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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

TARO

UPOV Code: COLOC_ESC,
COLOC_GIG

Colocasia esculenta (L.) Schott,
Colocasia gigantea (Blume) Hook. f.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Japan

*to be considered by the Enlarged Editorial Committee at its meeting
to be held in Geneva, Switzerland, on January 8, 2009*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Colocasia esculenta</i> (L.) Schott	Cocoyam, Dasheen, Eddo, Elephant's-ear, Kalo, Madumbe, Taro	Colocasie, Taro		Alcofaz, Colocasia, Malanga, Tayoba
<i>Colocasia gigantea</i> (Blume) Hook. f.				

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 *Colocasia esculenta* (L.) Schott and *Colocasia gigantea* (Blume) Hook. f..

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 cormel, within the weight range 35 to 40g.

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

20 cormels.

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 two independent growing cycles.

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.

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:

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 20 plants, which should be divided between 2 or more 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 should be made on 20 plants or parts taken from each of 20 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 20 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 The following have been agreed as useful grouping characteristics:

- (a) Plant: growth habit (characteristic 2)
- (b) Corm: adherence of primary cormels to corm (characteristic 20)
- (c) Only varieties with primary cormels detachable from corm: Corm: arrangement of primary cormels (characteristic 21)
- (d) Corm: shape (characteristic 22)
- (e) Primary cormel: shape (characteristic 25)

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)-(d) 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	Sprout: anthocyanin coloration	Bourgeon : pigmentation anthocyanique	Keim: Anthocyan- färbung	Brote: pigmentación antociánica		
QL	absent	absente	fehlend	ausente	Egu-imp	1
	present	présente	vorhanden	presente	Serebesu	9
2. VG (* (+)	Plant: growth habit	Plante : port	Pflanze: Wuchsform	Planta: porte		
QN (a)	upright	dressé	aufrecht	erecta	Eguimo	1
	semi-upright	demi-dressé	halbaufrecht	semierecta	Ishikawa-wase	3
	spreading	étalé	breitwüchsig	desplegada	Touno-imo	5
3. VG	Plant: height	Plante : hauteur	Pflanze: Höhe	Planta: altura		
QN (a)	short	courte	niedrig	baja	Yamato	1
	medium	moyenne	mittel	media	Ishikawa-wase	2
	tall	haute	hoch	alta	Touno-imo	3
4. VG/ MS	Plant: number of leaves from corm	Plante : nombre de feuilles du corme	Pflanze: Anzahl Blätter aus der Knolle	Planta: número de hojas que salen del cormo		
QN (a)	few	peu nombreuses	gering	pocas	Dotare	3
	medium	moyennement nombreuses	mittel	medio	Ishikawa-wase	5
	many	nombreuses	groß	muchas		7
5. VG (* (+)	Leaf blade: absolute attitude	Limbe : port absolu	Blattspreite: absolute Haltung	Limbo: porte total		
QN (a)	horizontal	horizontal	waagerecht	horizontal	Wase-hasuba-imo	1
	oblique	oblique	schräg abstehend	oblicuo	Ishikawa-wase	2
	vertical	vertical	senkrecht	vertical	Takenoko-imo	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	VG/ MS	Leaf blade: length	Limbe : longueur	Blattspreite: Länge	Limbo: longitud		
(+)							
QN	(a)	short	court	kurz	corto	Wase-hasuba-imo	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		long	long	lang	largo	Egu-imo	7
7.	VG/ MS	Leaf blade: width	Limbe : largeur	Blattspreite: Breite	Limbo: anchura		
(+)							
QN	(a)	narrow	étroit	schmal	estrecho	Takenoko-imo	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		wide	large	breit	ancho	Egu-imo	7
8.	VG (* (+)	Leaf blade: ratio length/width	Limbe : rapport longueur/largeur	Blattspreite: Verhältnis Länge/Breite	Limbo: relación longitud/anchura		
QN	(a)	small	petit	klein	pequeña	Dotara	3
		medium	moyen	mittel	media	Yamato	5
		large	grand	groß	grande	Serebesu	7
9.	VG/ MS	Leaf blade: depth of sinus	Limbe : profondeur du sinus	Blattspreite: Tiefe der Ausbuchtung	Limbo: profundidad del seno		
(+)							
QN	(a)	shallow	peu profond	flach	poco profundo	Egu-imo	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		deep	profond	tief	profundo	Wase-hasuba-imo	7
10.	VG	Leaf blade: shape of apex	Limbe : forme du sommet	Blattspreite: Form der Spitze	Limbo: forma del ápice		
(+)							
PQ	(a)	acute	aigu	spitz	agudo	Takenoko-imo	1
		obtuse	obtus	stumpf	obtus	Ishikawa-wase	2
		rounded	arrondi	abgerundet	redondeado	Wase-hasuba-imo	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
11.	VG	Leaf blade: intensity of green color	Limbe : intensité de la couleur verte	Blattspreite: Intensität der Grünfärbung	Limbo: intensidad del color verde		
QN	(a)	light	claire	hell	claro	Ishikawa-wase	3
		medium	moyenne	mittel	medio	Dotare	5
		dark	foncée	dunkel	oscuro	Serebesu	7
12.	VG/ MS (+)	Petiole: length	Pétiole : longueur	Blattstiel: Länge	Pecíolo: longitud		
QN	(a)	short	court	kurz	corto	Wase-hasuba-imo	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		long	long	lang	largo	Daikichi	7
13.	VG/ MS (+)	Petiole: thickness at height of sheath top	Pétiole : épaisseur à hauteur du sommet de la gaine	Blattstiel: Dicke auf der Höhe der Spitze der Scheide	Pecíolo: grosor a la altura de la parte superior de la vaina		
QN	(a)	thin	mince	dünn	delgado		3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		thick	épais	dick	grueso	Touno-imo	7
14.	VG (+)	Petiole: anthocyanin coloration	Pétiole : pigmentation anthocyanique	Blattstiel: Anthocyan- färbung	Pecíolo: pigmentación antociánica		
QL		absent	absente	fehlend	ausente		1
		on upper part only	sur la partie supérieure seulement	nur am oberen Teil	sólo en la parte superior	Egui-imo	2
		on lower part only	sur la partie inférieure seulement	nur am unteren Teil	sólo en la parte inferior	Hasu-imo	3
		on whole petiole	sur le pétiole tout entier	am ganzen Blattstiel	en todo el pecíolo	Wase-hasuba-imo	4

