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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
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Camellia sinensis (L.) O. Kuntze

*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from China

*to be considered by the Technical Committee at its forty-fourth session,
to be held in Geneva, from April 7 to 9, 2008*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Camellia sinensis</i> (L.) O. Kuntze	Tea	Théier	Tee, Teestrauch	Té

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Camellia sinensis* (L.) O. Kuntze. These Test Guidelines may also be relevant for other species in *Camellia* L. Sect. *Thea* (L.) Dyer.

2. Material Required

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

2.2 The material is to be supplied in the form of one-year-old rooted cuttings.

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

20 rooted cuttings.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

The minimum duration of tests should normally be a single growing cycle.

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. Observations should be made on plants which are at least two years after being planted.

3.3.2 The recommended method of observing the characteristic is indicated by the following key in the second column of the Table of Characteristics in Chapter 7:

- MG: single measurement of a group of plants or parts of plants
- MS: measurement of a number of individual plants or parts of plants
- VG: visual assessment by a single observation of a group of plants or parts of plants
- VS: visual assessment by observation of individual plants or parts of plants

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 10 plants.

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

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

Unless otherwise indicated, all observations should be made on 10 plants or parts taken from each of 10 plants.

3.6 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is

important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 For the assessment of uniformity a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed.

4.3 *Stability*

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 It is recommended that the competent authorities use the following characteristics for grouping varieties:

- (a) Plant: type (characteristic 2)
- (b) Plant: growth habit (characteristic 3)
- (c) Leaf blade: length (characteristic 13)
- (d) Flower: diameter (characteristic 27)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 *States of Expression and Corresponding Notes*

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.3 *Types of Expression*

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3

QN: Quantitative characteristic – see Chapter 6.3

PQ: Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS: see Chapter 3.3.2

(a) – (c) See Explanations on the Table of Characteristics in Chapter 8.1

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

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

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. VG (*) (+)	Plant: vigor	Plante: vigueur	Pflanze: Wuchsstärke	Planta: vigor		
QN	weak	faible	gering	débil	Longjing Guazi	3
	medium	moyenne	mittel	medio	Longjing 43	5
	strong	forte	stark	fuerte	Yunkang 10	7
2. VG (*) (+)	Plant: type	Plante: type	Pflanze: Typ	Planta: tipo		
QN	shrub	arbrisseau	Strauch	arbusto	Longjing 43	1
	semi-arbor	demi-arbre	Halbbaum	semiarborescente	Qianmei 419	3
	arbor	arbre	Baum	arborescente	Yunkang 10	5
3. VG (*) (+)	Plant: growth habit	Plante: port	Pflanze: Wuchsform	Planta: porte		
QN	upright	dressé	aufrecht	erguida	Biyun	1
	semi upright	demi-dressé	halbaufrecht	semierguida	Hanlv	3
	spreading	étalé	breitwüchsig	extendida	Yinghong 1	5
4. VG	Plant: density of branches	Plante: densité des ramifications	Pflanze: Dichte der Zweige	Planta: densidad de ramas		
QN	sparse	lâche	locker	escasa	Yunkang 10	3
	medium	moyenne	mittel	media	Biyun	5
	dense	dense	dicht	densa	Tengcha	7
5. VG (+)	Branch: zigzagging	Ramification : zigzag	Zweig: Zickzackform	Rama: zigzaguelo		
QL	absent	absent	fehlend	ausente		1
	present	présent	vorhanden	presente		9

