

UPOV

TG/HUSK(proj.2)

ORIGINAL: English

DATE: 2004-05-24

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

HUSK TOMATO *

UPOV Code: PHYSA_IXO

Physalis philadelphica Lam.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Mexico

*to be considered by the
Technical Working Party for Vegetables at its thirty-eighth session,
to be held in Seoul, from June 7 to 11, 2004*

Alternative Names:*

Botanical name	English	French	German	Spanish
<i>Physalis philadelphica</i> Lam. (Sym: <i>Physalis ixocarpa</i> Brot.)	Husk Tomato	Tomatillo	Tomatillo	Tomatillo, Tomate verde, Tomate de cáscara

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.

* 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.]

ASSOCIATED DOCUMENTS

These guidelines (“Test Guidelines”) should be read in conjunction with document TG/1/3, “General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants” (hereinafter referred to as the “General Introduction”) and its associated “TGP” documents.

Other associated UPOV documents:

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES	4
2. MATERIAL REQUIRED	4
3. METHOD OF EXAMINATION.....	4
3.1 Number of Growing Cycles	4
3.2 Testing Place 4	
3.3 Conditions for Conducting the Examination.....	4
3.4 Test Design	5
3.5 Number of Plants / Parts of Plants to be Examined	5
3.6 Additional Tests	5
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	5
4.1 Distinctness	5
4.2 Uniformity	6
4.3 Stability	6
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	7
6.1 Categories of Characteristics	7
6.2 States of Expression and Corresponding Notes	7
6.3 Types of Expression	7
6.4 Example Varieties	7
6.5 Legend	7
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES	8
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS.....	19
9. LITERATURE	24
10. TECHNICAL QUESTIONNAIRE.....	25

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Physalis philadelphica* Lam. (Syn: *Physalis ixocarpa* Brot.).

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:

15 g or 2,500 to 3,000 seeds

2.4 The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority.

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 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 40 plants, which should be divided between two 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 5 % and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 40 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) Plant: growth habit at beginning of flowering (characteristic 2)
- (b) Stem: anthocyanin coloration (characteristic 4)
- (c) Fruit: color (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 (Section 6.1.2)

QL Qualitative characteristic – see Chapter 6 (Section 6.3)

QN Quantitative characteristic – see Chapter 6 (Section 6.3)

PQ Pseudo-qualitative characteristic – see Chapter 6 (Section 6.3)

MG: single measurement of a group of plants or parts of plants – see Section 3.3.2

MS: measurement of a number of individual plants or parts of plants - see Section 3.3.2

VG: visual assessment by a single observation of a group of plants or parts of plants - see Section 3.3.2

