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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

SWEET POTATO

UPOV Code: IPOMO_BAT

Ipomoea batatas (L.) Lam.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the Republic of Korea

to be considered by the
Technical Working Party for Vegetables
at its forty-third session, to be held in Beijing, from April 20 to 24, 2009

Technical Working Party for Agricultural Crops
at its thirty-eighth session, to be held in Seoul, from August 31 to September 4, 2009

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Ipomoea batatas (L.) Lam.	Sweet potato	Patate douce	Batate, Süßkartoffel	Camote, Batata

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.]

TABLE OF CONTENTS PAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Ipomoea batatas* (L.) Lam. However, additional characteristics may be needed in order to examine ornamental varieties.

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 storage root of medium size of the variety or in the form of cutting.

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

50 storage roots or 150 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.

3.3.2 Type of observation

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 50 plants, which should be divided between at least two 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 30 plants or parts taken from each of 30 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 50 plants, 2 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 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 1)
(b) Stem: anthocyanin coloration of tip (characteristic 6)
(c) Stem: pubescence of tip (characteristic 8)
(d) Petiole: anthocyanin coloration (characteristics 17)
(e) Storage root: lateral outline (characteristics 22)
(f) Storage root: main color of skin (characteristic 25)
(g) Storage root: main color of flesh (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)-(e) 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: growth habit**					
QN	**(a)**	upright				Sinchunmi	1
		semi-upright				Younmi	3
		spreading				Yulmi	5
2.	**MS/ VG**	**Stem: length of primary shoots**					
QN	**(a)**	short				Sinchunmi	3
	(b)	medium				Koganesengan, Younmi,	5
		long				Zami	7
3.	**MS/ VG**	**Stem: length of internode**					
QN	**(a)**	short				Younmi	3
	(c)	medium				Koganesengan, Yulmi,	5
		long				Shinhwangmi	7
4.	**MS/ VG**	**Stem: diameter of internode**					
QN	**(a)**	very small				Zami	1
	(c)	small				Sinchunmi	3
		medium				Koganesengan, Yulmi	5
		large				Shinyulmi	7
		very large				Chinmi	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5.	**VG**	**Stem: anthocyanin coloration of internode**					
QN	**(a)**	absent or weak				Yulmi	1
	(b)	medium				Singeonmi	2
		strong				Hayanmi	3
		JP: to have the states absent or very weak (1), weak (2), strong (3)					
6. (*)	**VG**	**Stem: anthocyanin coloration of tip**					
QN	**(a)**	absent or weak				Yulmi	1
	(b)	medium				Sinjami	2
		strong				Hayanmi	3
		JP: to have the states absent or very weak (1), weak (2), strong (3)					
7.	**VG**	**Stem: anthocyanin coloration of node**					
QN	**(a)**	absent or weak				Yulmi	1
	(b)	medium				Norin 2 (JP)	2
		strong				Hayanmi, Koganesengan (JP)	3
8. (*)	**VS**	**Stem: pubescence of tip**					
QN	**(a)**	sparse				Yulmi	1
	(b)	medium				Koganesengan	2
		dense				Zami	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9.		**Leaf blade: lobes**					
(+)							
	(a)	absent				Gokokuimo	1
		three lobes				Benisengan, J-red	2
		five lobes				Koganesengan, Sinchunmi	3
		seven lobes				Benihayato	4
		JP: to have the states absent or very few (1), few(2), medium (3), many (4)					
10. **(*)** **(+)**	**VG**	**Only varieties with leaf lobes absent (or absent or very few): Leaf blade: shape**					
PQ	**(a)**	round					1
	(d)	reniform				Kohkei 14, Kyushu 70	2
		cordate				Gokokuimo, Yulmi	3
		triangular				Beniotome	4
11. **(+)**	**VG**	**Only varieties with leaf lobes present: Leaf blade: depth of lobing**					
QN	**(a)**	very shallow					1
	(d)	shallow				Benihayato, Sinchunmi	3
		moderate				Koganesengan	5
		deep				Tsukumoaka	7
		very deep					9
		JP: to have the states shallow(1), moderate(2), deep(3)					