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	MS	Young shoot: time of beginning of 'one and a bud' stage	Jeune plante : époque de début de la phase "un et un bourgeon"	Jungtrieb: Zeitpunkt des Beginns des Stadiums 'ein Blatt und eine Knospe'	Tallo joven: época del comienzo de la etapa "una hoja y una yema"		
(*)							
(+)							
QN	(a)	early	précoce	früh	temprana	Longjing 43	3
		medium	moyenne	mittel	media	Biyun	5
		late	tardive	spät	tardía	Qianmei 419	7
7.	VG	Young shoot: color of second leaf at 'two and a bud' stage	Jeune rameau : couleur de la deuxième feuille à la phase "deux et un bourgeon"	Jungtrieb: Farbe des zweiten Blattes im Stadium 'zwei Blätter und eine Knospe'	Rama joven: color de la segunda hoja en la etapa "dos y una yema"		
(+)							
PQ	(a)	whitish	blanchâtre	weißlich	blanquecino		1
		yellow green	vert-jaune	gelbgrün	verde amarillento		2
		light green	vert clair	hellgrün	verde claro		3
		medium green	vert moyen	mittelgrün	verde medio		4
		purple green	vert-pourpré	purpurgrün	verde púrpura		5
8.	VG	Young shoot: pubescence of bud	Jeune rameau: pilosité du bourgeon	Jungtrieb: Behaarung der Knospe	Rama joven: pubescencia de la yema		
(*)							
QL	(a)	absent	absente	fehlend	ausente		1
		present	présente	vorhanden	presente		9
9.	VG	Young shoot: density pubescence of bud	Jeune rameau: densité de la pilosité du bourgeon	Jungtrieb: Dichte der Behaarung der Knospe	Rama joven: densidad de la pubescencia de la yema		
QN	(a)	sparse	faible	gering	débil	Longjing 43	3
		medium	moyenne	mittel	media	Biyun	5
		dense	forte	stark	fuerte	Yunkang 10	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10.	VG	Young shoot: anthocyanin coloration at base of petiole	Jeune rameau: pigmentation anthocyanique à la base du pétiole	Jungtrieb: Anthocyanfärbung an der Basis des Blattstils	Rama joven: pigmentación antocianica en la base del pecíolo	
QL	(a)	absent	absente	fehlend	ausente	1
		present	présente	vorhanden	presente	9
11.	VG/ (*) MS	Young shoot: length of 'three and a bud'	Jeune rameau : longueur à la phase "trois et un bourgeon"	Jungtrieb: Länge im Stadium 'drei Blätter und eine Knospe'	Rama joven: longitud en la etapa "tres y una yema"	
QN	(a)	short	courte	kurz	corta	Xicha 11 3
		medium	moyenne	mittel	media	Longjing 43 5
		long	longue	lang	larga	Qianmei 419 7
12.	VG (*) (+)	Leaf blade: attitude	Limbe: port	Blattspreite: Haltung	Limbo: porte	
QN	(b)	upwards	dressé	aufwärts gerichtet	hacia arriba	Longjing 43 1
		outwards	perpendiculaire	abstehend	horizontal	Tengcha 3
		downwards	retombant	abwärts gerichtet	hacia abajo	5
13.	VG/ (*) MS	Leaf blade: length	Limbe: longueur	Blattspreite: Länge	Limbo: longitud	
QN	(b)	short	court	kurz	corta	Longjing Guazi 3
		medium	moyen	mittel	media	Biyun 5
		long	long	lang	larga	Qianmei 419 7
14.	VG/ (*) MS	Leaf blade: width	Limbe: largeur	Blattspreite: Breite	Limbo: anchura	
QN	(b)	narrow	étroit	schmal	estrecha	Tengcha 3
		medium	moyen	mittel	media	Qianmei 419 5
		broad	large	breit	ancha	Yunkang 10 7

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
15.	VG	Leaf blade: shape	Limbe: forme	Blattspreite: Form	Limbo: forma		
(+)							
QN	(b)	very narrow elliptic	très elliptique étroit	sehr schmal elliptisch	elíptica muy estrecha		1
		narrow elliptic	elliptique étroit	schmal elliptisch	elíptica estrecha		2
		medium elliptic	elliptique moyen	mittel elliptisch	elíptico medio		3
		broad elliptic	elliptique large	breit elliptisch	elíptico ancho		4
16.	VG	Leaf blade: intensity of green color	Limbe: intensité de la couleur verte	Blattspreite: Intensität der Grünfärbung	Limbo: intensidad del color verde		
(+)							
QN	(b)	light	claire	hell	clara		3
		medium	moyenne	mittel	media	Xicha 11	5
		dark	foncée	dunkel	oscura	Yangshulin 783	7
17.	VG	Leaf blade: shape in cross section	Limbe: forme en section transversale	Blattspreite: Form im Querschnitt	Limbo: forma en sección transversal		
(+)							
QN	(b)	folded upwards	incurvé	aufgebogen	curvado hacia arriba		1
		flat	plat	gerade	plano		2
		recurved	retombant	zurückgebogen	curvado hacia abajo		3
18.	VG	Leaf blade: texture of upper surface	Limbe: texture de la surface supérieure	Blattspreite: Textur der Oberfläche	Limbo: textura del haz		
QN	(b)	smooth or weakly rugose	lisse ou faiblement rugueuse	glatt oder schwach blasig	lisa o débilmente rugosa	Hanlv	1
		moderately rugose	modérément rugueuse	mittel blasig	moderadamente rugosa	Tengcha	2
		strongly rugose	fortement rugueuse	stark blasig	fuertemente rugosa	Qianmei 419	3

