of hairiness



1
downy



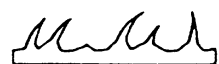
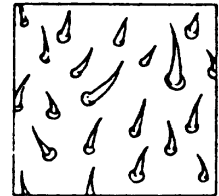
2
velutinous



3
tomentose



4
hirsute

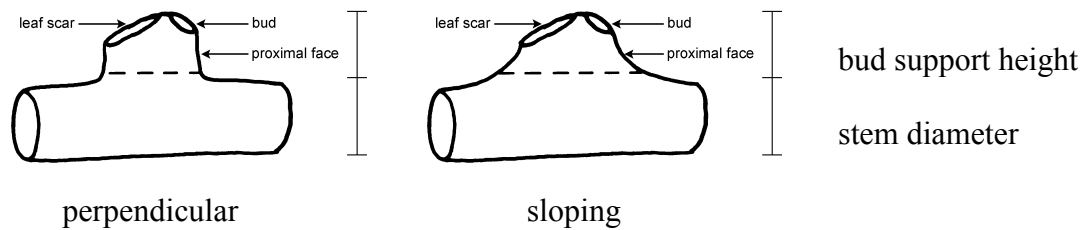


5
bristly



6
hispid

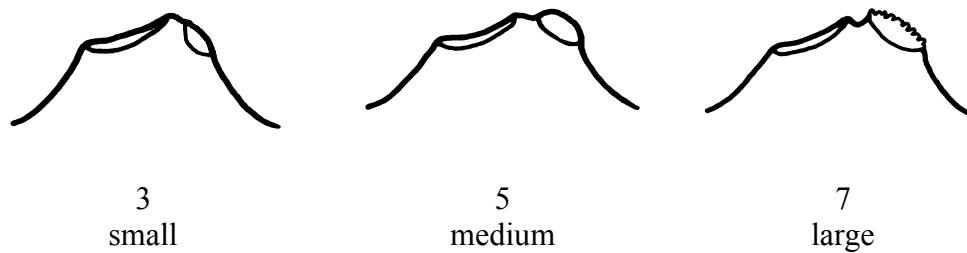
Ad. 18, 19 and 23: Stem: proximal face of bud support (18), size of bud support (19), leaf scar (23)



Ad. 21: Stem: presence of bud cover



Ad. 22: Stem: size of hole in bud cover



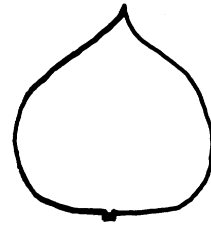
Ad. 26: Leaf blade: shape



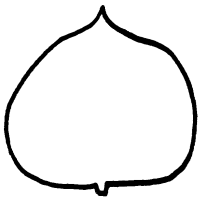
1
lanceolate



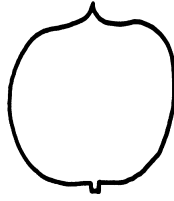
2
ovate



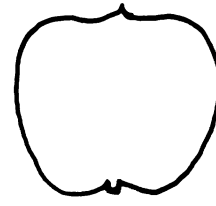
3
broad ovate



4
very broad ovate

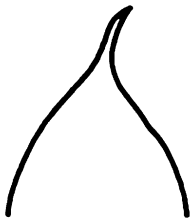


5
broad obovate

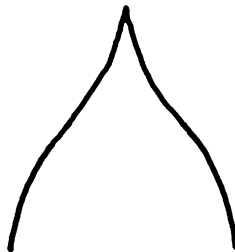


6
very broad obovate

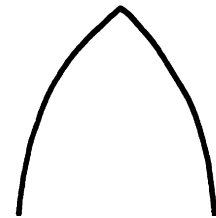
Ad. 27: Leaf blade: shape of apex



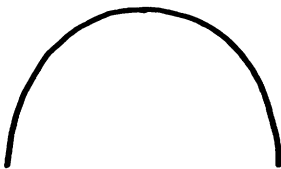
1
caudate



2
acuminate



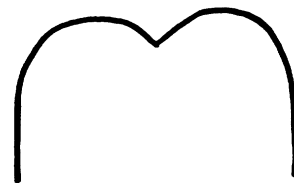
3
acute



4
rounded



5
retuse



6
emarginate

Ad. 28: Leaf blade: arrangement of basal lobes



1
far apart



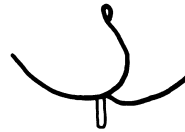
2
slightly apart



3
touching each other



4
slightly overlapping

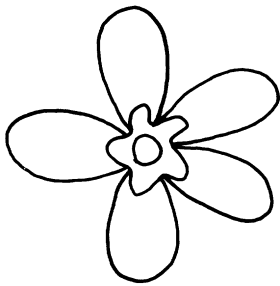


5
strongly overlapping

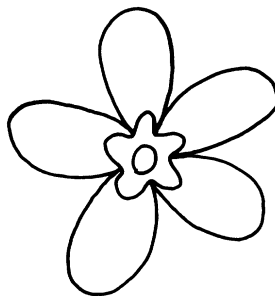
Ad. 42: Flower stalk: length

For a solitary flower, the length of the flower stalk is the length of the pedicel.
For an inflorescence, the length of the flower stalk is the length of the peduncle plus the length of the longest pedicel.