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12.	**VG**	**Leaf blade: anthocyanin coloration of upper side**					
QN	**(a)**	absent or weak				Yulmi	1
	(d)	medium				Hayanmi	2
		strong					3
13.	**VG**	**Leaf blade: color**					
PQ	**(a)**	yellow green				Serolane (ZA), Suio (JP)	1
	(d)	green				Yulmi	2
		grey green				Hayanmi	3
14. **(+)**	**VG**	**Leaf blade: extent of anthocyanin coloration on abaxial veins**					
QN	**(a)**	absent or very small				Koukei 14, Norin 1,Yulmi	3
	(d)	medium				Beniaka, Norin 45	5
		large				Hayanmi, Naeshirazu	7
		very large				Koganesengan	9
		JP: *not linked to Char. 15*					
15.		**Leaf blade: intensity of anthocyanin coloration on abaxial veins**					
		absent or very weak					1
		weak				Norin 45	3
		medium				Koganesengan	5
		strong					7
		very strong					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16.		**Young leaf blade: main color on upper side**					
PQ		yellow green				Beniwase	1
		light green				Koganesengan	2
		medium green				Norin 2	3
		dark green					4
		light purple				Kyushu 14	5
		medium purple					6
		purplish brown				Minamiyutaka	7
		light brown					8
		dark brown					9
17. (*)	**VG**	**Petiole: anthocyanin coloration**					
QN	**(a)**	absent or very weak				Yulmi	1
	(d)	weak				Norin 45	3
		medium				Hayanmi, Koganesengan (JP)	5
		strong					7
18. (+)	**VG**	**Petiole: position of anthocyanin coloration**					
PQ	**(a)**	only close to leaf blade				Norin 45 (JP) Shinjami (KR)	1
	~~**(d)**~~	~~scattered~~				~~Koanesengang (JP)~~	~~2~~
		all over the petiole				Hayanmi	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. **(+)**	**VG/ MS**	**Petiole: length**					
QN	**(a)**	very short				Sinchunmi	1
	(d)	short					3
		medium				Koganesengan, Yulmi	5
		long					7
		very long				Shinmi	9
20.		**Flower: presence of flowers**					
QL		present				Serolane	1
		absent				Impilo, Khano	9
21.	**MS**	**Storage root : ratio length/width**					
QN	**(e)**	small				Norin 2 (JP)	3
		medium				Geonmi	5
		large				Yulmi	7
22. **(*)** **(+)**	**VG**	**Storage root: lateral outline**					
PQ	**(e)**	rounded				Geomi	1
		oblong				Serolane (ZA)	2
		irregular				Shinyulmi	3
23. **(+)**	**VG**	**<u>Storage roots with lateral outline rounded only</u>: storage root: position of broadest part**					
QN	**(e)**	towards the tip					1
		in middle				Geonmi	2
		towards the base					3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
24. (+)	**MS/ VG**	**Storage root: thickness of cortex relative to overall diameter**					
QN	**(e)**	thin				Yulmi	3
		medium					5
		thick				Shingeonmi	7
25. (*) (+)	**VG**	**Storage root: main color of skin**					
PQ	**(e)**	white				Joy White	1
		light beige				Chinmi, Koganesengan	2
		yellow				Impilo (ZA), Norin 1, Norin 2 (JP)	3
		orange				Benihayato (JP), Serolane (ZA)	4
		brownish orange				Khano (ZA)	5
		pink				Yulmi	6
		red				Benikomachi (JP), Koukei 14 (JP), Shinhwangmi	7
		purple red				Beniazuma (JP), Phala (ZA)	8
		light purple					9
		medium purple				Ayamurasaki (JP)	10
		brown				Zami	11