VS: visual assessment by observation of individual plants or parts of plants - see Section 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	Seedling: anthocyanin coloration		Plántula pigmentación antociánica:		
QL	(a)	absent		ausente		1
		present		presente		9
2. (*)	VG	Plant: growth habit (at beginning of flowering)		Planta: tipo de crecimiento (al inicio de la floración)		
QN	(b)	erect		erecto		1
		semi-erect		semi-erecto		2
		horizontal		horizontal		3
3. (*)	MS/ VS	Stem: height to the first branching		Tallo: altura a la primera bifurcación		
QN	(b)	short		corta		3
		medium		intermedia		5
		long		larga		7
4. (*)	VG	Stem: intensity of anthocyanin coloration in internodes (as for 2)		Tallo: pigmentación antociánica en entrenudos (como en 2)		
QL	(b)	absent		ausente		1
		present		presente		9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. (*) (+)	VG	<u>Varieties with anthocyanin coloration only:</u> Stem: intensity of anthocyanin coloration in internodes (as for 2)		<u>Solamente en variedades con antocianina:</u> Tallo: pigmentación antocianina en entrenudos (como en 2)		
QN	(b)	weak		débil		3
		medium		media		5
		strong		fuerte		7
6.	VG	Stem: pubescence (upper first branching)		Tallo: pubescencia (arriba de la primera bifurcación)		
QN	(b)	absent or very weak		ausente o muy débil		1
		weak		débil		3
		medium		media		5
		strong		fuerte		7
		very strong		muy fuerte		9
7.	VG	Leaf blade: shape		Hoja: forma		
PQ	(b)	ovate		oval		1
		lanceolate		lanceolada		2
8.	MS	Leaf blade: length		Hoja: longitud		
QN	(b)	short		corta		3
		medium		media		5
		long		larga		7
9.	MS	Leaf blade: width		Hoja: anchura		
QN	(b)	narrow		angosta		3
		medium		media		5
		broad		ancha		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10.	VG	Leaf blade: color		Hoja: color		
QN	(b)	yellowish green		verde amarillento		1
		green		verde		2
		purplish green		verde morado		3
11.	VG	Leaf: intensity of color		Hoja: intensidad del color		
QN	(b)	weak		claro		3
		medium		medio		5
		strong		oscuro		7
12.	VG	Leaf: pubescence		Hoja: pubescencia		
QN	(b)	sparse		escasa		3
		medium		media		5
		dense		densa		7
13.	VG	Petiole: attitude		Pecíolo: porte		
QN		semi-erect		semi-erecto		3
		horizontal		horizontal		5
		drooping		colgante		7
14.	MS/ VG	Petiole: length		Pecíolo: longitud		
QN		short		corta		3
		medium		media		5
		long		larga		7
15.	VG	Flower: attitude of pedicel		Flor: porte del pedicelo		
QN		erect		erecto		1
		semi-erect		semi-erecto		3
		horizontal		horizontal		5
		semi-drooping		semi-colgante		7
		drooping		colgante		9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16.	VG	Flower: color of anther		Flor: color de antera		
QL	white			blanco		1
	yellow			amarillo		2
	purple			morado		3
17. (*)	VG	Flower: anthocyanin coloration		Flor: pigmentación antocianica		
QL	absent			ausente		1
	present			presente		9
18. (*) (+)	VG	Fruit: anthocyanin coloration of calyx (at physiological maturity)		Fruto: pigmentación antocianica (en madurez fisiológica)		
QL	absent			ausente		1
	present			presente		9
19. (+)	MS	Fruit: adherence of calyx (as for 18)		Fruto: adherencia del cáliz (como 18)		
QN	absent or very weak			ausente o muy débil		1
	weak			débil		3
	medium			media		5
	strong			fuerte		7
	very strong			muy fuerte		9
20. (*)	MS	Fruit: length (at maturity)		Fruto: longitud		
QN	(c) short			corta		3
	medium			media		5
	long			larga		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21.	MS	Fruit: width		Fruto: anchura		
QN	(c)	narrow		pequeño		3
		medium		medio		5
		broad		grande		7
22.	MS	Fruit: ratio width/length		Fruto: relación ancho/largo		
QN	(c)	small		pequeña		3
		medium		media		5
		large		grande		7
23.	VG	Fruit: shape in longitudinal section		Fruto: forma longitudinal		
(+)						
PQ	(c)	flattened		aplanada		1
		round		redonda		2
		cordate		cordiforme		3
		square		cuadrangular		4
		triangular		triangular		5
24.	VG	Fruit: shape in cross section		Fruto: forma transversal		
(+)						
PQ	(c)	elliptic		elíptica		1
		angular		angular		2
		circular		circular		3
25.	VG	Fruit: depression at base		Fruto: profundidad de la base		
(+)						
QN	(c)	shallow		poco profunda		3
		medium		media		5
		deep		profunda		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26 (*) (+)	VG	Fruit: shape of apex		Fruto: forma del ápice		
PQ	pointed			puntiaguda		1
	rounded			redondeada		2
	cleft			hendida		3
27. (*)	VG	Fruit: color		Fruto: color		
PQ	(c)	yellow		amarillo		1
