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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

HUSK TOMATO

UPOV Code: PHYSA_IXO

Physalis ixocarpa Brot.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from Mexico

to be considered by the Technical Working Party for Vegetables (TWV) at its fortieth session to be held in Guanajuato, Guanajuato State, Mexico, from June 12 to 16, 2006

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Physalis ixocarpa Brot.	Husk Tomato	Physalis, Tomatillo	Tomatillo	Tomatillo, Tomate verde, Tomate de cáscara, Tomate de hoja

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.

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* 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.]

1. Subject of these Test Guidelines

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

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

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 30 plants which should be divided between 3 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 of cross-pollinated varieties, a population standard of 10% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 30 plants, 3 off-types are allowed.

4.2.3 For the assessment of uniformity of hybrids, a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 30 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 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 (characteristic 3)
(b) Stem: length of internodes (characteristic 5)
(c) Stem: anthocyanin coloration of internodes (characteristic 6)
(d) Fruit: size (characteristic 25)
(e) Fruit: main color (characteristic 35)
(f) Calyx: anthocyanin coloration (characteristic 43)
(g) Peduncle: length (characteristic 45)
(h) Peduncle: thickness at basal part (characteristic 46)

(i) Fruit: number of seeds (characteristic 49)

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: single measurement of a group of plants or parts of plants - see Chapter 3.3.2
MS: measurement of a number of individual plants or parts of plants - see Chapter 3.3.2
VG: visual assessment by a single observation of a group of plants or parts of plants - see Chapter 3.3.2
VS: visual assessment by observation of individual plants or parts of plants - see Chapter 3.3.2