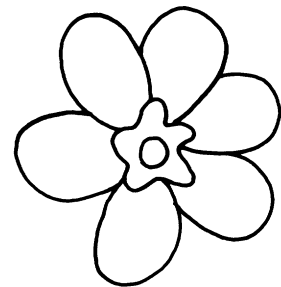
Ad. 50: Flower: arrangement of petals (viewed from beneath)



1
apart

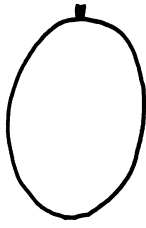


2
touching

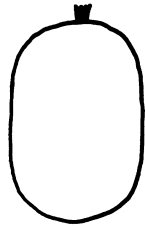


3
overlapping

Ad. 64: Fruit: general shape



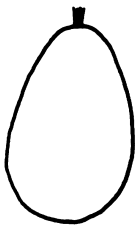
1
ellipsoid



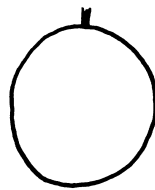
2
oblong



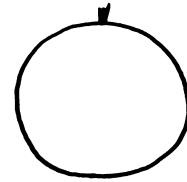
3
ovoid



4
obovoid

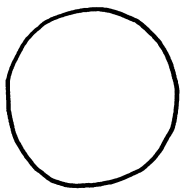


5
spheroid

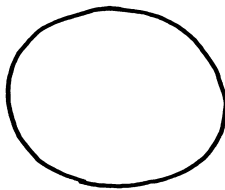


6
obloid

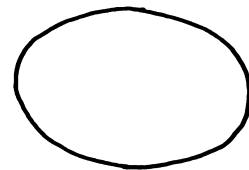
Ad. 65 and 85: Fruit: shape in cross section (at median) (65), general shape of core (in cross section) (85)



1
circular

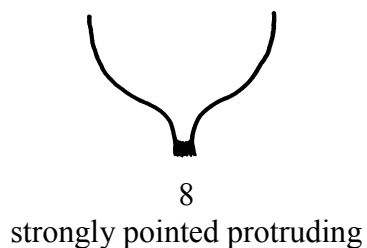
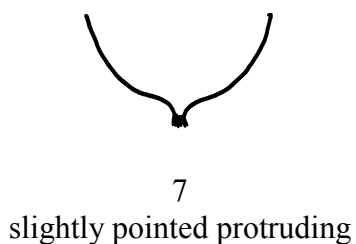
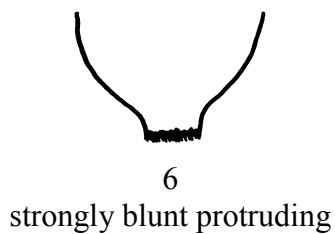
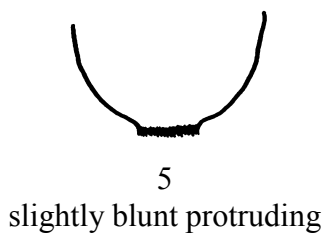
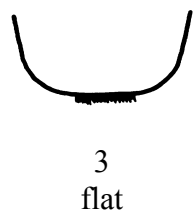
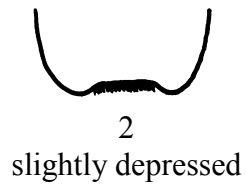
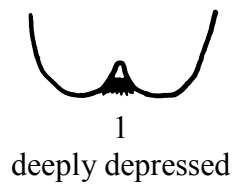


2
oblate

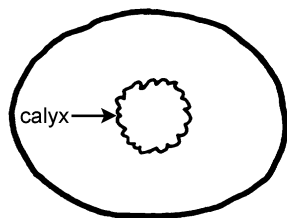


3
transverse elliptic

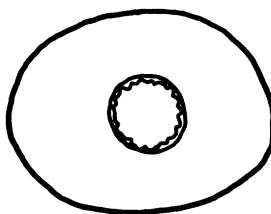
Ad. 66: Fruit: general shape of stylar end



