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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

TEA

UPOV code: CMLIA_SIN

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 Enlarged Editorial Committee at its meeting to be held in Geneva, Switzerland, on January 8, 2008

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Camellia sinensis (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	semiarbusto	Qianmei 419	3
		arbor	arbre	Baum	árbol	Yunkang 10	5
3. (*) (+)	**VG**	**Plant: growth habit**	**Plante: port**	**Pflanze: Wuchsform**	**Planta: porte**		
QN		upright	dressé	aufrecht	erecta	Biyun	1
		semi upright	demi-dressé	halbaufrecht	semierecta	Hanlv	3
		spreading	étalé	breitwüchsig	extendido	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	baja	Yunkang 10	3
		medium	moyenne	mittel	media	Biyun	5
		dense	dense	dicht	alta	Tengcha	7
5. (+)	**VG**	**Branch: zigzagging**	**Ramification : zigzagante**	**Zweig: Zickzackform**	**Rama: zigzagueo**		
QL		absent	absente	fehlend	ausente		1
		present	présente	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 ‚einer 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 und eine Knospe'**	**Tallo joven: color de la segunda hoja en la etapa "dos hojas 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**	**Tallo 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**	**Tallo joven: densidad de la pubescencia de la yema**		
QN	**(a)**	weak	faible	gering	débil	Longjing 43	3
		medium	moyenne	mittel	media	Biyun	5
		strong	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 the petiole**	**Jeune rameau: pigmentation anthocyanique à la base du pétiole**	**Jungtrieb: Anthocyanfärbung an der Basis des Blattstils**	**Tallo joven: pigmentación antociánica 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 de "trois et un bourgeon"**	**Jungtrieb: Länge im Stadium 'drei und eine Knospe'**	**Tallo joven: longitud en la etapa "tres hojas 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/ MS**	**Leaf blade: attitude**	**Limbe: port**	**Blattspreite: Haltung**	**Limbo: porte**		
QN	**(b)**	upwards	dressé	aufwärts gerichtet	ascendente	Longjing 43	1
		outwards	perpendiculaire	abstehend	horizontal	Tengcha	3
		downwards	retombant	abwärts gerichtet	descendente		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	muy elíptica 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)**	very light	très claire	sehr hell	muy clara		1
		light	claire	hell	clara		2
		medium	moyenne	mittel	media	Xicha 11	3
		dark	foncée	dunkel	oscura	Yangshulin 783	4
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	flach	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	fortemente rugosa	Qianmei 419	3

		English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. **(+)**	**VG**	**Leaf blade: length of tip**	**Limbe: longueur de la pointe**	**Blattspreite: Länge der aufgesetzten Spitze**	**Limbo: longitud del extremo**		
QN	**(b)**	absent or short	absente ou courte	fehlend oder kurz	ausente o corta		1
		medium	moyenne	mittel	media	Yunkang 10	2
		long	longue	lang	larga	Tengcha	3
20. **(+)**	**VG**	**Leaf blade: undulation of margin**	**Limbe: ondulation du bord**	**Blattspreite: Randwellung**	**Limbo: ondulación del borde**		
QN	**(b)**	absent or weak	nul ou faible	fehlend oder gering	ausente o débil	Yunkang 10	1
		medium	moyen	mittel	media	Tengcha	2
		strong	fort	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	moyen	mittel	media	Yinghong 1	5
		strong	fort	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	courte	kurz	corta		3
		medium	moyenne	mittel	media	Biyun	5
		long	longue	lang	larga	Yangshulin 783	7
25. (*)	**VG**	**Flower: pubescence on outer side of sepal**	**Fleur: pilosité de la face externe du sépale**	**Blüte: Behaarung der Außenseite des Kelchblatts**	**Flor: pubescencia de la cara externa del sépalo**		
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 anthocyanique sur la face externe du sépale**	**Blüte: Anthocyanfärbung an der Außenseite des Kelchblatts**	**Flor: pigmentación antociánica de la cara externa del sépalo**		
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	verdâtre	grünlich	verdoso		1
		white	blanche	weiss	blanca		2
		pink	rose	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)**	weak	faible	gering	débil		3
		medium	moyen	mittel	media	Longjing 43	5
		strong	fort	stark	fuerte	Qianmei 419	7
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	3
		medium	moyen	mittel	medio	Biyun	5
		long	long	lang	largo	Xicha 11	7
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	1
		same level	au même niveau	auf gleicher Höhe	al mismo nivel	Qianmei 419	3
		above	au-dessus	oberhalb	por encima	Xicha 11	5
34. **(+)**	**MG**	**Fermentation ability**	**Capacité de fermentation**	**Gärungsfähigkeit**	**Capacidad de fermentación**		
QN		weak	faible	gering	débil	Longjing 43	3
		medium	moyenne	mittel	media	Qianmei 419	5
		strong	forte	stark	fuerte	Yunkang 10	7

		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.