		yellowish green		verde amarillento		2
		greenish yellow		amarillo verdoso		3
		green		verde		4
		purplish green		verde morado		5
		greenish purple		morado verdoso		6
		purple		morado		7
28.	VG	Fruit: intensity of color		Fruto: intensidad del color		
QN	(c)	light		claro		3
		medium		medio		5
		dark		oscuro		7
29.	VG	Fruit: glossiness		Fruto: brillo		
QN	(c)	weak		débil		3
		medium		media		5
		strong		fuerte		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30.	MS	Fruit: number of locules		Fruto: número de lóculos		
QN	(c)	only two		sólo dos		1
		two or three		dos o tres		2
		three or four		tres o cuatro		3
		four, five or six		cuatro, cinco o seis		4
		more than six		más de seis		5
31.	VG	Fruit: coverage of calyx		Fruto: cobertura del cáliz		
(+)						
QN	(c)	weak		débil		1
		partial		parcial		2
		entire		entero		3
32.	VG	Fruit: anthocyanin coloration of calyx		Fruto: pigmentación antocianica del cáliz		
(*)						
QL	(c)	absent		ausente		1
		present		presente		9
33.	VG	Fruit: ribbing of calyx		Fruto: acostillado del cáliz		
(*)						
(+)						
QL	(c)	absent		ausente		1
		present		presente		9
34.	VG	Fruit: adherence of calyx		Fruto: adherencia del cáliz		
(+)						
QN	(c)	absent or very weak		ausente o muy debil		1
		weak		debil		3
		medium		medio		5
		strong		fuerte		7
		very strong		Muy fuerte		9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35.	VG	Fruit: skin		Fruto: piel		
QL	(c)	smooth		lisa		1
		rough		rugosa		2
36.	MS	Fruit: taste		Fruto: sabor		
QL	(c)	very acid		muy ácido		1
		acid		ácido		2
		slightly acid		ligeramente ácido		3
		slightly sweet		ligeramente dulce		4
		sweet		dulce		5
		very sweet		muy dulce		6
37.	MS	Fruit: length of peduncle		Fruto: longitud del pedúnculo		
QN	(c)	short		corto		3
		medium		medio		5
		long		largo		7
38.	VG	Fruit: proportion of flesh (relative to fruit)		Fruto: proporción de pulpa (con relación al fruto)		
QN	(c)	small		pequeña		3
		medium		medio		5
		large		llena		7
39.	VG	Fruit: texture of flesh		Fruto: densidad de la pulpa (como en 29) ?		
QN	(c)	loose		laxa		3
		medium		media		5
		dense		densa		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
40.	VG	Fruit: amount of seeds		Fruto: cantidad de semillas		
QN	(c)	low		pocas		3
		medium		medio		5
		high		muchas		7
41.	VG	Seed: color		Semilla: color		
(*)						
PQ	(c)	white		blanco		1
		yellow		amarillo		2
		brown yellow		amarillo café		3
		brown		café		4
		dark brown		café oscuro		5
42.	MS	Seed: size		Semilla: tamaño		
QN	(c)	small		bajo		3
		medium		medio		5
		large		alto		7
43.	VG	Time of flowering		Tiempo a floración		
(*)						
(+)						
QN		early		precoz		3
		medium		media		5
		late		tardía		7
44.	VG	Time of physiological maturity		Fruto: tiempo a madurez fisiológica		
(*)						
(+)						
QN		early		precoz		3
		medium		media		5
		late		tardía		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
45.	VG	Time of harvest maturity		Fruto: tiempo a madurez comercial		
(*) (+)						
QN	early			precoz		3
	medium			media		5
	late			tardía		7
46.	MS	Fruit: dry matter content (at maturity)		Fruto: contenido de materia seca		
QN	(c)	low		bajo		3
		medium		medio		5
		high		alto		7
47.	VS	Resistance to <i>Verticillium</i>		Resistencia a <i>Verticillium</i>		
QL	absent			ausente		1
	present			presente		9
48.	VS	Resistance to <i>Fusarium</i>		Resistencia a <i>Fusarium</i>		
QL	absent			ausente		1
	present			presente		9
49.	VS	Resistance to <i>Cladosporium</i>		Resistencia a <i>Cladosporium</i>		
QL	absent			ausente		1
	present			presente		9
50.	VS	Resistance to <i>Phytophthora</i>		Resistencia a <i>Phytophthora</i>		
QL	absent			ausente		1
	present			presente		9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
51.	VS	Resistance to <i>Rizoctonia</i>		Resistencia a <i>Rizoctonia</i>		
QL	absent			ausente		1
	present			presente		9
52.	VS	Resistance to <i>Pseudomonas</i>		Resistencia a <i>Pseudomonas</i>		
QL	absent			ausente		1
	present			presente		9
53.	VS	Resistance to mosaic virus		Resistencia a virus del mosaico		
QL	absent			ausente		1
	present			presente		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) Seedling: The observation of seedling should be made at stage of 10 cm.
- (b) Plant, stem and leaf: All observations on the plant, stem and leaf should be made at beginning of flowering.
- (c) Fruit and seed: Unless other wise indicated, all observations on the fruit and seed should be made at commercial maturity.