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
15.	VG/ MS	Petiole: length of sheath	Pétiole : longueur de la gaine	Blattstiel: Länge der Scheide	Pecíolo: longitud de la vaina	
(+)						
QN	(a)	short	courte	kurz	corta	Onna-wase 3
		medium	moyenne	mittel	media	Egu-imo 5
		long	longue	lang	larga	Takenoko-imo 7
16.	VG	Petiole: anthocyanin coloration of <u>upper</u> side	Pétiole : pigmentation anthocyanique de la face <u>supérieure</u>	Blattstiel: Anthocyan-färbung der <u>Oberseite</u>	Pecíolo: pigmentación antociánica de la parte <u>superior</u>	
(+)						
QN	(a)	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Hasu-imo 1
		weak	faible	gering	débil	Egu-imo 3
		medium	moyenne	mittel	media	Touno-im 5
		strong	forte	stark	fuerte	Serebesu 7
17.	VG	Petiole: anthocyanin coloration of <u>lower</u> side	Pétiole : pigmentation anthocyanique de la face <u>inférieure</u>	Blattstiel: Anthocyan-färbung der <u>Unterseite</u>	Pecíolo: pigmentación antociánica de la parte <u>inferior</u>	
(+)						
QN	(a)	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Egu-imo 1
		weak	faible	gering	débil	Ishikawa-wase 3
		medium	moyenne	mittel	media	Yamato 5
		strong	forte	stark	fuerte	7
18.	VG	Petiole: anthocyanin coloration of sheath	Pétiole : pigmentation anthocyanique de la gaine	Blattstiel: Anthocyan-färbung der Scheide	Pecíolo: pigmentación antociánica de la vaina	
QL	(a)	absent	absente	fehlend	ausente	Touno-imo 1
		present	présente	vorhanden	presente	Ishikawa-wase 9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. VG	Corm: size	Corme : taille	Knolle: Größe	Cormo: tamaño		
QN	(c) small	petit	klein	pequeño	Ishikawa-wase	3
	medium	moyen	mittel	medio	Egu-imo	5
	large	grand	groß	grande	Serebesu	7
20.	Corm: adherence of primary cormels to corm	Corme : adhérence des cormels primaires au corne	Knolle: Anhaften der primären Brutknollen an der Knolle	Cormo: adherencia de los cormelos primarios al cormo		
QL	detachable from corm	détachables du corne	von der Knolle abtrennbar	desprendibles del cormo		1
	non-detachable from corm	non détachables du corne	von der Knolle nicht abtrennbar	no desprendibles del cormo		2
21.	<u>Only varieties with primary cormels detachable from corm:</u> Corm: arrangement of primary cormels	<u>Seulement pour les variétés avec des cormels primaires détachables du corne :</u> Corne : disposition des cormels primaires	<u>Nur Sorten mit Brutknollen, die von der Knolle abtrennbar sind:</u> Knolle: Anordnung der primären Brutknollen	<u>Sólo variedades con cormelos primarios desprendibles del cormo:</u> Cormo: disposición de los cormelos primarios		
PQ	sparsely budding	faiblement bouturé	locker keimend	brotos escasos		1
	densely budding	fortement bouturé	dicht keimend	brotos apiñados		2
	clustered	groupé	in Büscheln	arracimados		3
22. VG	Corm: shape	Corme : forme	Knolle: Form	Cormo: forma		
(*) (+)						
PQ	(c) oblate	oblong	breitrund	achatado		1
	globose	globuleux	kugelförmig	globoso	Serebesu	2
	spindle	fusiforme	spindelförmig	fusiforme	Takenoko-imo	3
	cylindrical	cylindrique	zylindrisch	cilíndrico	Okinawa-aokuki	4