(a) to (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.	**VS**	**Seedling: anthocyanin coloration of hypocotyl**			**Plántula: pigmentación antociánica del hipocótilo**		
QL	**(a)**	absent			ausente	Población 3	1
		present			presente	Tamazula SM3	9
2.	**VS**	**Seedling: pubescence of hypocotyls**			**Plántula: pubescencia del hipocótilo**		
QL	**(a)**	absent			ausente	Población 3	1
		present			presente	Tamazula SM3	9
3. (*)	**VG**	**Plant: growth habit**			**Planta: tipo de crecimiento**		
PQ	**(c) (e)**	upright			erecto	Zacoalco SM 3E	1
		semi-upright			semi-erecto	Diamante	2
		prostrate			postrado	Chapingo	3
4.	**MS**	**Stem: height to first branching**			**Tallo: altura a la primera bifurcación**		
QN	**(c) (e)**	short			baja	Chapingo	3
		medium			intermedia		5
		long			alta	Tecozautla SI	7
5. (*)	**MS**	**Stem: length of internodes**			**Tallo: longitud de entrenudos**		
QN	**(c) (e)**	short			corto	Población 3	3
		medium			intermedio		5
		long			largo	Tecamac SM3	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. (*)	**VS**	**Stem: anthocyanin coloration of internodes**			**Tallo: pigmentación antociánica en los entrenudos**		
QL	**(c)**	absent			ausente	Chapingo	1
		present			presente	Tamazula SM3	9
7.	**VS**	**Stem: intensity of anthocyanin coloration of internodes**			**Tallo: intensidad de pigmentación antociánica en los entrenudos**		
QN	**(c)**	weak			débil	Población 8	3
		medium			media		5
		strong			fuerte	Tamazula SM3	7
8.	**VS**	**Stem: hairiness of internodes**			**Tallo: pubescencia de los entrenudos**		
QL	**(c)**	absent			ausente	Población 3	1
		present			presente		9
9.	**VS**	**Stem: intensity of hairiness of internodes**			**Tallo: intensidad de pubescencia de los entrenudos**		
QN	**(c)**	weak			escasa		3
		medium			media		5
		strong			abundante		7
10.	**VS**	**Leaf blade: shape**			**Hoja: forma**		
(+)							
PQ	**(c)**	lanceolate			lanceolada	Puebla SM3	1
		lanceolate-oblong			lanceolada-oblonga		2
		ovate			ovada		3
		broad elliptic			cordiforme	Arandas	4
11.	**MS**	**Leaf blade: length**			**Hoja: longitud**		
QN	**(c)**	short			corta	Milpero Tetela	3
		medium			mediana		5
		long			larga	Puebla SM3	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12.	**MS**	**Leaf blade: width**			**Hoja: anchura**		
QN	**(c)**	narrow			angosta	Milpero Tetela	3
		medium			media		5
		broad			ancha	Puebla SM3	7
13.	**VG**	**Leaf blade: dentation of margin**			**Hoja: dentado del margen**		
QN	**(c)**	absent or very weak			ausente o muy débil	Milpero Tetela	3
		medium			media		5
		very strong			muy fuerte	Puebla SM3	7
14.	**VG**	**Leaf blade: color**			**Hoja: color**		
PQ	**(c)**	yellowish green			verde Amarillo	Manzano SM2R	1
		green			verde		2
		purplish green			verde morado	Tamazula SM3	3
15.	**VG**	**Leaf blade: intensity of green color**			**Hoja: intensidad del color verde**		
QN	**(c)**	weak			claro		3
		medium			medio		5
		strong			oscuro		7
16.	**VS**	**Leaf blade: hairiness**			**Hoja: pubescencia**		
QL	**(c)**	absent			ausente		1
		present			presente		9
17.	**VS**	**Petiole: attitude**			**Pecíolo: porte**		
PQ	**(c)**	semi-erect			semi-erecto		1
		semi-drooping			intermedio		2
		drooping			colgante		3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
18.	**MS**	**Petiole: length**			**Pecíolo: longitud**		
QN	**(c)**	short			corto	Milpero Tetela	3
		medium			medio		5
		long			largo	Puebla SM3	7
19.	**VS**	**Petiole: hairiness**			**Pecíolo: pubescencia**		
QL	**(c)**	absent			ausente	Población 8	1
		present			presente	Milpero Tetela	9
20.	**VS**	**Flower: attitude of pedicel**			**Flor: porte del pedicelo**		
PQ	**(b)**	erect			erecto		1
		semi-drooping			intermedio		2
		drooping			colgante		3
21.	**VS**	**Flower: color of anthers**			**Flor: color de anteras**		
PQ	**(b)**	white			blanco		1
		yellow			amarillo		2
		purple			morado		3
22.	**VS**	**Flower: number of anthers**			**Flor: número de anteras**		
PQ	**(b)**	five			cinco	Tamazula SM3	1
		more than five			más de cinco	Puebla SM3	2
23.	**VS**	**Flower: anthocyanin coloration of corolla**			**Flor: pigmentación antociánica de corola**		
QL	**(b)**	absent			ausente		1
		present			presente		9
24.	**VS**	**Fruit: adherence of calyx**			**Fruto: adherencia del cáliz**		
QN	**(d)**	weak			débil	Chapingo	3
		medium			media	Diamante	5
		strong			fuerte	Tamazula SM3	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
25. (*)	**VG**	**Fruit: size**			**Fruto: tamaño**		
QN	**(c)**	small			pequeño	Milpero Tetela	1
		medium			mediano		3
		large			grande		5
		very large			muy grande	Puebla SM3	7
26.	**MS**	**Fruit: length**			**Fruto: longitud**		
QN	**(c)**	short			pequeña	Milpero Tetela	3
		medium			media		5
		long			grande	Puebla SM3	7
27.	**MS**	**Fruit: diameter**			**Fruto: diámetro**		
QN	**(c)**	narrow			pequeño	Milpero Tetela	3
		medium			medio		5
		broad			grande	Puebla SM3	7
28. (+)	**MS**	**Fruit: ratio length/ diameter**			**Fruto: relación largo/ diámetro**		
QN	**(c)**	small			pequeña	Diamante	3
		medium			media	Milpero Tetela	5
		large			grande	Salamanca	7
29. (+)	**VS**	**Fruit: shape in longitudinal section**			**Fruto: forma en sección longitudinal**		
PQ	**(c)**	oblate			aplanada		1
		round			redonda		2
		heart sharpened			acorazonada		3
		square			cuadrangular		4
		triangular			triangular		5

