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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

GINSENG *

UPOV code: PANAX_GIN

Panax ginseng C.A. Meyer

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Panax ginseng C.A. Meyer	Ginseng	Ginseng	Ginseng	Ginseng

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 *Panax ginseng* C.A. Meyer.

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 seed.

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

200 g or 0.4 liters of seed.

2.4 The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

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

2.6 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

3.2.1 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.

3.3.2 Stage of development for the assessment

All observations should be made on 4-year-old plants (see Chapter 8.3).

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

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 60 plants, which should be divided between three replicates.

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 on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test.

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 3% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 60 plants, 4 off-types are 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 seed 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 The following have been agreed as useful grouping characteristics:

(a) Stem: anthocyanin coloration (characteristic 3)
(b) Berry: time of maturity (characteristic 20)
(c) Berry: color (at full maturity) (characteristic 21)

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

6.4.1 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: single measurement of a group of plants or parts of plants – see Chapter 3.3.4
MS: measurement of a number of individual plants or parts of plants - see Chapter 3.3.4
VG: visual assessment by a single observation of a group of plants or parts of plants - see Chapter 3.3.4
VS: visual assessment by observation of individual plants or parts of plants - see Chapter 3.3.4

(a)-(b) 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. (+)	**MS**	**Plant: length of stem**	**Plante: longueur de la tige**	**Pflanze: Länge des Stengels**	**Planta: longitud del tallo**		
QN		short	courte	kurz	corto	Yunpoong	3
		medium	moyenne	mittel	medio	Gumpoong, Mimaki	5
		long	longue	lang	largo	Chunpoong	7
2. (+)	**VS**	**Plant: number of stems**	**Plante: nombre de tiges**	**Pflanze: Anzahl Stengel**	**Planta: número de tallos**		
QN		predominately 1	le plus souvent, 1	vorwiegend 1	predominantemente 1	Chunpoong	1
		predominately 2	le plus souvent, 2	vorwiegend 2	predominantemente 2		2
		predominately 3	le plus souvent, 3	vorwiegend 3	predominantemente 3	Yunpoong	3
3. (*)	**VG**	**Stem: anthocyanin coloration**	**Tige: pigmentation anthocyanique**	**Stengel: Anthocyanfärbung**	**Tallo: pigmentación antociánica**		
QL		absent	absente	fehlend	ausente	Gumpoong	1
		present	présente	vorhanden	presente	Chunpoong, Gopoong	9
4.	**VG**	**Stem: distribution of anthocyanin coloration**	**Tige: répartition de la pigmentation anthocyanique**	**Stengel: Verteilung des Anthocyans**	**Tallo: distribución de la pigmentación antociánica**		
PQ		on lower part only	sur la partie inférieure uniquement	nur am unteren Teil	sólo en la parte inferior	Chunpoong	1
		on lower and upper part	sur les parties inférieure et supérieure	am unteren und am oberen Teil	en las partes inferior y superior		2
		on upper part only	sur la partie supérieure uniquement	nur am oberen Teil	sólo en la parte superior		3
		along the whole stem	sur toute la longueur de la tige	am ganzen Stengel	a lo largo de todo el tallo	Gopoong	4