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26. **(+)**	**VG**	**Storage root: secondary color of skin**					
	(e)	absent				Koganesengan (JP)	1
		white				Tamayutaka	2
		yellow					3
		orange					4
		pink				Koukei 14	5
		red				Nakamurasaki	6
		purple				Benikomachi	7
		brown				Koganesengan	8
27. **(*)** **(+)**	**VG**	**Storage root: main color of flesh**					
PQ	**(e)**	white				Hayanmi, Shirosangan	1
		beige				Koganesengan (JP), Koukei 14 (JP)	2
		yellow				Benikomachi, Yulmi,	3
		orange				Benihayato (JP), Juhwangmi	4
		purple				Ayamurasaki, Borami	5
28.	**VG**	**Storage root: intensity of main color of flesh**					
QN	**(e)**	light					3
		medium					5
		dark					7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
29. **(+)**		**Storage root: secondary color of flesh**					
PQ	**(e)**	white					1
		light beige					2
		yellow					3
		orange				Toka Toka Gold	4
		pink				Hayatoimo (JP)	5
		red					6
		red-purple				Nakamurasaki (JP), Owairka Red	7
		purple					8
30.	**VG**	**Storage root: depth of eyes**					
QN	**(e)**	shallow				Beniaka (JP)	3
		medium				Koukei 14 (JP)	5
		deep				Kantou 80 (JP)	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) Observations should be made after 90 days from planting.
(b) To be observed on the main stem
(c) Stem internodes and diameter should be observed in an internode located in the middle third of the main stem.
(d) Observations to be made on fully developed leaves at the middle part of the main stem.
(e) Characteristics should be observed after harvest.

8.2. Explanations for individual characteristics

Ad. 9: Leaf blade: lobes

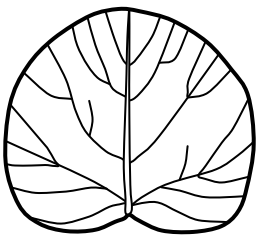
1
absent .

2
three lobes

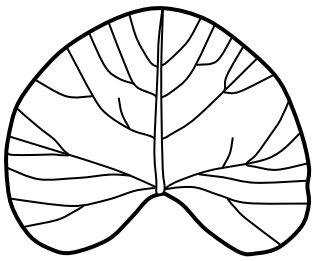
3
five lobes

4
seven lobes

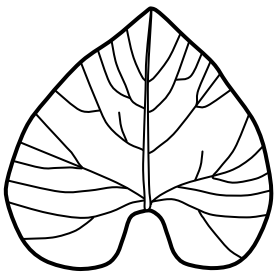
Ad. 10: Only varieties with leaf lobes absent (or absent or very few): Leaf blade: shape