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. VG (+)	Leaf blade: shape of apex	Limbe: forme du sommet	Blattspreite: Form der Spitze	Limbo: forma del ápice		
PQ (b)	obtuse	obtus	stumpf	obtusos		1
	acute	aigü	spitz	agudo	Yunkang 10	2
	acuminate	acuminé	mit aufgesetzter Spitze	acuminado	Tengcha	3
20. VG (+)	Leaf blade: undulation of margin	Limbe: ondulation du bord	Blattspreite: Randwellung	Limbo: ondulación del borde		
QN (b)	absent or weak	nulle ou faible	fehlend oder gering	ausente o débil	Yunkang 10	1
	medium	moyenne	mittel	media	Tengcha	2
	strong	forte	stark	fuerte		3
21. VG (+)	Leaf blade: serration of margin	Limbe: dentelure du bord	Blattspreite: Randeinschnitte	Limbo: serrado del borde		
QN (b)	weak	faible	gering	débil	Yunkang 10	3
	medium	moyenne	mittel	media	Yinghong 1	5
	strong	forte	stark	fuerte		7
22. VG (+)	Leaf blade: shape of base	Limbe: forme de la base	Blattspreite: Form der Basis	Limbo: forma de la base		
PQ (b)	acute	pointue	spitz	aguda	Yunkang 10	1
	obtuse	obtuse	stumpf	obtusa	Xicha 11	2
	truncate	tronquée	gerade	truncada		3
23. MG (+)	Flower: time of full flowering	Fleur: époque de pleine floraison	Blüte: Zeitpunkt der Vollblüte	Flor: época de plena floración		
QN	early	précoce	früh	temprana	Longjing 43	3
	medium	moyenne	mittel	media	Yinghong 1	5
	late	tardive	spät	tardía	Qianmei 419	7

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
24.	VG/ MS	Flower: length of pedicel	Fleur: longueur du pédoncule	Blüte: Länge des Blütenstiels	Flor: longitud del pedicelo	
QN	(c)	short	court	kurz	corta	3
		medium	moyen	mittel	media	Biyun 5
		long	long	lang	larga	Yangshulin 783 7
25.	VG (*)	Flower: pubescence on outer side of sepal	Fleur: pilosité de la face externe du sépal	Blüte: Behaarung der Außenseite des Kelchblatts	Flor: pubescencia de la cara externa del sépal	
QL	(c)	absent	absente	fehlend	ausente	Longjing 43 1
		present	présente	vorhanden	presente	Qianmei 419 9
26.	VG (*)	Flower: anthocyanin coloration on outer side of sepal	Fleur: pigmentation anthocyannique sur la face externe du sépal	Blüte: Anthocyanfärbung an der Außenseite des Kelchblatts	Flor: pigmentación antociánica de la cara externa del sépal	
QL	(c)	absent	absente	fehlend	ausente	Longjing 43 1
		present	présente	vorhanden	presente	Biyun 9
27.	VG/ MS (*)	Flower: diameter	Fleur: diamètre	Blüte: Durchmesser	Flor: diámetro de	
QN	(c)	small	petit	klein	pequeño	Yangshulin 783 3
		medium	moyen	mittel	medio	Xicha 11 5
		large	grand	groß	grande	Yunkang 10 7
28.	VG (+)	Flower: color of inner petals	Fleur: couleur des pétales internes	Blüte: Farbe der inneren Blütenblätter	Flor: color de los pétalos internos	
PQ	(c)	greenish	verdâtres	grünlich	verdoso	1
		white	blanches	weiss	blanca	2
		pink	roses	rosa	rosa	3
29.	VG (*)	Flower: pubescence of ovary	Fleur: pilosité de l'ovaire	Blüte: Behaarung des Fruchtknotens	Flor: pubescencia del ovario	
QL	(c)	absent	absente	fehlend	ausente	1
		present	présente	vorhanden	presente	9

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30.	VG	Flower: density of pubescence of ovary	Fleur: densité de la pilosité de l'ovaire	Blüte: Dichte der Behaarung des Fruchtknotens	Flor: densidad de la pubescencia del ovario	
QN	(c)	sparse	faible	gering	débil	3
		medium	moyenne	mittel	media	Longjing 43
		dense	forte	stark	fuerte	Qianmei 419
31.	VG	Flower: length of style	Fleur: longueur du style	Blüte: Länge des Griffels	Flor: longitud de estilo	
QN	(c)	short	court	kurz	corto	Yangshulin 783
		medium	moyen	mittel	medio	Biyun
		long	long	lang	largo	Xicha 11
32.	VG	Flower: position of style splitting	Fleur : position de la scission du style	Blüte: Position der Griffelspaltung	Flor: posición de la división del estilo	
(+)						
QN	(c)	low	basse	niedrig	baja	3
		medium	moyenne	mittel	media	5
		high	élevée	hoch	alta	7
33.	VG	Flower: position of stigma relative to stamens	Fleur: position du stigmate par rapport aux étamines	Blüte: Stellung der Narbe im Verhältnis zu den Staubblättern	Flor: posición del estigma en relación con los estambres	
(*)						
(+)						
QN	(c)	below	au-dessous	unterhalb	por debajo	Yunkang 10
		same level	au même niveau	auf gleicher Höhe	al mismo nivel	Qianmei 419
		above	au-dessus	oberhalb	por encima	Xicha 11
34.	MG	Fermentation ability	Capacité de fermentation	Gärungsfähigkeit	Capacidad de fermentación	
(+)						
QN		weak	faible	gering	débil	Longjing 43
		medium	moyenne	mittel	media	Qianmei 419
		strong	forte	stark	fuerte	Yunkang 10