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5.	**MS**	**Stem: number of leaves**	**Tige: nombre de feuilles**	**Stengel: Anzahl Blätter**	**Tallo: número de hojas**		
QN	**(a)**	few	peu nombreuses	gering	escaso		3
		medium	moyennement nombreuses	mittel	medio	Chunpoong, Mimaki	5
		many	nombreuses	groß	abundante		7
6.	**MS**	**Petiole: length**	**Pétiole: longueur**	**Blattstiel: Länge**	**Pecíolo: longitud**		
(+)							
QN	**(a)**	short	court	kurz	corta		3
		medium	moyen	mittel	media	Mimaki	5
		long	long	lang	larga		7
7.		**Petiole: attitude in relation to peduncle**	**Pétiole: port par rapport au pédoncule**	**Blattstiel: Haltung im Verhältnis zum Blütenstandsstiel**	**Pecíolo: porte en relación con el pedúnculo**		
(+)							
QN	**(a)**	erect	dressé	aufrecht	erecto	Chunpoong	1
		semi erect	demi-dressé	halbaufrecht	semierecto	Yunpoong	3
		spreading	demi-étalé	schräg abstehend	rastrero		5
8.	**VG**	**Leaf: presence of stipules**	**Feuille: présence de stipules**	**Blatt: Vorhanden-sein von Neben-blättern**	**Hoja: presencia de estípulas**		
(+)							
QN	**(a)**	absent or very few	absentes ou très rares	ausente o muy pocas	con los niveles	Chunpoong	1
		medium	moyennes	mittel	media		2
		many	nombreuses	viele	muchas	Yunpoong	3
9.	**VG**	**Leaf: blistering of surface**	**Feuille: cloqûre de la surface**	**Blatt: Blasigkeit der Oberfläche**	**Hoja: abullonado de la superficie**		
QN	**(a)**	weak	faible	gering	débil		3
		medium	moyenne	mittel	medio		5
		strong	forte	stark	fuerte		7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10.	**VG**	**Leaf: intensity of green color**	**Feuille: intensité de la couleur verte**	**Blatt: Intensität der Grünfärbung**	**Hoja: intensidad del color verde**		
QN	**(a)**	light	claire	hell	clara	Chunpoong	3
		medium	moyenne	mittel	media	Mimaki, Yunpoong	5
		dark	foncée	dunkel	oscura	Gumpoong	7
11.	**VG**	**Leaflet: length**	**Foliole: longueur**	**Blattfieder: Länge**	**Folíolo: longitud**		
(+)							
QN	**(b)**	short	courte	kurz	corto	Yunpoong	3
		medium	moyenne	mittel	medio	Chunpoong, Mimaki	5
		long	longue	lang	largo	Gumpoong	7
12.	**VG**	**Leaflet: width**	**Foliole: largeur**	**Blattfieder: Breite**	**Folíolo: anchura**		
(+)							
QN	**(b)**	narrow	étroite	schmal	estrecho	Yunpoong	3
		medium	moyenne	mittel	medio	Chunpoong, Mimaki	5
		broad	large	breit	ancho	Gumpoong	7
13.	**VG**	**Leaflet: shape**	**Foliole: forme**	**Blattfieder: Form**	**Folíolo: forma**		
(+)							
PQ	**(b)**	narrow elliptic	elliptique étroit	schmal elliptisch	elíptica estrecha		1
		broad elliptic	elliptique large	breit elliptisch	elíptica ancha	Chunpoong	2
		spatulate	spatulée	spatelförmig	espatulada		3
14.	**VG**	**Leaflet: shape in cross section**	**Foliole: forme en coupe transversale**	**Blattfieder: Form im Querschnitt**	**Folíolo: forma de la sección transversal**		
(+)							
QN	**(b)**	concave	concave	konkav	cóncava	Chunpoong	1
		plane	plane	gerade	plana	Sunpoong	2
		convex	convexe	konvex	convexa	Yunpoong	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
15.	**VG**	**Leaflet: serration of margin**	**Foliole: dentelure du bord**	**Blattfieder: Randeinschnitte**	**Folíolo: aserrado del borde**		
QN	**(b)**	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		medium	moyenne	mittel	medio	Chunpoong	2
		strong	forte	stark	fuerte		3
16.	**MG**	**Time of flowering**	**Époque de la floraison**	**Zeitpunkt der Blüte**	**Época de floración**		