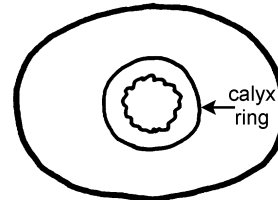
Ad. 67: Fruit: presence of calyx ring



1
absent or very weakly expressed

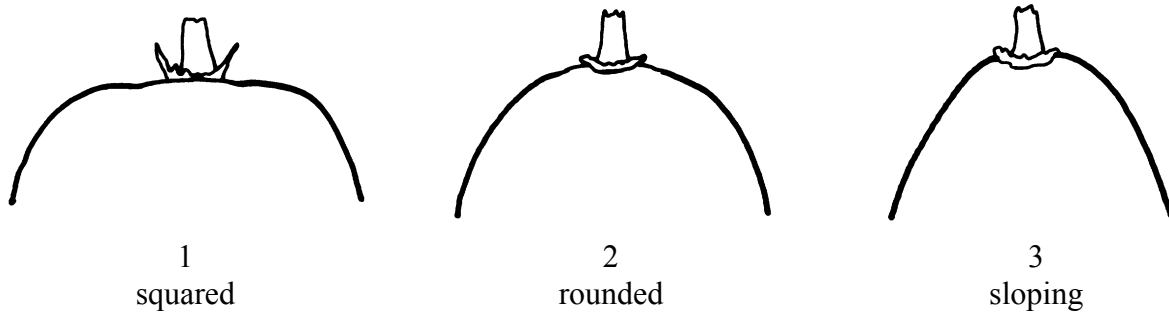


2
weakly expressed

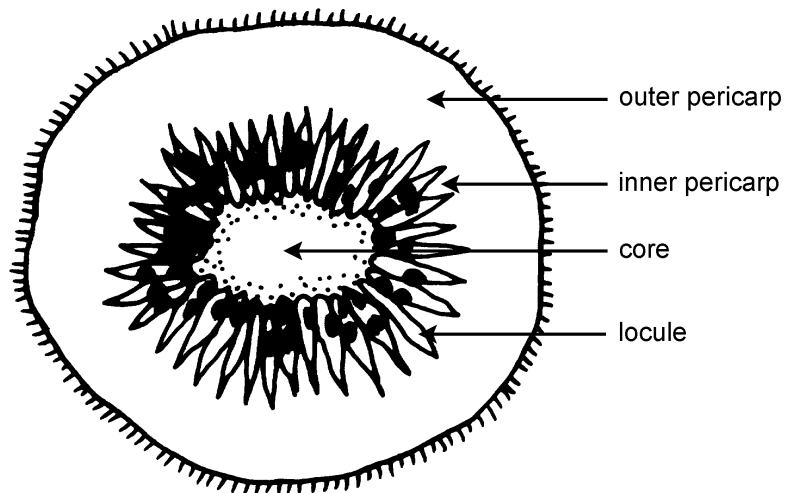


3
strongly expressed

Ad. 68: Fruit: shape of shoulder at stalk end



Ad. 82, 83, 84 and 87: Fruit: color of outer pericarp (82), color of inner pericarp (locules) (83), diameter of core relative to fruit (84) and color of core (87)



Ad. 88: Fruit: sweetness

The total soluble solids content (TSS) is measured.

Ad. 89: Fruit: acidity

Titrateable acids are determined by titration.

IX. Literature

Astridge, S.J., 1975: Cultivars of Chinese Gooseberry (*Actinidia chinensis*) in New Zealand. *Economic Botany* 29: pp 357-360.

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Ferguson, A.R., 1997: Kiwifruit (Chinese gooseberry), in: *The Brooks and Olmo Register of Fruit & Nut Varieties*. 3rd Edition. AHS Press, Alexandria, VA, USA, pp. 319-323, US.

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Valmori, I., 1991: Nuove varietà in frutticoltura. Bologna: Edizioni Agricole, IT.

Zhang, J., T.G. Thorp, 1986: Morphology of nine pistillate and three staminate New Zealand clones of kiwifruit (*Actinidia deliciosa* (A. Chev.) C.F. Liang et A.R. Ferguson var. *deliciosa*). *New Zealand Journal of Botany* 24: pp 589-613, NZ.

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>		
1.1	Genus	<i>Actinidia</i> Lindl. ACTINIDIA
1.2	Species (indicate species)
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 Pollenizer (for female and fruit setting hermaphroditic varieties only)

Male pollenizers suitable for the candidate variety are the following varieties:

.....

4.4 Virus status

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

.....

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

.....

(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
<u>For male varieties</u>		
5.1 Petal: type of coloration (adaxial side) (52)		
single-colored		1[]
bicolored	Meteor	2[]
5.2 Time of beginning of flowering (91)		
early	Hort16A	3[]
medium	Abbott	5[]
late	Hayward	7[]
<u>For female and hermaphrodite varieties</u>		
5.3 Fruit: size (63)		
small		3[]
medium	Tomua	5[]
large	Hayward	7[]
very large	Jade Moon	9[]
5.4 Fruit: general shape (64)		
ellipsoid	Hayward	1[]
oblong	Bruno	2[]
ovoid	Hort16A	3[]
obovoid	Monty	4[]
spheroid		5[]
obloid	Kuimi	6[]

Characteristics	Example Varieties	Note
5.5 Fruit: hairiness of skin (74)		
absent		1[]
present		9[]
5.6 Fruit: color of outer pericarp (82)		
light green		1[]
medium green	Hayward	2[]
dark green		3[]
greenish yellow		4[]
medium yellow	Hort16A	5[]
dark yellow		6[]
yellowish orange		7[]
orange		8[]
red		9[]
red purple		10[]
5.7 Time of maturity for harvest (92)		
early		3[]
medium	Tomua	5[]
late	Hayward	7[]

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
---------------------------------	--	--	--

^{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]