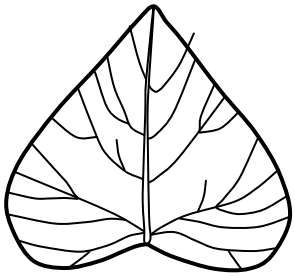
1
round



2
reniform

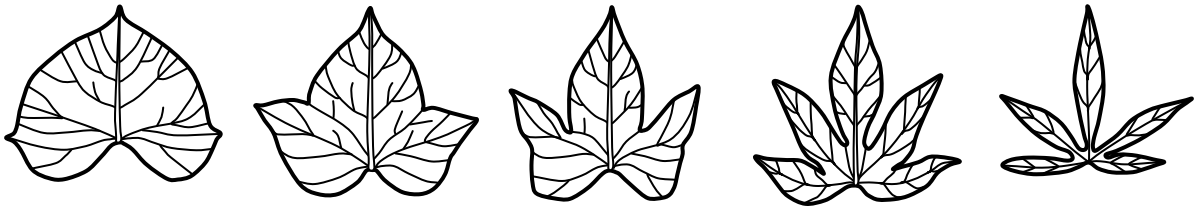


3
cordate



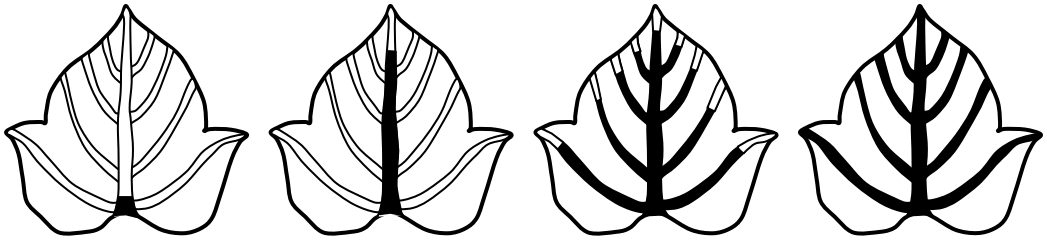
4
triangular

Ad. 11: Only varieties with leaf lobes present: Leaf blade: depth of lobing



1	2	3	4	5
very shallow	shallow	moderate	deep	very deep

Ad. 14: Leaf blade: extent of anthocyanin coloration on abaxial veins

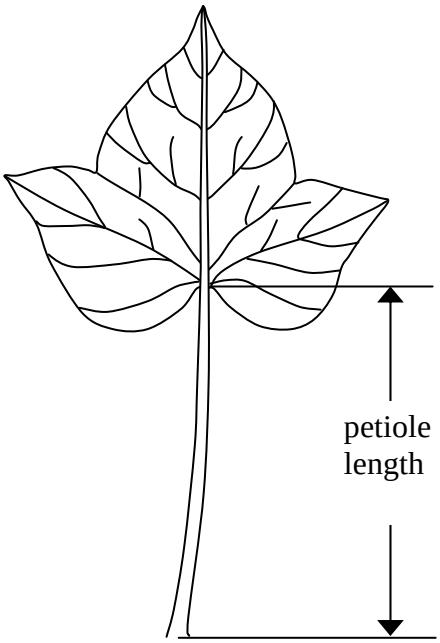


3	5	7	9
absent or very small	medium	large	very large

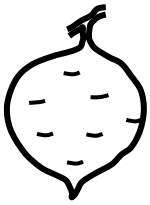
Ad. 18: Petiole: position of anthocyanin coloration

1	~~2~~	3
only close to leaf blade	~~scattered~~	all over the petiole

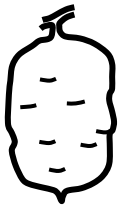
Ad. 19: Petiole: length



Ad. 22: Storage root: lateral outline



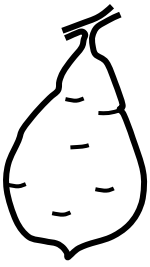
1
rounded



2
oblong

3
irregular

Ad. 23: Storage roots with lateral outline rounded only: storage root: position of broadest part

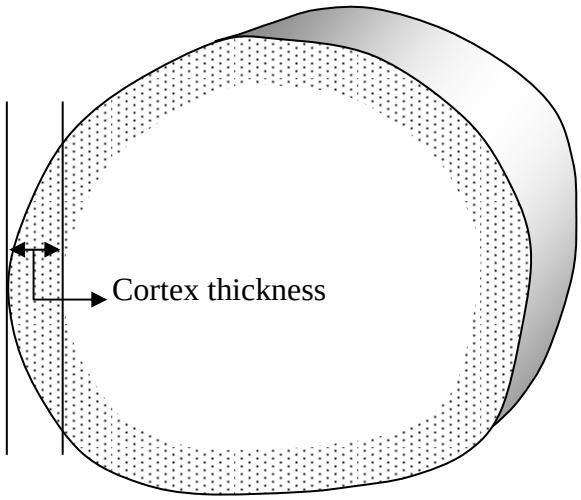


1
towards the tip

2
in middle

3
towards the base

Ad. 24: Storage root: thickness of cortex relative to overall diameter



Ad. 25: Storage root: main color of skin

The color which covers the largest area of skin

Ad. 26: Storage root: secondary color of skin

The color which covers the second largest area of skin or the color other than the main color indicated in Ad. 25

Ad. 27: Storage root: main color of flesh

The color which covers the largest area of longitudinal or cross section of storage root

Ad. 29: Storage root: secondary color of flesh

The color which covers the second largest area of longitudinal or cross section of storage root or the color other than the main color indicated in Ad. 27

9. Literature

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Zosimo Huaman. 1992: Morphologic Identification of Duplicates in Collections of Ipomoea batatas. CIP Research guide 36. CIP, pp. 28.