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23.	VG/ MS	Corm: number of primary cormels	Corme : nombre de cormels primaires	Knolle: Anzahl primäre Brutknollen	Cormo: número de cormelos primarios		
QN	(c)	few	rare	gering	pocos	Fukugasira	3
		medium	peu nombreux	mittel	medio	Ishikawa-wase	5
		many	nombreux	groß	muchos	Dotare	7
24.	VG	Primary cormel: size	Cormel primaire : taille	Primäre Brutknolle: Größe	Cormelo primario: tamaño		
QN	(c)	small	petit	klein	pequeño	Touno-imo	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		large	grand	groß	grande	Serebesu	7
25.	VG (* (+)	Primary cormel: shape	Cormel primaire : forme	Primäre Brutknolle: Form	Cormelo primario: forma		
QL	(c)	globose	globuleux	kugelförmig	globoso	Ishikawa-wase	1
		obovate	obovale	verkehrt eiförmig	oboval	Okinawa-aokuk	2
		shrimp shape	en forme de crevette	garnelenförmig	forma de camarón	Touno-imo	3
26.	VG	Primary cormel: number of secondary cormels	Cormel primaire : nombre de cormels secondaires	Primäre Brutknolle: Anzahl sekundäre Brutknollen	Cormelo primario: número de cormelos secundarios		
QN	(c)	few	rare	gering	pocos	Yamato	3
		medium	peu nombreux	mittel	medio	Ishikawa-wase	5
		many	nombreux	groß	muchos	Egu-imo	7
27.	VG	Secondary cormel: size	Cormel secondaire : taille	Sekundäre Brutknolle: Größe	Cormelo secundario: tamaño		
QN	(c)	small	petit	klein	pequeño	Daikichi	3
		medium	moyen	mittel	medio	Ishikawa-wase	5
		large	grand	groß	grande	Onna-wase	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
28.	VG	Primary cormel: density of fibers on surface	Cormel primaire : densité des fibres à la surface	Primäre Brutknolle: Dichte der Fasern an der Oberfläche	Cormelo primario: densidad de fibras en la superficie	
QN	(c)	sparse	faible	locker	débil	1
		medium	moyenne	mittel	media	2
		dense	dense	dicht	densa	3
29.	MG	Time of harvest	Époque de la récolte	Zeitpunkt der Ernte	Época de la cosecha	
(+)						
QN		early	précoce	früh	temprana	3
		medium	moyenne	mittel	media	5
		late	tardive	spät	tardía	7

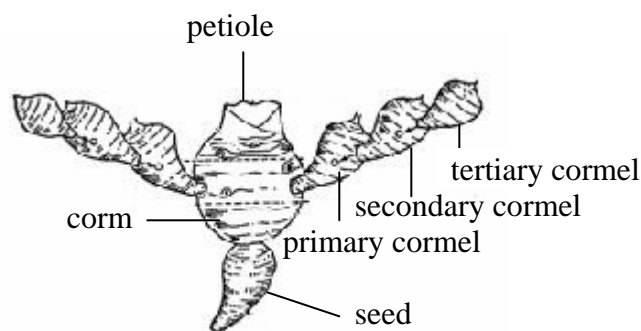
8. Explanations on the Table of Characteristics