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35. MG	Caffeine content	Teneur en caféine	Koffeingehalt	Contenido de cafeína		
(+)						
QN	absent or very low	nulle ou très faible	fehlend oder sehr gering	ausente o muy bajo		1
	low	faible	gering	bajo		2
	medium	moyenne	mittel	mediano		3
	high	élevée	hoch	alto		4
	very high	très élevée	sehr hoch	muy alto		5

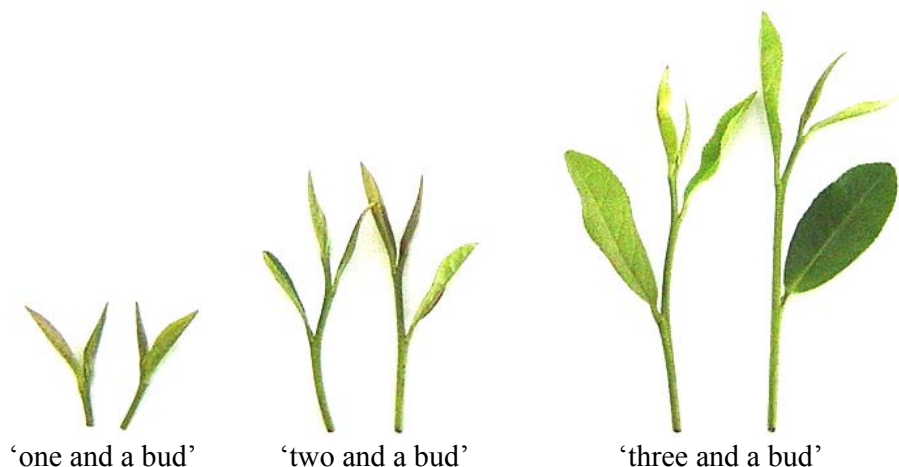
8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

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

- (a) Observations on the young shoot should be made in the first flush of the year.

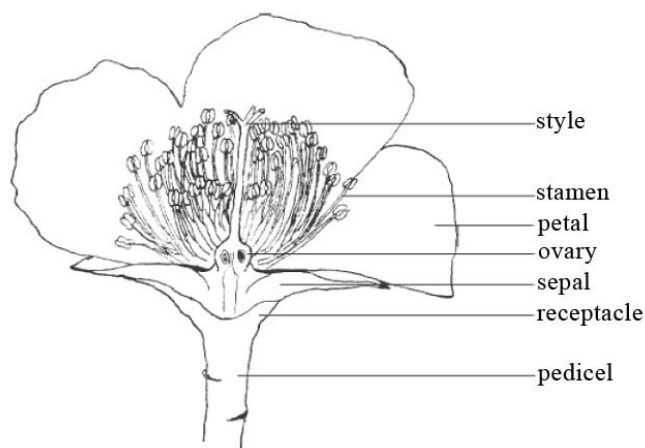
Young shoot:



- (b) Observations on the leaf blade should be made in summer or autumn on fully developed leaves from the middle of a well-developed previous season shoot.

- (c) All observations on the flower should be made on fully developed flowers at the blooming stage.

Flower:

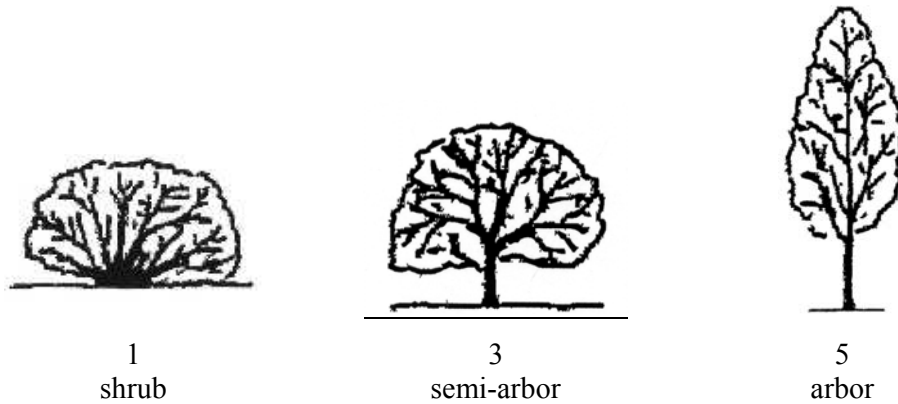


8.2 *Explanations for individual characteristics*

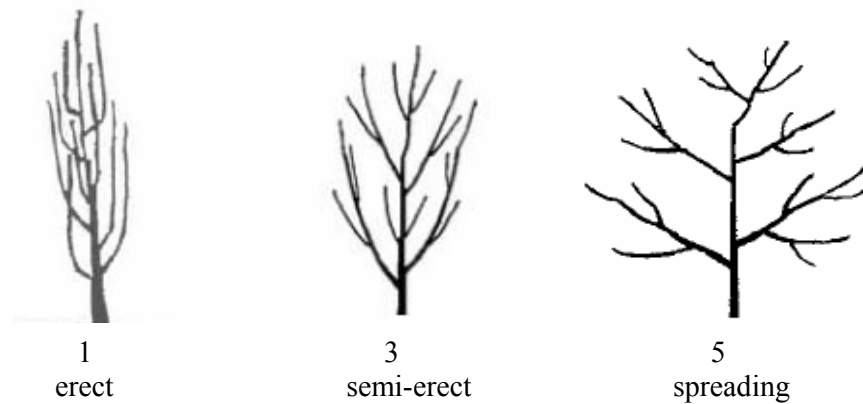
Ad. 1: Plant: vigor

The vigor of the plant should be considered as the overall abundance of vegetative growth.

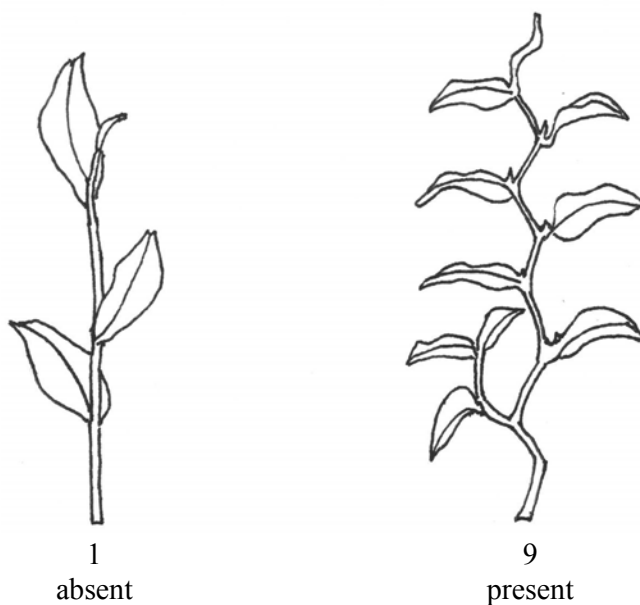
Ad. 2: Plant: type



Ad. 3: Plant: growth habit



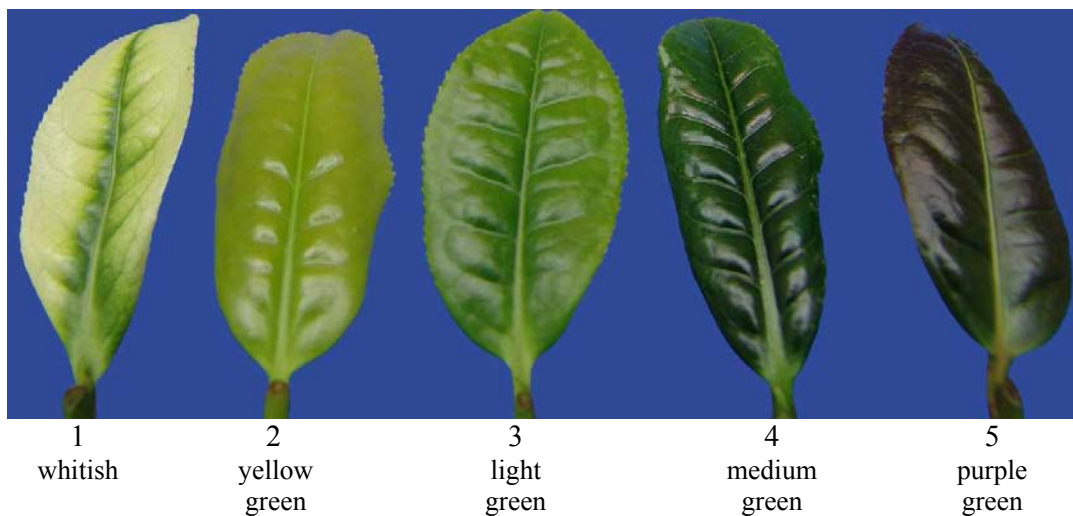
Ad. 5: Branch: zigzagging



Ad. 6: Young shoot: time of beginning of 'one and a bud' stage

The time of beginning of 'one and a bud' stage is the time at which 30 percent of plants have buds at the 'one and a bud' stage.