Zosimo Huaman. 2002: Section 1.1 Systemic Botany and Morphology of the Sweetpotato plant. Sweetpotato Germplasm Management Training Manual. International Potato Center (CIP), pp. 7.

Zosimo Huaman. 2006: Systmatic Botany and Morphology of the Sweetpotato Plant. Sweetpotato Germplasm Management (Ipomoea batatas). Training manual CIP. http//:www.cipotato.org.

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	*Ipomoea batatas* (L.) Lam.
1.2 Common name	Sweet potato

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)

[#] 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:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.2 Seed [ ]

4.2.3 Other [ ]
(please provide details)

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 (1)	**Plant: growth habit**		
	upright	Sinchunmi	1[ ]
	semi-upright	Younmi	3[ ]
	spreading	Yulmi	5[ ]
5.2 (5)	**Stem: anthocyanin coloration of internode**		
	absent or weak	Yulmi	1[ ]
	medium	Singeonmi	2[ ]
	strong	Hayanmi	3[ ]
5.3 (6)	**Stem: anthocyanin coloration of tip**		
	absent or weak	Yulmi	1[ ]
	medium	Sinjami	2[ ]
	strong	Hayanmi	3[ ]
5.4 (7)	**Stem: anthocyanin coloration of node**		
	absent or weak	Yulmi	1[ ]
	medium	Norin 2 (JP)	2[ ]
	strong	Hayanmi, Koganesengan (JP)	3[ ]

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

	Characteristics	Example Varieties	Note
5.5 (8)	**Stem: pubescence of tip**		
	sparse	Yulmi	1[ ]
	medium	Koganesengen	2[ ]
	dense	Zami	3[ ]
5.6 (9)	**Leaf blade: lobes**		
	absent	Gokokuimo	1[ ]
	three lobes	Benisengan, J-red	2[ ]
	five lobes	Koganesengan, Sinchunmi	3[ ]
	seven lobes	Benihayato	4[ ]
5.7 (13)	**Leaf blade: color**		
	yellow green	Serolane (ZA), Suio (JP)	1[ ]
	green	Yulmi	2[ ]
	grey green	Hayanmi	3[ ]
5.8 (17)	**Petiole: anthocyanin coloration**		
	absent or very weak	Yulmi	1[ ]
	weak	Norin 45	3[ ]
	medium	Hayanmi, Koganesengan (JP)	5[ ]
	strong		7[ ]
5.9 (22)	**Storage root: lateral outline**		
	rounded	Geomi	1[ ]
	oblong	Serolane (ZA)	2[ ]
	irregular	Shinyulmi	3[ ]

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

	Characteristics	Example Varieties	Note
5.10 (25)	**Storage root: main color of skin (largest surface area)**		
	white	Joy White	1[ ]
	light beige	Chinmi, Koganesengan	2[ ]
	yellow	Impilo (ZA), Norin 1, Norin 2 (JP)	3[ ]
	orange	Benihayato (JP), Serolane (ZA)	4[ ]
	brownish orange	Khano(ZA)	5[ ]
	pink	Yulmi	6[ ]
	red	Benikomachi (JP), Koukei 14 (JP), Shinhwangmi	7[ ]
	purple red	Beniazuma (JP), Phala (ZA)	8[ ]
	light purple		9[ ]
	medium purple	Ayamurasaki (JP)	10[ ]
	brown	Zami	11[ ]
5.11 (27)	**Storage root: main color of flesh**		
	white	Hayanmi, Shirosangan	1[ ]
	beige	Koganesengan (JP), Koukei 14 (JP)	2[ ]
	yellow	Benikomachi, Yulmi,	3[ ]
	orange	Benihayato (JP), Juhwangmi	4[ ]
	purple	Ayamurasaki, Borami	5[ ]

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	*[e.g. Plant: growth habit]*	*[e.g. upright]*	*[e.g. semi-upright]*

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

7.3.1 What's the varietal usage?

Non-ornamental [ ] Ornamental [ ]

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]