			English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30. (+)		**VS**	**Fruit: shape in cross section**			**Fruto: forma en sección transversal**		
PQ	**(c)**		elliptic			elíptica		1
			angular			angular		2
			circular			circular		3
31. (+)		**VS**	**Fruit: depth of stalk cavity**			**Fruto: profundidad de la cavidad peduncular**		
QL	**(c)**		plane			plana		1
			shallow			poco profunda		3
			medium			media		5
			deep			profunda		7
32. (+)		**VS**	**Fruit: shape of apex**			**Fruto: forma del ápice**		
PQ	**(c)**		pointed			puntiaguda		1
			rounded			redondeada		2
			depressed			hendida		3
33.		**VS**	**Fruit: main color**			**Fruto: color principal**		
PQ	**(c)**		white			blanco		1
			yellow			amarillo		2
			orange			anaranjado		3
			green			verde		4
			purple			morado		5
34.		**VG**	**Fruit: intensity of color**			**Fruto: intensidad del color**		
QN	**(c)**		light			claro		3
			medium			medio		5
			dark			oscuro		7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35 (*)	**VS**	**Fruit: main color**			**Fruto: color principal**		
PQ	**(d)**	white			blanco		1
		yellow			amarillo		2
		orange			anaranjado		3
		green			verde		4
		purple			morado		5
36.	**VG**	**Fruit: intensity of color**			**Fruto: intensidad del color**		
QL	**(d)**	weak			débil		3
		medium			media		5
		strong			fuerte		7
37.	**VS**	**Fruit: color of flesh**			**Fruto: color de la pulpa**		
PQ	**(d)**	white			blanco		1
		yellow			amarillo		2
		yellowish green			verde amarillento		3
		greenish-yellow			amarillo verdoso		4
		green			verde		5
		dark green			verde oscuro		6
		purplish green			verde morado		7
		greenish-purple			morado verdoso		8
		purple			morado		9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
38.	**MS**	**Fruit: predominant number of locules**			**Fruto: número predominante de lóculos**		
QN	**(d)**	two			dos		1
		three			tres		2
		four			cuatro		3
		five			cinco		4
		more than five			más de cinco		5
39.	**VS**	**Fruit: enclosure of calyx**			**Fruto: cobertura del cáliz**		
(+)							
QL	**(d)**	minimum			mínima		1
		medium			media		2
		whole			total		3
40.	**VG**	**Calyx: hairiness**			**Cáliz: pubescencia**		
QL	**(c)**	absent			ausente		1
		present			presente		9
41.	**VS**	**Calyx: intensity of hairiness**			**Cáliz: intensidad de pubescencia**		
QL	**(c)**	weak			escasa		3
		medium			media		5
		strong			abundante		7
42.	**VG**	**Calyx: ribbing**			**Cáliz: acostillado**		
(+)							
QL	**(c)**	absent			ausente		1
		present			presente		9
43.	**VS**	**Calyx: anthocyanin coloration**			**Cáliz: pigmentación antociánica**		
(*)							
QL	**(d)**	absent			ausente		1
		present			presente		9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
44. (*)	**VG**	**Calyx: intensity of anthocyanin coloration**			**Cáliz: intensidad de la pigmentación antociánica**		
PQ	**(d)**	weak			débil	Tecozautla SI	3
		medium			media	Cerro Gordo	5
		strong			fuerte		7
		very strong			muy fuerte	Tamazula SM3	9
45. (*)	**MS**	**Peduncle: length**			**Pedúnculo: longitud**		
QN	**(c)**	short			corto		3
		medium			medio		5
		long			largo		7
46. (*)	**MS**	**Peduncle: thickness at basal part**			**Pedúnculo: grosor en la base**		
QN	**(c)**	thin			delgado		3
		medium			intermedio		5
		thick			grueso		7
47.	**VS**	**Fruit: firmness**			**Fruto: firmeza**		
QL	**(c)**	soft			fofo		3
		medium			mediano		5
		compact			firme		7
48.	**MG**	**Fruit: texture of flesh (ratio weight/volume)**			**Fruto: densidad de la pulpa (relación peso/volumen)**		
QN	**(c)**	light			ligera		3
		medium			media		5
		dense			densa		7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
49. (*)	**MS**	**Fruit: number of seeds**			**Fruto: número de semillas**		
QN	**(d)**	few			pocas		3
		medium			medio		5
		many			muchas		7
50.	**VG**	**Seed: color**			**Semilla: color**		
PQ	**(d)**	whitish			crema		1
		yellow			amarillo		2
		brown yellow			amarillo café		3
		brown			café		4
		dark brown			café oscuro		5
51.	**VS**	**Seed: size**			**Semilla: tamaño**		
QL	**(d)**	small			pequeño		3
		medium			medio		5
		large			grande		7
52.	**VG**	**Time of flowering**			**Tiempo a floración**		
(+)							
QL	**(a)**	early			precoz		3
		medium			media		5
		late			tardía		7
53.	**VG**	**Time of harvest maturity**			**Fruto: tiempo a madurez comercial**		
(+)							
QL	**(c)**	early			precoz		3
		medium			media		5
		late			tardía		7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
54. (+)	**VG**	**Time of physiological maturity**			**Fruto: tiempo a madurez fisiológica**		
QL	**(d)**	early			precoz		3
		medium			media		5
		late			tardía		7
55.	**MG**	**Fruit: dry matter content**			**Fruto: contenido de materia seca**		
QN	**(d)**	low			bajo		3
		medium			medio		5
		high			alto		7
56.	**VG**	**Shelf life (beginning test at harvest maturity)**			**Vida de anaquel (iniciar la prueba en madurez comercial)**		
QN		short			corta		3
		medium			intermedia		5
		long			larga		7