Ad. 7: Young shoot: color of second leaf at 'two and a bud' stage



Ad. 12: Leaf blade: attitude



1
upwards

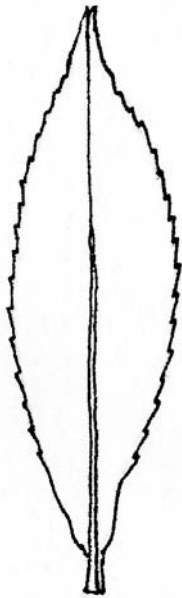


3
outwards



5
downwards

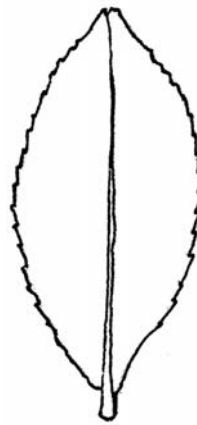
Ad. 15: Leaf blade: shape



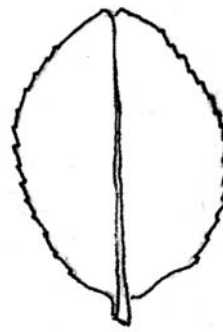
1
very narrow elliptic



2
narrow elliptic

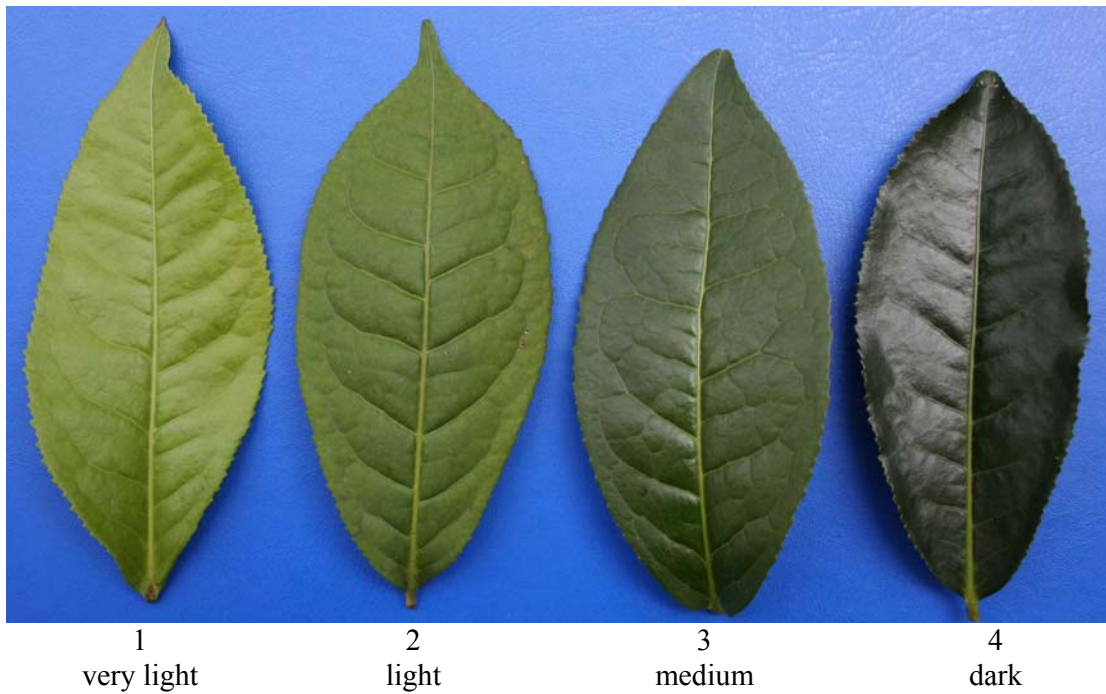


3
medium elliptic

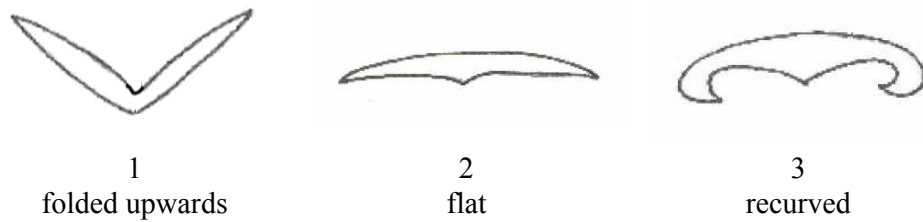


4
broad elliptic

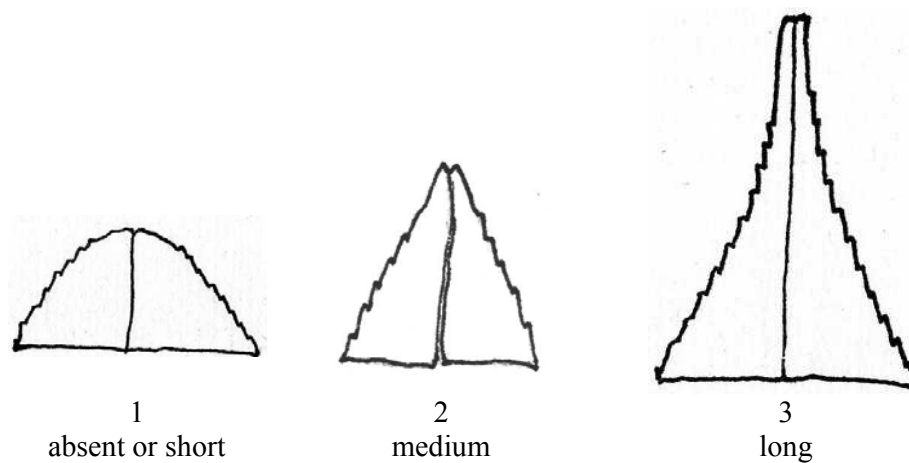
Ad. 16: Leaf blade: intensity of green color