8.2 Explanations for individual characteristics

Ad. 5. Stem: intensity of anthocyanin coloration in internodes.

Most of the varieties are classed 1 to 5. Expression of anthocyanin is influenced by day temperature. Under greenhouse conditions, the variation is rather low.

Ads. 18 + 19. Fruit: anthocyanin coloration of calyx and adherence of calyx (at physiological maturity)

These characteristics are assessed by observing the fruits on the secondary branching, plant by plant. These characteristics are assessed at physiological maturity because in this development stage of the fruits, some varieties which showing better these characteristics.

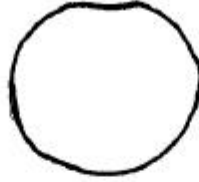
Ads. 19 + 34. Fruit: adherence of calyx (at physiological maturity) and Fruit: adherence of calyx (at maturity)

These same characteristics are assessed at physiological maturity and at maturity, but in both development stages of the fruits, some varieties which showing better these characteristics.

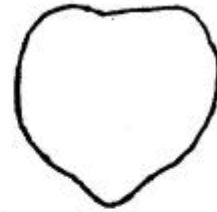
Ad. 23: Fruit: shape in longitudinal section



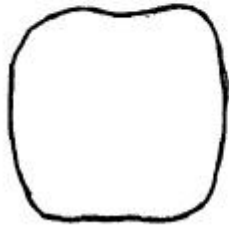
1
flattened



2
round



3
cordate



4
square



5
triangular

Ad. 24: Fruit: shape in cross section



1
elliptic

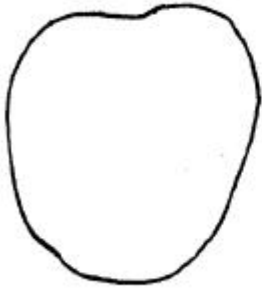


2
angular

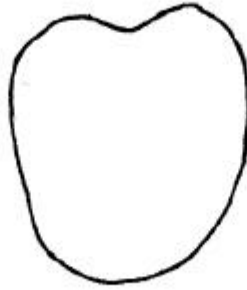


3
circular

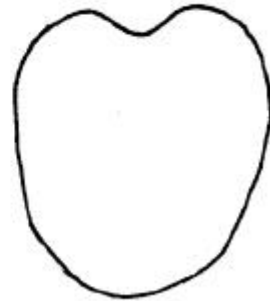
Ad. 25: Fruit: depression at base



3
shallow

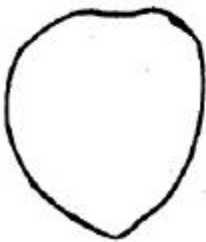


5
medium

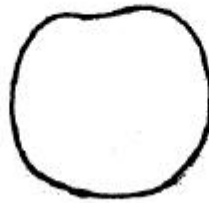


7
deep

Ad. 26: Fruit: shape of apex



1
pointed



2
rounded



3
cleft

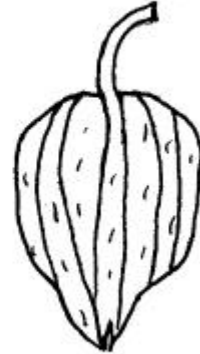
Ad. 31: Fruit: coverage of calyx



1
weak

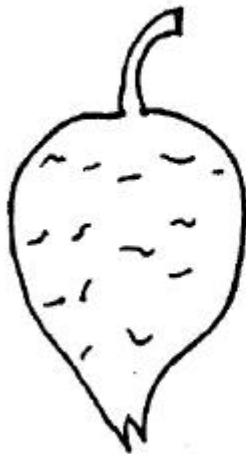


2
partial



3
entire

Ad. 33: Fruit: ribbing of calyx



1
absent



9
present

Ad. 43: Time of flowering

This characteristic is assessed by observing the flowering date of the flowers on the second branching, plant by plant. It is recommended not to record the time of flowering on the first branching, as the expression on the first flower is more influenced by the seed vigor and the plantation quality. The date of flowering is recorded by the plot average.

Ad. 44: Time of physiological maturity

This characteristic is assessed by observing the ending growth of fruits on the second branching, plant by plant. It is recommended to check when beginning the change of color of the fruit calyx. The date of physiological maturity is recorded by the plot average.

Ad. 45: Time of harvest maturity

This characteristic is assessed by observing the beginning dryness of apex of the calyx of the fruits on the second branching, plant by plant. The date of harvest maturity is recorded by the plot average.

9. Literature

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	<input type="text" value="Physalis philadelphica Lam.; Syn: Physalis ixocarpa Brot."/>	
1.2 Common Name	<input type="text" value="Husk Tomato"/>	
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:
-------------------------	-----------------	-------------------

#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 (see GN 32)

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 ()		
[still to be prepared]		

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:

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

--

--

--

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.

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".

.....

ASW 17

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes []

(please provide details as specified by the Authority)

No []

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

Applicant's name

Signature

Date