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

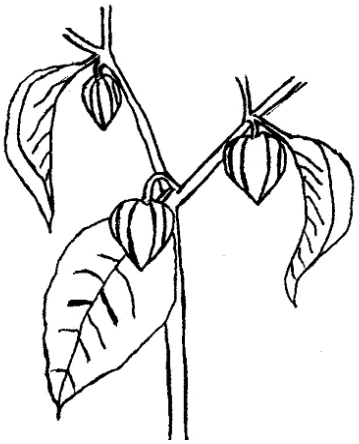
Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

(a) Characteristics which should be examined at seedling, i.e. before the time of the development of the first leaf.

(b) Characteristics which should be examined at flowering, i.e. after the time of the flowering. For examination, use the best one of the three flowers of the nodes of three first branchings.

(c) Characteristics which should be examined at harvest maturity, i.e. when the fruit fills the calyx. For examination, use the best one of the three fruits of the nodes of three first branchings of plants.

(d) Characteristics which should be examined at physiological maturity, i.e. the time of change of seed color from white to another color. For examination, use the best one of the three fruits of the nodes of three first branchings.



Three nodes at three first branching of plant

(e) Characteristics which should be examined when flowering begins at the fifth node of the four principal branches.

8.2 Explanations for individual characteristics

Ad. 10: Leaf blade: shape

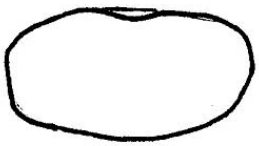
[Still to be provided]

Ad. 28: Fruit: ratio length/diameter

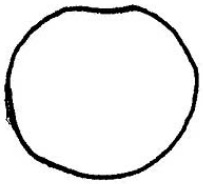
These characteristics are assessed by next relation:

	Ratio length/diameter	ratio length/diameter
small	is smaller than 1	3
medium	is close than 1	5
large	is higher than 1	7

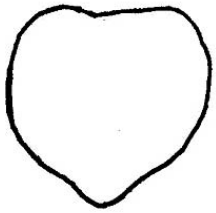
Ad. 29: Fruit: shape in longitudinal section