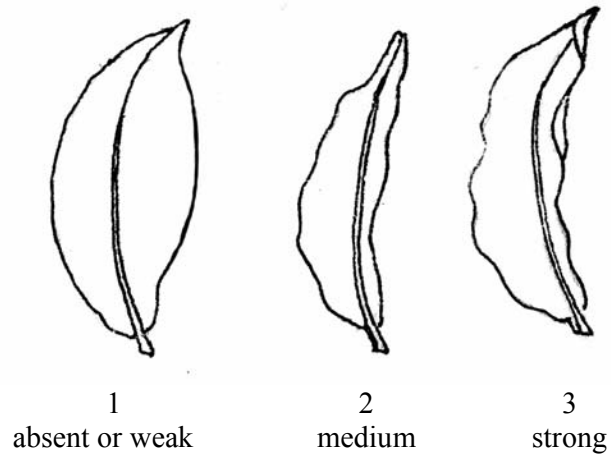
Ad. 17: Leaf blade: shape in cross section



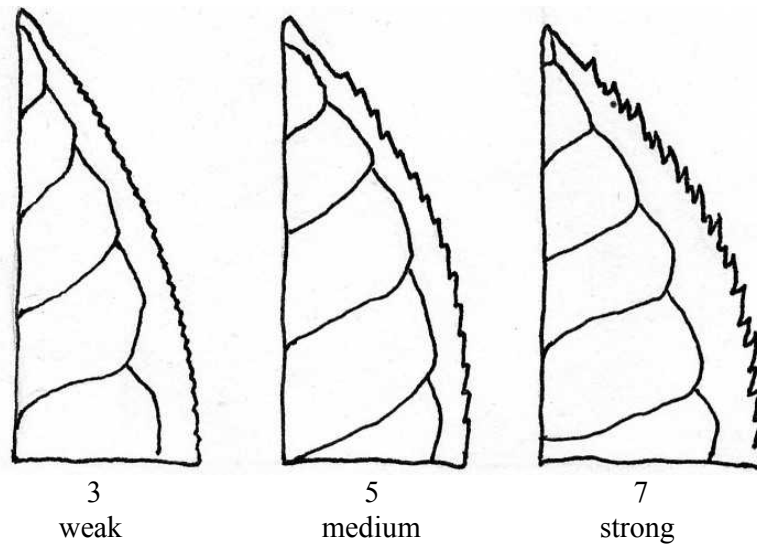
Ad. 19: Leaf blade: length of tip



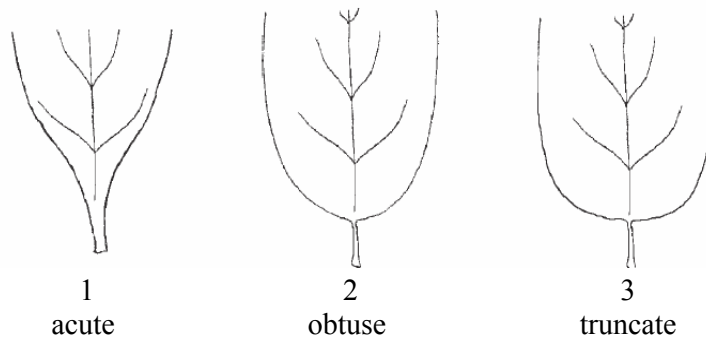
Ad. 20: Leaf blade: undulation of margin



Ad. 21: Leaf blade: serration of margin



Ad. 22: Leaf blade: shape of base



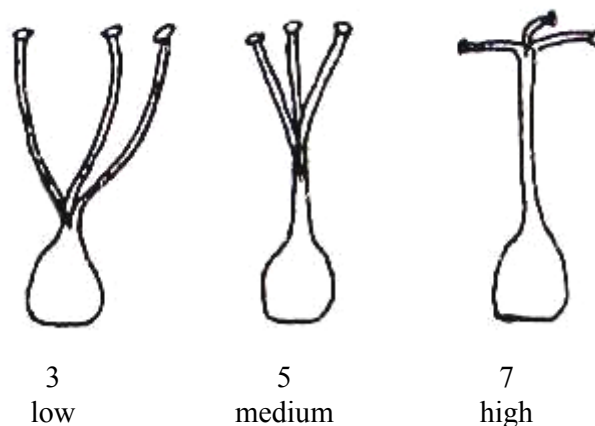
Ad. 23: Flower: time of full flowering

The full flowering time is the time of about 50 percent flowers in blooming.