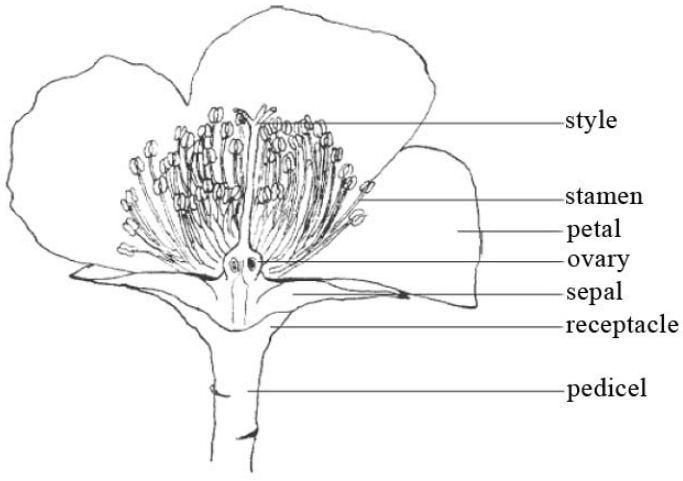
Young shoot: diagram

‘one and a bud’ ‘two and a bud’ ‘three and a bud’

(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: diagram



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

1
shrub

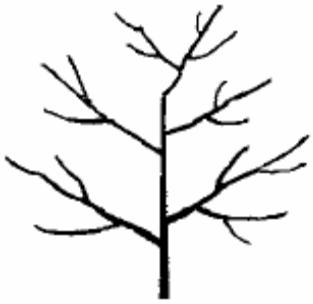
3
semi-arbor

5
arbor

Ad. 3: Plant: growth habit

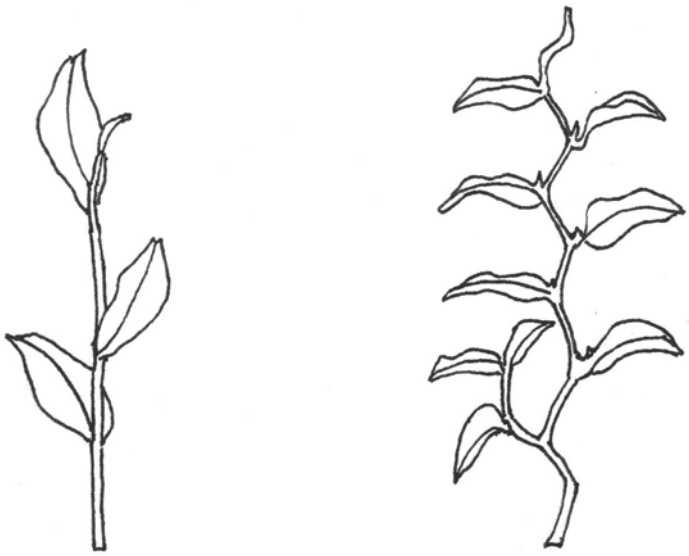
1
erect

3
semi-erect



5
spreading

Ad. 5: Branch: zigzagging



1
absent

9
present

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

1