(*) **(+)**		early	précoce	früh	precoz	Chunpoong	3
QN		medium	intermédiaire	mittel	media	Gumpoong, Mimaki	5
		late	tardive	spät	tardía		7
17. **(*)** **(+)**	**VG**	**Peduncle: length**	**Pédoncule: longueur**	**Blütenstandsstiel: Länge**	**Pedúnculo: longitud**		
QN		short	court	kurz	corto	Yunpoong	3
		medium	moyen	mittel	medio	Gumpoong, Kaishusan, Mimaki	5
		long	long	lang	largo	Sunpoong	7
18. **(*)** **(+)**	**VG**	**Inflorescence: type**	**Inflorescence: type**	**Blütenstand: Typ**	**Inflorescencia: tipo**		
QL		simple	simple	einfach	simple		1
		intermediate	intermédiaire	Zwischentyp	intermedio		2
		compound	étoilée	zusammengesetzt	compuesto		3
19. **(*)** **(+)**	**VS**	**Umbel: attitude of lower florets**	**Ombelle: port des fleurons inférieurs**	**Dolde: Haltung der unteren Blütchen**	**Umbela: porte de los flósculos inferiores**		
QN		semi erect	demi-dressé	halbaufrecht	semierecto	Gopoong	1
		horizontal	horizontal	waagerecht	horizontal	Chunpoong	3
		semi recurved	demi-incurvé	halb zurückgebogen	semicurvado hacia abajo	Yunpoong	5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
20. (*) (+)	**MG**	**Berry: time of maturity**	**Baie: époque de maturité**	**Beere: Reifezeit**	**Baya: época de madurez**		
QN		early	précoce	früh	precoz		3
		medium	intermédiaire	mittel	media	Yunpoong	5
		late	tardive	spät	tardía	Chunpoong	7
21. (*)	**VG**	**Berry: color (at full maturity)**	**Baie: couleur (à maturité complète)**	**Beere: Farbe (bei Vollreife)**	**Baya: color (en plena madurez)**		
PQ		yellow	jaune	gelb	amarillo	Gumpoong	1
		orange	orange	orange	naranja	Chunpoong,	2
		red	rouge	rot	rojo	Kaishusan, Mimaki, Yunpoong	3
22. (+)	**VG**	**Berry: shape (as for 21)**	**Baie: forme (mêmes conditions que pour le caractère 21)**	**Beere: Form (wie für 21)**	**Baya: forma (como en el 21)**		
QL		round	arrondie	rund	redonda		1
		eight-shaped	en forme de huit	in Form einer Acht	en forma de ocho	Yunpoong	2
23.	**VG**	**Leaf: color at senescence**	**Feuille: couleur à la sénescence**	**Blatt: Farbe bei Alterung**	**Hoja: color en la senescencia**		
PQ		yellow	jaune	gelb	amarillo	Gumpoong	1
		orange	orange	orange	naranja	Chunpoong	2
		red	rouge	rot	rojo	Yunpoong	3
24. (*) (+)	**MS**	**Main root: width**	**Racine principale: grosseur**	**Hauptwurzel: Dicke**	**Raíz principal: grosor**		
QN	**(c)**	thin	fine	dünn	fino		3
		medium	moyenne	mittel	media	Chunpoong, Mimaki,	5
		thick	grosse	dick	grueso	Kaishusan, Yunpoong	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
25. (*) (+)	**MS**	**Main root: length**	**Racine principale: longueur**	**Hauptwurzel: Länge**	**Raíz principal: longitud**		
QN	**(c)**	short	courte	kurz	corta	Yunpoong	3
		medium	moyenne	mittel	media	Gopoong, Kaishusan, Mimaki	5
		long	longue	lang	larga	Chunpoong	7
26.	**VG**	**Main root: skin color**	**Racine principale: couleur de la peau**	**Hauptwurzel: Farbe der Schale**	**Raíz principal: color de la epidermis**		
PQ	**(c)**	white	blanche	weiß	blanco	Chunpoong, Kaishusan, Mimaki	1
		cream	crème	cremefarben	crema	Yunpoong	2
		yellow	jaune	gelb	amarillo		3
27. (+)	**VG**	**Rhizome: presence of stolons**	**Rhizome: présence des stolons**	**Rhizom: Vorhandensein von Ausläufer**	**Rizoma: presencia de los estolones**		
QL		absent	absent	fehlend	ausente		1
		present	présent	vorhanden	presente	Mimaki, Kaishusan	9