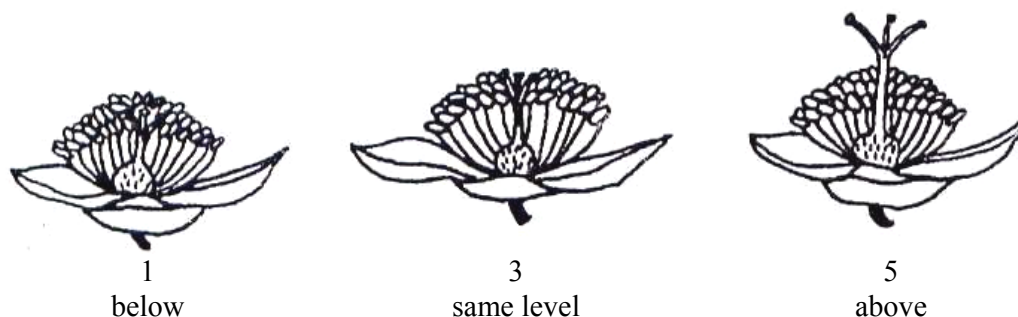
Ad. 28: Flower: color of inner petals



Ad. 32: Flower: position of style splitting



Ad. 33: Flower: position of stigma relative to stamens



Ad. 34: Fermentation ability

Determined by chloroform test. Inserting the ‘two and a bud’ young shoots onto a plate in an airtight container containing 1.5-2.0 cm depth chloroform, and then record the time of the shoots turning brown.

Ad. 35: Caffeine content

The measurement of caffeine content should be made using the “two and a bud” samples harvested from the first flush of the year. After harvesting, the shoots should be dried immediately by 120-125 C hot air and storage at room temperature till they are analyzed. Method ISO 10727:1995 ‘Tea and instant tea in solid form -- Determination of caffeine content -- Method using high-performance liquid chromatography’ should be used.

absent or very low	$\leq 0.5\%$
low	0.6-2.0%
medium	2.1-3.5%
high	3.6-5.0%
very high	$> 5.0\%$

9. Literature

Chang, H.T., Bartholomew, B., 1984: Camellias. Timber Press, Portland, Oregon, US, 304 pp.

Chen, L., Yang, Y.J., Yu, F.L., 2005: Descriptors and data standard for tea (*Camellia* spp.). China Agricultural Press, Beijing, CN

Chen, L., Yu, F.L., Tong, Q.Q., 2000: Discussions on phylogenetic classification and evolution of section *Thea*. Journal of Tea Science, 20(2): 89-94

IPGRI, 1997: Descriptors for tea (*Camellia sinensis*). International Plant Genetic Resources Institute, Rome, IT

Ming, T.L., 1992: A revision of *Camellia* Sect. *Thea*, Acta Botanica Yunnanica, 14(2):115-132

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
Botanical name	Camellia sinensis (L.) O. Kuntze	
Common name	Tea	
2. Applicant		
Name		
Address		
Telephone No.		
Fax No.		
E-mail address		
Breeder (if different from applicant)		
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)		
Breeder's reference		

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

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross []
(please state parent varieties)

(b) partially known cross []
(please state known parent variety(ies))

(c) unknown cross []

4.1.2 Mutation []
(please state parent variety)

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

4.1.4 Other []
(please provide details)

--

4.2 Method of propagating the variety

(a) cuttings []

(b) *in vitro* propagation []

(c) other (state method) []

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

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

Characteristics	Example Varieties	Note
5.1 Plant: stem type (2)		
shrub	Longjing 43	1[]
semi-arbor	Qianmei 419	3[]
arbor	Yunkang 10	5[]
5.2 Plant: growth habit (3)		
upright	Biyun	1[]
semi upright	Hanlv	3[]
spreading	Yinghong 1	5[]
5.3 Leaf blade: length (13)		
short	Longjing Guazi	3[]
medium	Biyun	5[]
long	Qianmei 419	7[]
5.4 Flower: diameter (27)		
small	Yangshulin 783	3[]
medium	Xicha 11	5[]
large	Yunkang 10	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Leaf blade: attitude</i>	<i>upwards</i>	<i>downwards</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety 7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety? Yes [] No [] (If yes, please provide details) 7.2 Are there any special conditions for growing the variety or conducting the examination? Yes [] No [] (If yes, please provide details) 7.3 Other information
8. Authorization for release (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health? Yes [] No [] (b) Has such authorization been obtained? Yes [] No [] If the answer to (b) is yes, please attach a copy of the authorization.

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- | | | | |
|-----|---|---------|--------|
| (a) | Microorganisms (e.g. virus, bacteria, phytoplasma) | Yes [] | No [] |
| (b) | Chemical treatment (e.g. growth retardant, pesticide) | Yes [] | No [] |
| (c) | Tissue culture | Yes [] | No [] |
| (d) | Other factors | Yes [] | No [] |

Please provide details for where you have indicated “yes”.

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]