whitish

2
yellow green

3
light green

4
medium green

5
purple green

Ad. 8: Young shoot: pubescence of bud

1
absent

9
present

Ad. 10: Young shoot: anthocyanin coloration at base of the petiole

1
absent

9
present

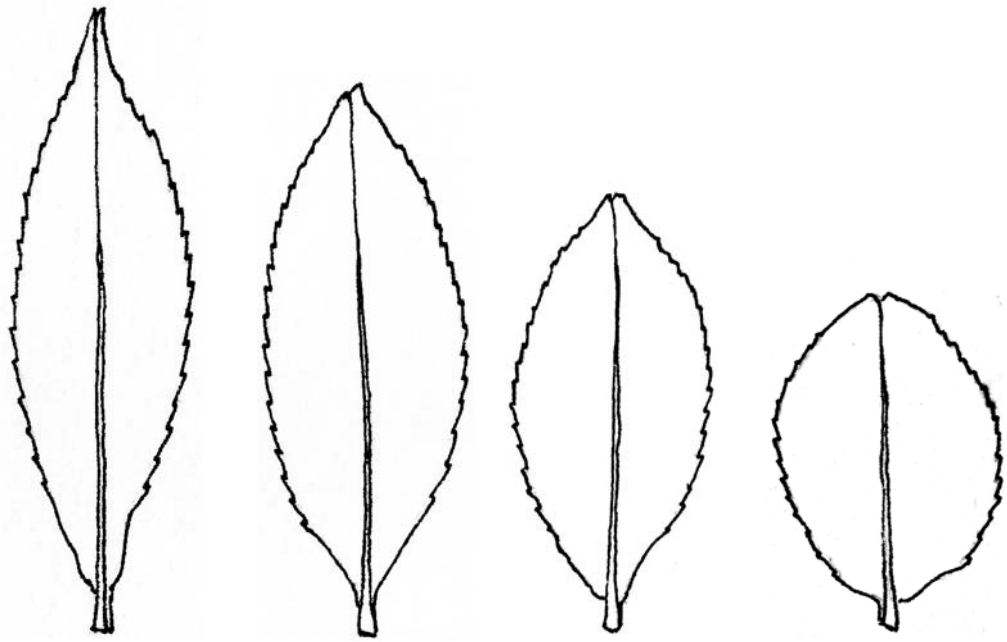
Ad. 12: Leaf blade: attitude

1
upwards

3
outwards

5
downwards

Ad. 15: Leaf blade: shape



1
very narrow elliptic

2
narrow elliptic

3
medium elliptic

4
broad elliptic

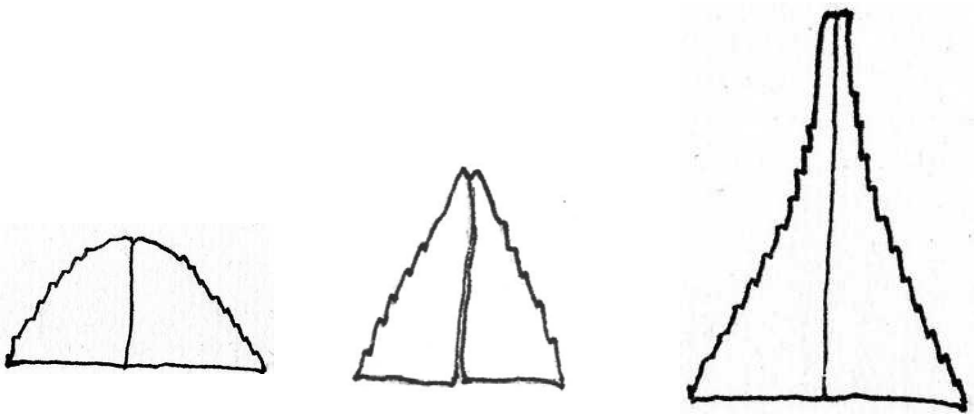
Ad. 16: Leaf blade: intensity of green color