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:

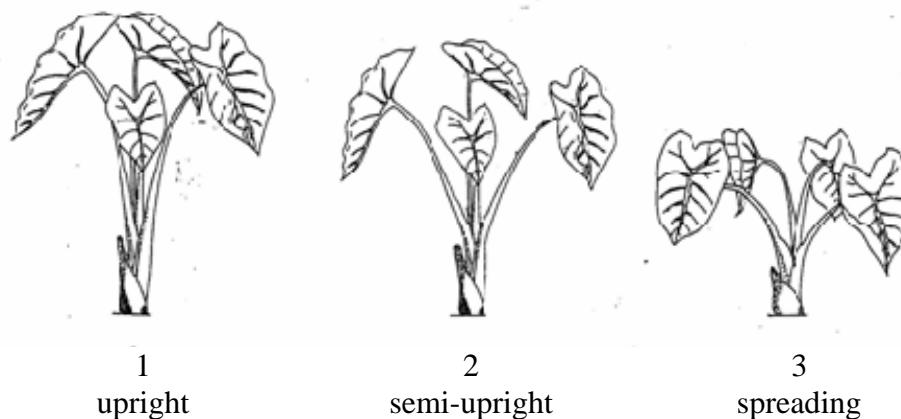
- (a) Plant, stem, leaf blade, petiole: all observations should be made when the plant is fully developed in late summer.
- (b) Bud: should be observed at sprouting.
- (c) Corm: should be observed when the corm is fully developed in late autumn.
- (d) Inflorescence: should be observed at flowering.