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:

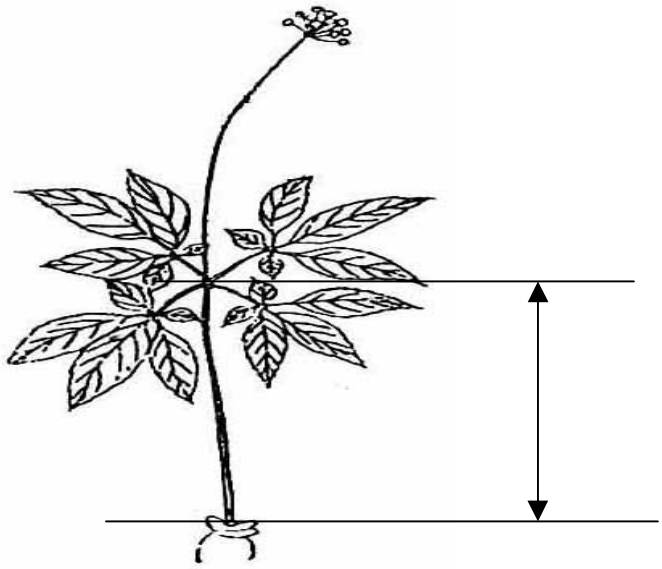
(a) Leaf: All observations on the leaf should be made on fully developed leaf.