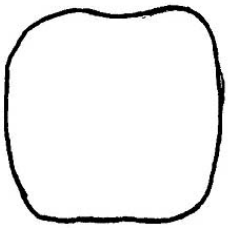
1
oblate



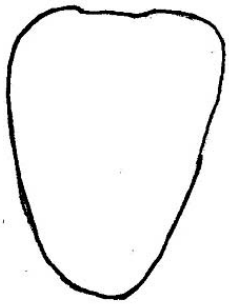
2
round



3
Herat shapened

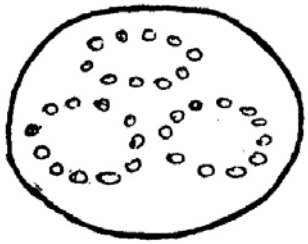


4
square

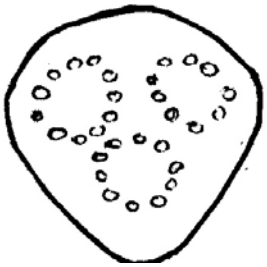


5
triangular

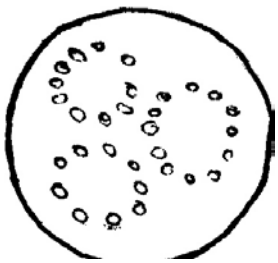
Ad. 30: Fruit: shape in cross section



1
elliptic

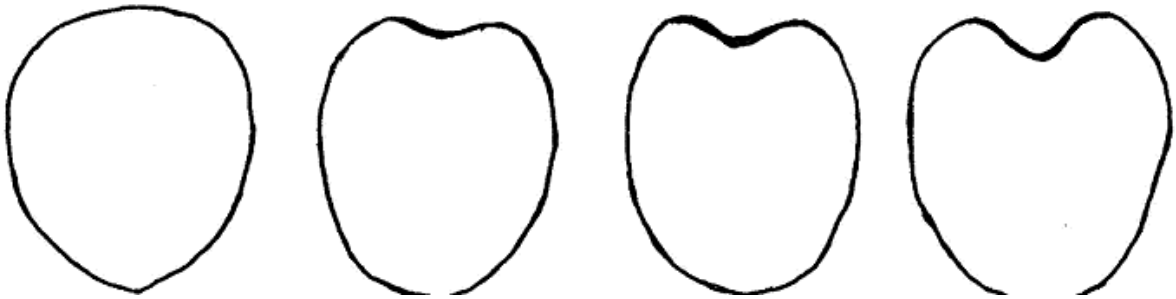


2
angular



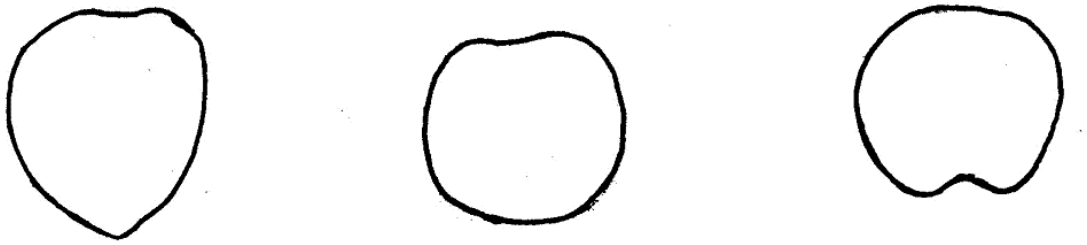
3
circular

Ad. 31: Fruit: depression at base



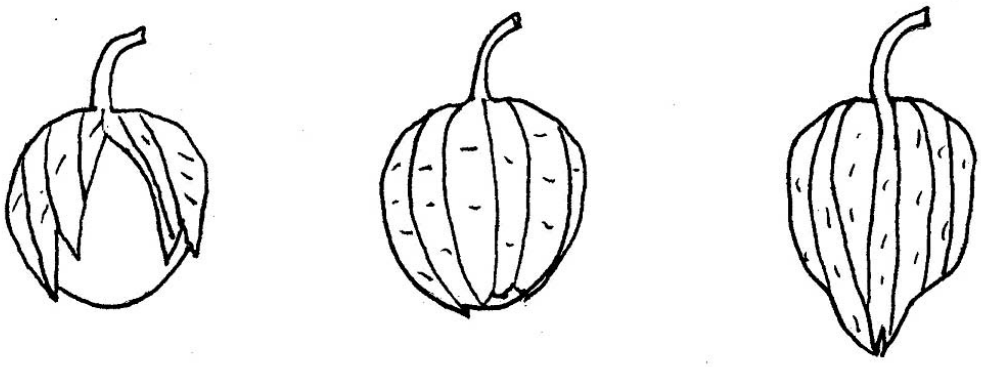
1	3	5	7
plane	shallow	medium	deep

Ad. 32: Fruit: shape of apex



1	2	3
pointed	rounded	depressed

Ad. 39: Fruit: enclosure of calyx

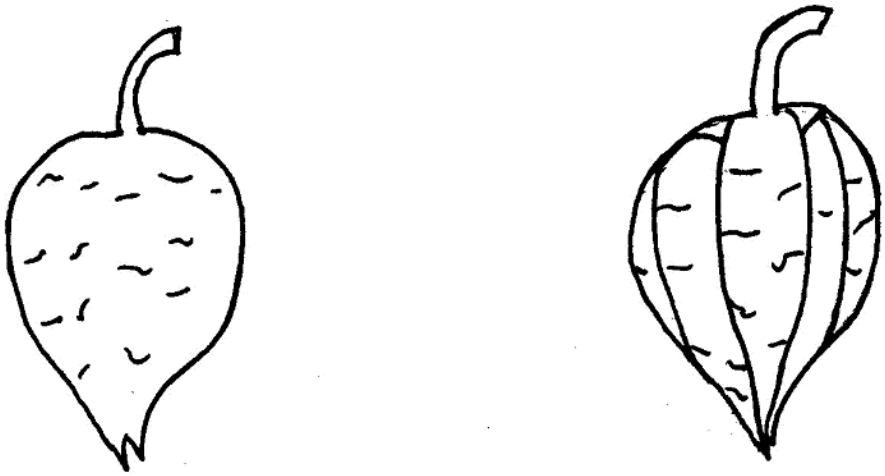


1
minimum

2
medium

3
whole

Ad. 42: Calyx: ribbing



1
absent

2
present

Ad. 52: Time of flowering

This characteristic is assessed by observing the flowering date of the flowers on the three first branching, plant by plant. The date of flowering is recorded by the plot average.

Ad. 53: Time of harvest maturity

This characteristic is assessed by observing the ending of growth of fruits at one of three first branchings, plant by plant. It is recommended to check when beginning fruit fill the calyx. The date of physiological maturity is recorded by the plot average.

Ad. 54: Time of physiological maturity

This characteristic is assessed by observing the beginning of change of seed color, from white to another color at one of three first branchings, 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	*Physalis ixocarpa* Brot.
1.2 Common Name	Husk Tomato

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	
Breeder (if different from applicant)	

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

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

4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]