1	2	3	4
very light	light	medium	dark

Ad. 17: Leaf blade: shape in cross section

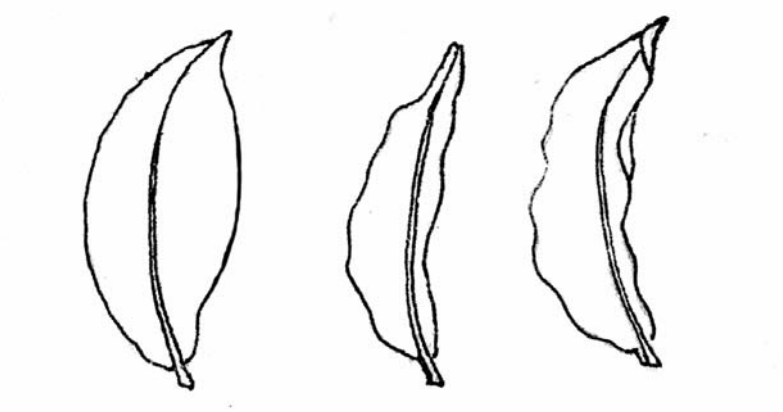
1	2	3
folded upwards	flat	recurved

Ad. 19: Leaf blade: length of tip



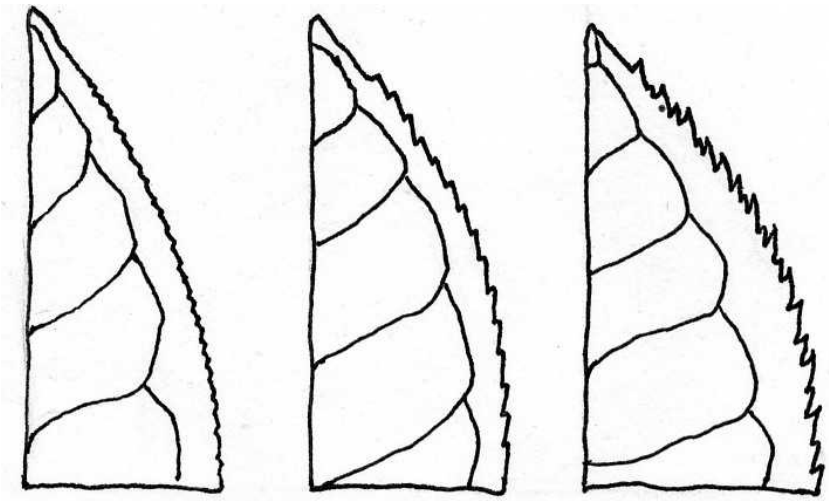
1	2	3
absent or short	medium	long

Ad. 20: Leaf blade: undulation of margin



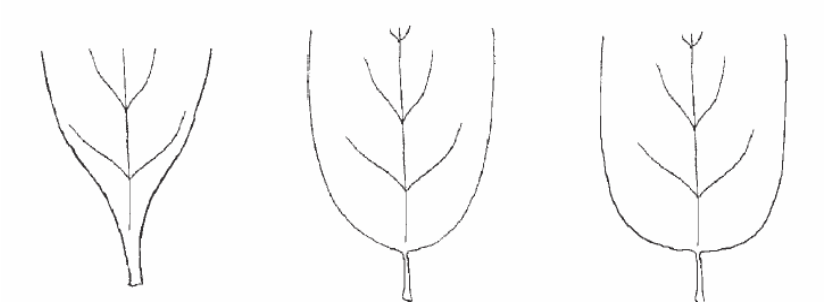
1	2	3
absent or weak	medium	strong

Ad. 21: Leaf blade: serration of margin



3	5	7
weak	medium	strong

Ad. 22: Leaf blade: shape of base

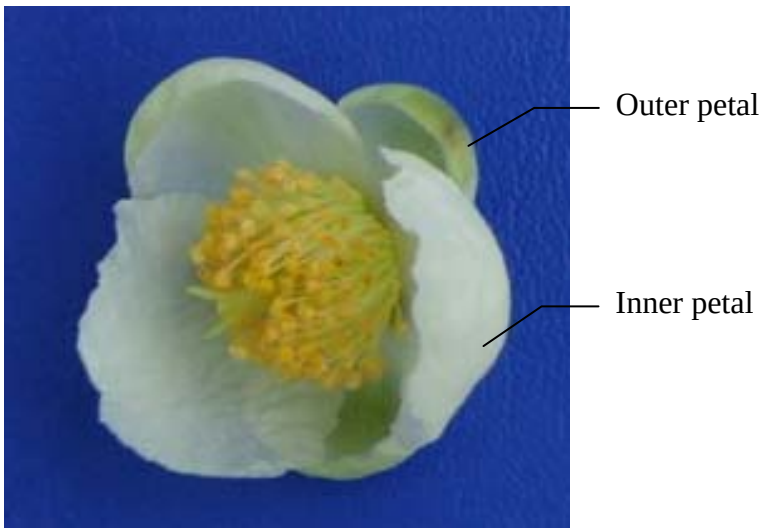


1 acute | 2 obtuse | 3 truncate

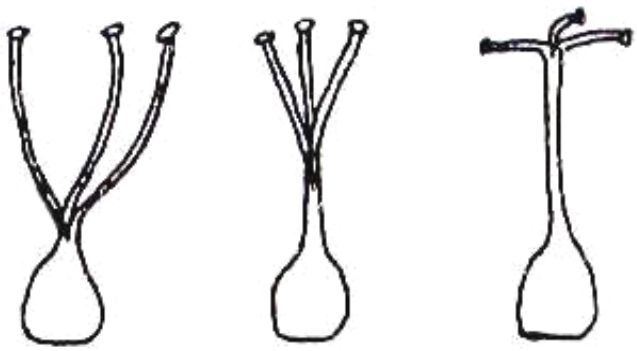
Ad. 23: Flower: time of full flowering

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



3
low

5
medium

7
high

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

1
below

3
same level

5
above

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	<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 Yunanica, 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:

[#]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:

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

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
Example	*Leaf blade: attitude*	*upwards*	*downwards*

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

[#]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:

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]