Corm, primary cormel, second cormel

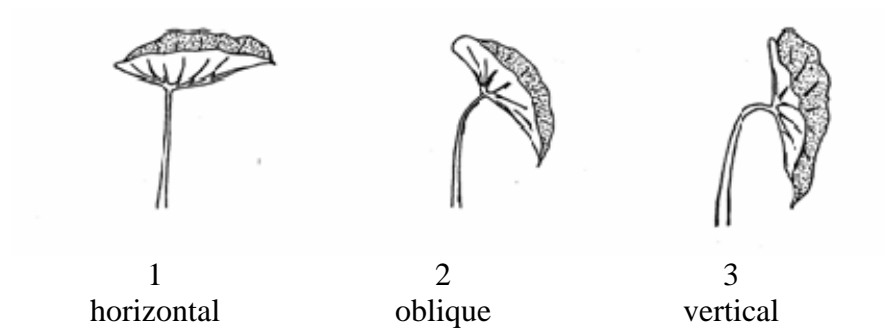


8.2 *Explanations for individual characteristics*

Ad. 2: Plant: growth habit



Ad. 5: Leaf blade: absolute attitude

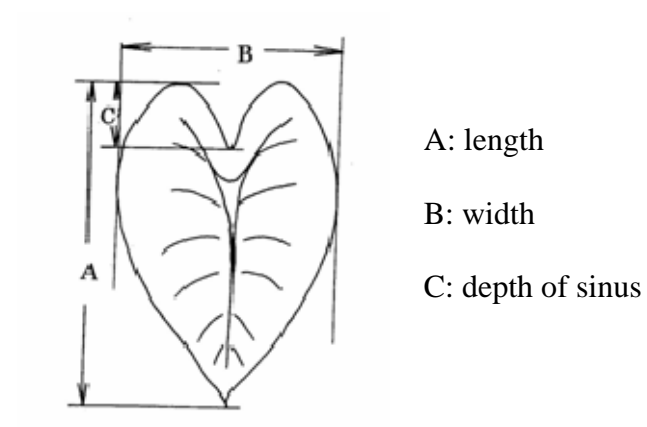


Ad. 6: Leaf blade: length

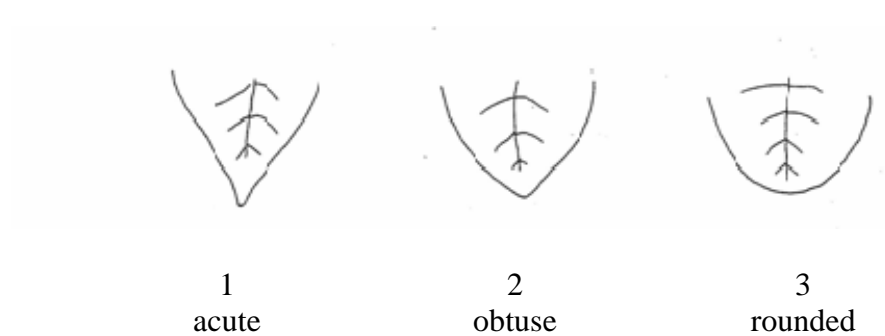
Ad. 7: Leaf blade: width

Ad. 8: Leaf blade: ratio length/width

Ad. 9: Leaf blade: depth of sinus



Ad. 10: Leaf blade: shape of apex



Ad. 12: Petiole: length

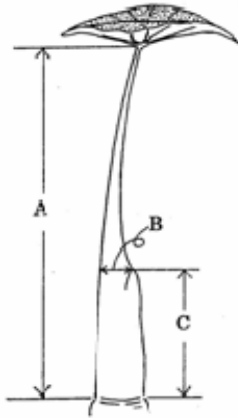
Ad. 13: Petiole: thickness at height of sheath top

Ad. 14: Petiole: anthocyanin coloration

Ad. 15: Petiole: length of sheath

Ad. 16: Petiole: anthocyanin coloration of upper side

Ad. 17: Petiole: anthocyanin coloration of lower side



A: length

B: thickness

C: length of sheath

Ad. 21: Only varieties with primary cormels detachable from corm: Corm: arrangement of primary cormels



1

sparsely budding



2

densely budding



3

clustered

Ad. 22: Corm: shape



1

oblate



2

globose



3

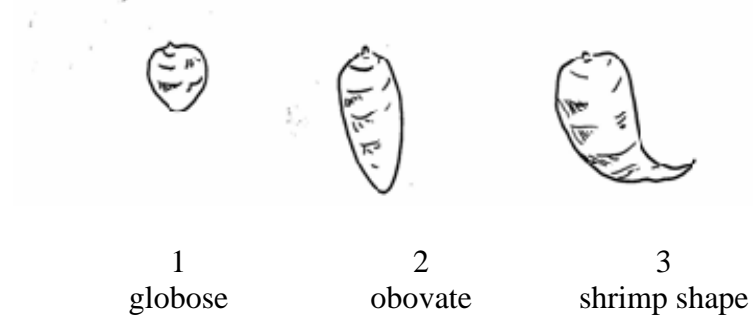
spindle



4

cylindrical

Ad. 25: Primary cormel: shape



Ad. 29: Time of harvest

The time of harvest is observed as the time when the corm and cormels are fully developed.

9. Literature

Hotta, M., 1991: Colocasia L., The Grand Dictionary of Horticulture, Vol. 2. 360, Shougakkan, JP.

Larkom, J., 1991: Taro, Oriental Vegetables 122-123, Jon Murry, UK.

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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		
1.1.1 Botanical name	<input type="text" value="Colocasia esculenta (L.) Schott"/>	[]
1.1.2 Common name	<input type="text" value="Taro"/>	
1.2.1 Botanical name	<input type="text" value="Colocasia gigantea (Blume) Hook. f."/>	[]
1.2.2 Common name	<input type="text"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

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

4.2.1 Vegetative propagation

- (a) separation []
- (b) *in vitro* propagation []
- (c) other (state method) []

4.2.2 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:	
<p>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).</p>			
Characteristics	Example Varieties	Note	
<p>5.1 Plant: growth habit (2)</p>			
upright	Egu-imp	1[]	
semi- upright	Ishikawa-wase	3[]	
spreading	Touno-imo	5[]	
<p>5.2 Corm: adherence of primary cormels to corm (20)</p>			
detachable from corm		1[]	
non-detachable from corm		2[]	
<p>5.3 <u>Only varieties with primary cormels detachable from corm:</u> Corm: arrangement of primary cormels (21)</p>			
sparsely budding		1[]	
densely budding		2[]	
clustered		3[]	
<p>5.4 Corm: shape (22)</p>			
oblate		1[]	
globose	Serebesu	2[]	
spindle	Takenoko-imo	3[]	
cylindrical	Okinawa-aokuki	4[]	
<p>5.5 Primary cormel: shape (25)</p>			
globose	Ishikawa-wase	1[]	
obovate	Okinawa-aokuk	2[]	
shrimp shape	Touno-imo	3[]	

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>Cornel: shape</i>	<i>obovate</i>	<i>shrimp shape</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]