(please state parent varieties)
(b) partially known cross [ ]
(please state known parent variety(ies))
(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery and development [ ]
(please state where and when discovered and how developed)

4.1.4 Other [ ]
(please provide details)

4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

(a) Self-pollination [ ]
(b) Cross-pollination [ ]
(c) Hybrid [ ]
(d) Other [ ]
(please provide details)

4.2.2 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 (3)	**Plant: growth habit**		
	upright	Zacoalco SM 3E	1[ ]
	semi-upright	Diamante	2[ ]
	prostrate	Chapingo	3[ ]
5.2 (5)	**Stem: length of internodes**		
	short	Población -3	3[ ]
	medium		5[ ]
	long	Tecamac SM3	7[ ]
5.3 (6)	**Stem: anthocyanin coloration of internodes**		
	absent	Chapingo	1[ ]
	present	Tamazula SM3	9[ ]
5.4 (25)	**Fruit: size**		
	small	Milpero Tetela	1[ ]
	medium		3[ ]
	large		5[ ]
	very large	Puebla SM3	7[ ]
5.5 (35)	**Fruit: main color**		
	white		1[ ]
	yellow		2[ ]
	orange		3[ ]
	green		4[ ]
	purple		5[ ]

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

	Characteristics	Example Varieties	Note
5.6 (43)	**Calyx: anthocyanin coloration**		
	absent		1[ ]
	present		9[ ]
5.7 (45)	**Peduncle: length**		
	short		3[ ]
	medium		5[ ]
	long		7[ ]
5.8 (46)	**Peduncle: thickness at basal part**		
	thin		3[ ]
	medium		5[ ]
	thick		7[ ]
5.9 (49)	**Fruit: number of seeds**		
	few		3[ ]
	medium		5[ ]
	many		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	*Fruit: color after first color change*	*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

A representative color photograph of the variety should accompany the Technical Questionnaire.

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".

……

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

[End of document]