(b) Leaflet: All observations on the leaflet should be made on the central leaflet

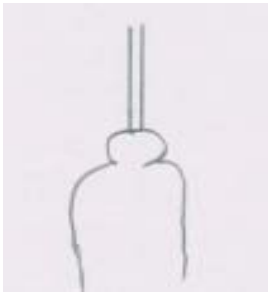
(c) Main root: All observations on the main root should be made after harvest.

8.2 Explanations for individual characteristics

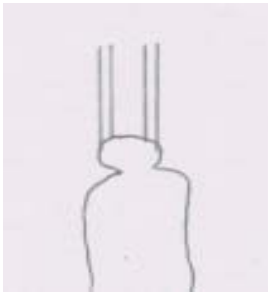
Ad. 1: Plant: length of stem



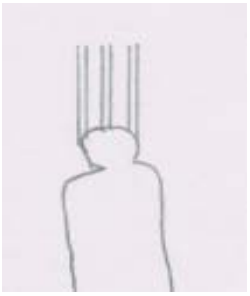
Ad. 2: Plant: number of stems



1
predominately 1

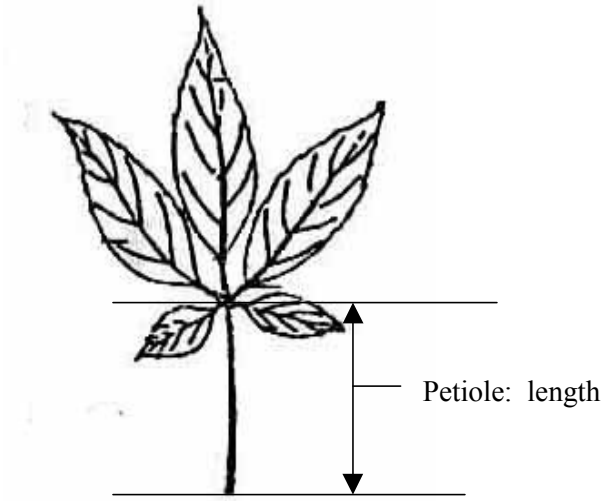


2
predominately 2

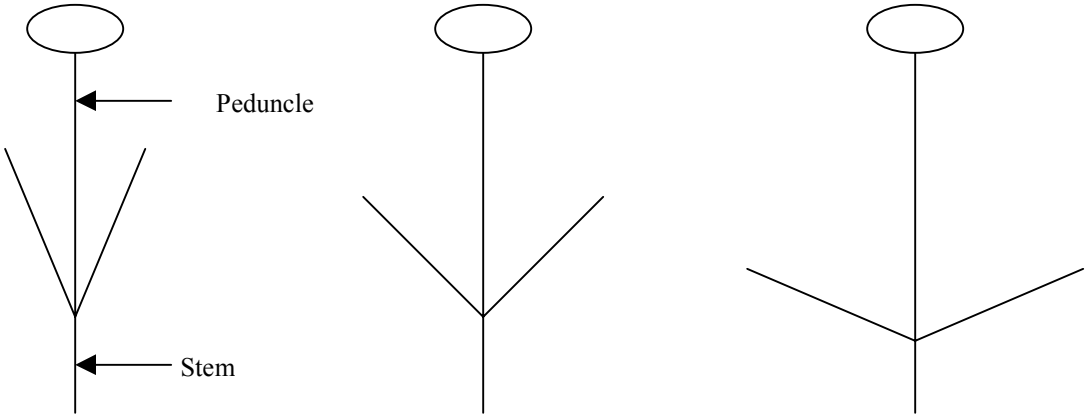


3
predominately 3

Ad. 6: Petiole: length

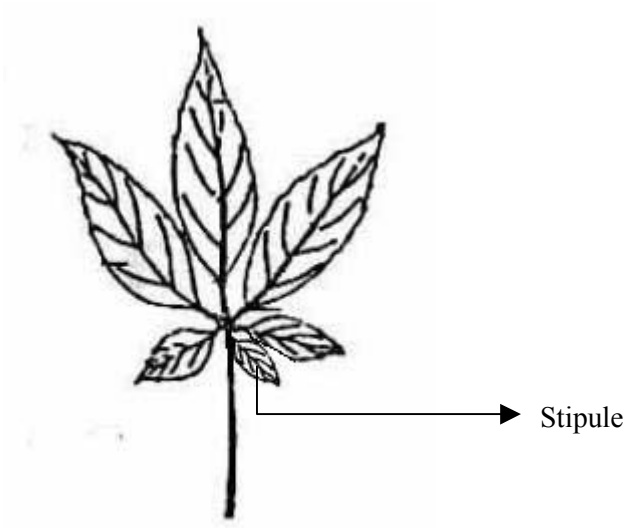


Ad. 7: Petiole: attitude in relation to peduncle

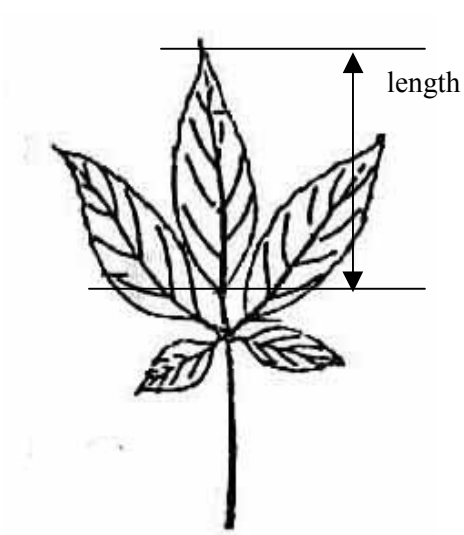


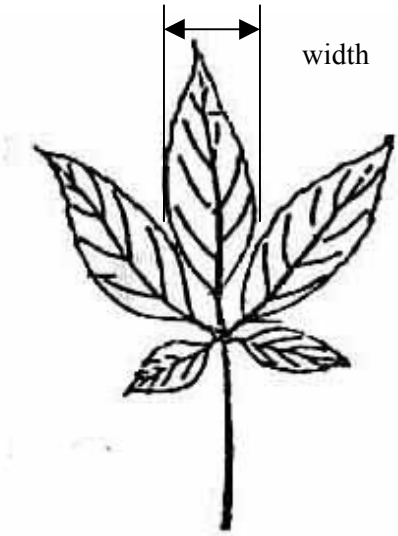
1	3	5
erect	semi erect	spreading

Ad. 8: Leaf: presence of stipules



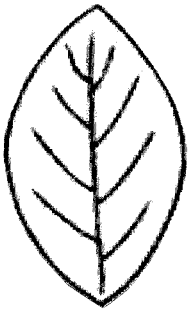
Ads. 11 and 12: Leaflet: length (11) and width (12)



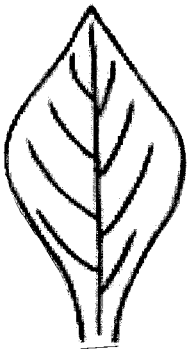


Ad. 13: Leaflet: shape

1
narrow elliptic

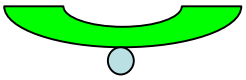


2
broad elliptic



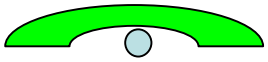
3
spatulate

Ad. 14: Leaflet: shape in cross section



1
concave

2
plane

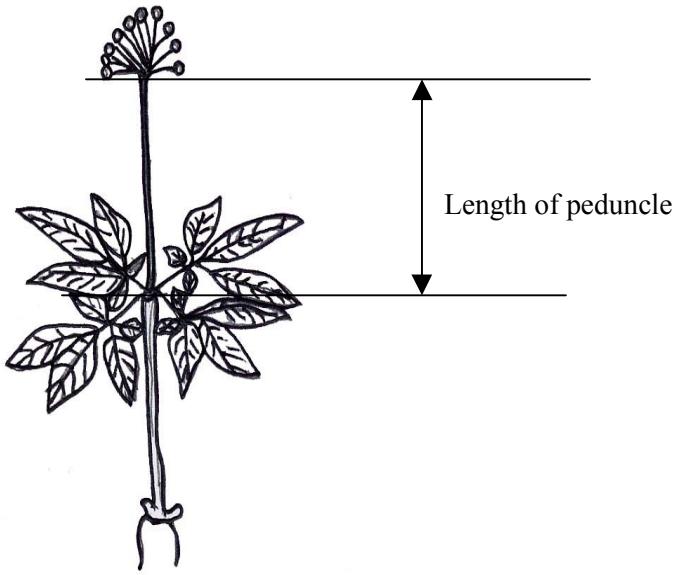


3
convex

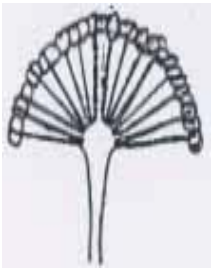
Ad. 16: Time of flowering

The time at which 50% of the plants flower.

Ad. 17: Peduncle: length

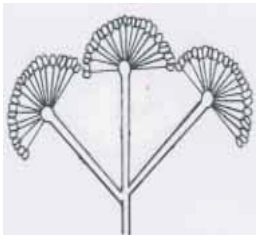


Ad. 18: Inflorescence: type



1
simple

2
intermediate

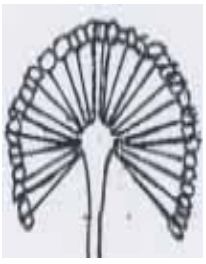


3
compound

Ad. 19: Umbel: attitude of lower florets

1
semi erect

3
horizontal



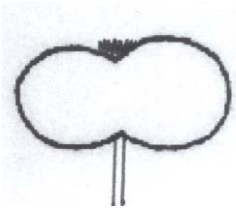
5
semi recurved

Ad. 20: Berry: time of maturity

Time at which 50% of plants have berries with mature color.

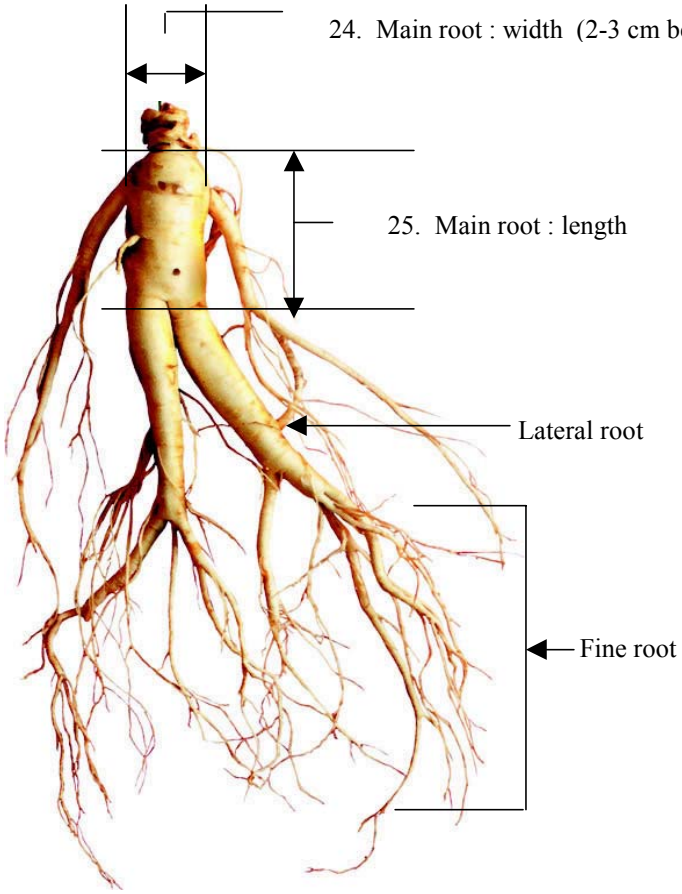
Ad. 22: Berry: shape (at full maturity)

1
round

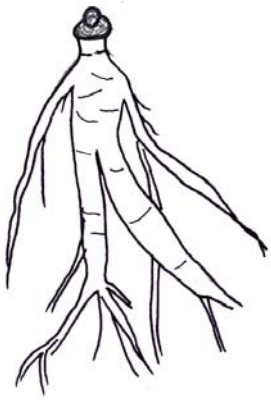


2
eight-shaped

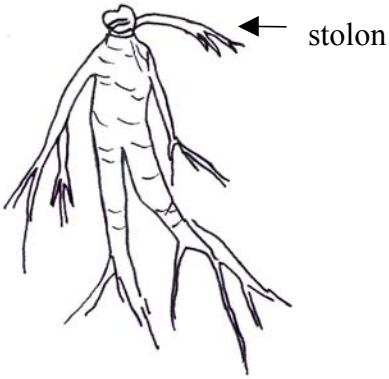
Ads. 24, 25: Main root: width (24) and length (25)



Ad. 27: Rhizome: presence of stolons



1
absent



9
present

8.3 Life cycle of Ginseng

Growing Year	General Description
1	One leaf with three leaflets
2	Two leaves, each leaf has 5 leaflets
3	Three leaves, each leaf has 5 leaflets Flower and rhizome differentiation (around 10 poor florets formed in each umbel)
4	Four leaves, each leaf has 5 leaflets Flower and rhizome differentiation (around 40 florets formed in each umbel)
5	Five leaves, each leaf has 5 leaflets Flower and rhizome differentiation (around 40 florets formed in each umbel)
6	Six leaves, each leaf has 5 leaflets Flower and rhizome differentiation (around 40 florets formed in each umbel)

9. Literature

Chun, S. K., Mook, S. K., Lee, S. S., Shin, D. Y., 1991: "The effect of light quantity and quality on the ginseng growth and quality" 5(1) p. 21

Han C.Y. 1977: "Study on the Ginseng Breeding for High Quality Variety," Report on the Contract Study of Ginseng, KT & G. 1-36

Korea Ginseng Corp.: "A Humanoid for a Human Being," p. 25, Korea Ginseng Corp.

Kyunggi Provincial RDA, 2002: "Cultural Techniques for High Quality Ginseng," Kyunggi Provincial RDA

Lee, J. H., Lee, J. C., Chun, S. K., Kim, Y. T., Ahn, S. B., 1982: "The effect of light intensity on the growth of ginseng" Korean Journal of Ginseng Science. 6(1) p. 18.

National Seed Management Office: "Test guideline of Ginseng for DUS Test," National Seed Management Office, Ministry of Agriculture and Forestry (MAF), Republic of Korea

Seeds and Seedlings Division: "Standard Description of Characteristics for the Identification of New Varieties of Ginseng and its Related Species," Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan

W. Scott Persons: "American Ginseng Green Gold," Bright Mountain Books, Inc.

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

1.1 Botanical name	*Panax ginseng* C.A. Meyer
1.2 Common name	Ginseng

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)	

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

Breeder's reference		

[#]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) Seed propagation [ ]

(b) Other [ ]
(please provide details)

[#] 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 (3)	**Stem: anthocyanin coloration**		
	absent	Gumpoong	1 [ ]
	present	Chunpoong, Gopoong	9 [ ]
5.2 (18)	**Inflorescence: type**		
	simple		1 [ ]
	intermediate		2 [ ]
	compound		3 [ ]
5.3 (20)	**Berry: time of maturity**		
	early		3 [ ]
	medium	Yunpoong	5 [ ]
	late	Chunpoong	7 [ ]
5.4 (21)	**Berry: color (at full maturity)**		
	yellow	Gumpoong	1[ ]
	orange	Chunpoong	2 [ ]
	red	Kaishusan, Mimaki, Yunpoong	3 [ ]

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

	Characteristics	Example Varieties	Note
5.5 (24)	**Main root : width**		
	thin		3 [ ]
	medium	Chunpoong, Mimaki,	5 [ ]
	thick	Kaishusan, Yunpoong	7 [ ]
5.6 (25)	**Main root: length**		
	short	Yunpoong	3 [ ]
	medium	Gopoong, Kaishusan, Mimaki	5 [ ]
	long	Chunpoong	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	*Berry: color (at full maturity)*	*yellow*	*red*

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 of 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]