



TG/93/4(proj.3)  
ORIGINAL: English  
DATE: 2013-05-06

# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

## GROUNDNUT

UPOV Code: ARACH\_HYP

*Arachis hypogaea* L.

## GUIDELINES

### FOR THE CONDUCT OF TESTS

### FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by an expert from South Africa*

*to be considered by the*

*Technical Working Party for Agricultural Crops  
at its forty-second session, to be held in Kyiv, Ukraine, from June 17 to 21, 2013*

Alternative Names:\*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Arachis hypogaea</i> L.	Groundnut, Peanut	Arachide	Erdnuß	Cacahuete, Maní

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](http://www.upov.int)), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Arachis hypogaea* L..

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:

1 kg.

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

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 The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column of the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.2.

3.3.3 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 60 plants, which should be divided between at least 2 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 *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.

Further guidance is provided in documents TGP/9 "Examining Distinctness" and TGP/8 "Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability".

#### 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.

#### 4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 1.

#### 4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation 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

Type of observation: visual (V) or measurement (M)

"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side

comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

#### 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 Uniformity assessment by off-types (characteristics observed on different sample sizes)

In cases where samples of different sizes are used for the assessment of uniformity of different characteristics, guidance should be given for all sample sizes. In such cases, the relevant sample size for each characteristic should be indicated in the Table of Characteristics.

##### 4.2.2.1 *Uniformity assessment on all plants in the test*

For the assessment of uniformity in a sample of 60 plants, a population standard of 1% and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 60 plants, 3 off-types are allowed.

##### 4.2.2.2 *Uniformity assessment on a sub-sample*

For the assessment of uniformity of plants, parts of plants, a population standard of 1% and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 20 plants, parts of plants, 1 off-type is allowed.

##### 4.2.2.3 *Indication of sample size in the Table of Characteristics*

The recommended sample size for the assessment of uniformity is indicated by the following key in the table of characteristics:

- (A) sample size of 60 plants
- (B) sample size of 20 plants/parts of plants

#### 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 further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial 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) Primary branches: flowering pattern (characteristic 10)
- (c) Pod: number of kernels (characteristic 13)
- (d) Kernel: main color of mature uncured testa (characteristic 14)
- (e) Kernel: presence of secondary color of mature uncured testa (characteristic 15)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".

## 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*

6.2.1 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.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".

### 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 4.1.5

(a) See Explanations on the Table of Characteristics in Chapter 8.1.

(+) See Explanations on the Table of Characteristics in Chapter 8.3.

A-B See Chapter 4.2.2.3

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>1. VG</b> <b>(*)</b>	<b>Plant: growth habit</b>					
<b>QN (61-69)</b>	erect				Tufa	1
<b>A</b>	semi-erect				Sellie	2
	prostrate				Inkanyezi	3
<b>2. VG</b>	<b><u>Prostrate varieties only:</u> Side branches: growth habit</b>					
<b>QN (61-69)</b>	tips slightly upturned					1
<b>A</b>	tips moderately upturned					2
	tips strongly upturned				Inkanyezi	3
<b>3. VG</b> <b>(+)</b>	<b>Plant: density</b>					
<b>QN (61-69)</b>	sparse				Mwenje	1
<b>A</b>	medium				Nyanda	2
	dense				ARC- Oleic2	3
<b>4. VG</b> <b>(*)</b> <b>(+)</b>	<b>Stem: anthocyanin coloration</b>					
<b>QN (61-69)</b>	absent or very weak				Harts	1
<b>A</b>	weak				Kwarts	2
	medium				Sellie	3
	strong				Kanosel	4
<b>5. VG/</b> <b>(*)</b> <b>MG</b> <b>(+)</b>	<b>Basal leaflet: length</b>					
<b>QN (65-69)</b>	short				Sellie	3
<b>B (a)</b>	medium				Tufa	5
	long				ARC-Opal1	7
<b>6. VG</b> <b>(+)</b>	<b>Basal leaflet: predominate position of broadest part</b>					
<b>PQ (65-69)</b>	towards the apex				ARC-Oleic2	1
<b>B (a)</b>	middle				ARC-Opal1	2
<b>7. VG</b> <b>(+)</b>	<b>Basal leaflet: predominate shape of apex</b>					
<b>PQ (65-69)</b>	acute				ARC-Opal1, Kwarts	1
<b>B (a)</b>	obtuse				Akwa	2
	rounded				ARC-Oleic2	3
	obcordate					4



	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>8.</b>	<b>VG</b>	<b>Leaf: intensity of green color</b>				
<b>QN (65-69)</b>		light			ARC-Opal1	1
<b>A (a)</b>		medium			ARC-Oleic2	2
		dark				3
<b>*9.</b>	<b>VG</b>	<b>Main stem: presence of flowers</b>				
<b>QL (61-69)</b>		absent				1
<b>B</b>		present			Akwa	9
<b>10.</b>	<b>VG</b>	<b>Primary branches: flowering pattern</b>				
<b>(*)</b>						
<b>(+)</b>						
<b>QL (61-69)</b>		alternate			ARC-Opal1	1
<b>B</b>		sequential			Akwa, ARC-Oleic2	2
<b>11.</b>	<b>VG</b>	<b>Pod: constrictions</b>				
<b>(+)</b>						
<b>QN (88-89)</b>		absent or very shallow				1
<b>B</b>		shallow			ARC-Oleic2	2
		medium			ARC-Opal1	3
		deep			Inkanyezi	4
		very deep				5
<b>12.</b>	<b>VG</b>	<b>Pod: degree of reticulation</b>				
<b>QN (88-89)</b>		shallow				1
<b>B</b>		medium			ARC-Oleic2	2
		deep				3
<b>13.</b>	<b>VG</b>	<b>Pod: number of kernels</b>				
<b>(*)</b>						
<b>QL (88-89)</b>		mostly two			Akwa	1
<b>B</b>		mostly more than two			Kanosel	2
<b>14.</b>	<b>VG</b>	<b>Kernel: main color of mature uncured testa</b>				
<b>(*)</b>						
<b>PQ (99)</b>		white				1
<b>B</b>		brownish pink			Akwa, Kwarts	2
		red pink				3
		red			Harts, Kanosel	4
		purple			Kurorakkasel	5
		medium brown				6
<b>15.</b>	<b>VG</b>	<b>Kernel: presence of secondary color of mature uncured testa</b>				
<b>(*)</b>						
<b>QL (99)</b>		absent			Akwa, Kwarts	1
		present			Shimahikari	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>16. VG</b>	<b>Kernel: shape</b>					
<b>PQ (99)</b>	spheriodal					1
<b>B</b>	cylindrical				ARC-Oliec2	2
	irregular				Kanosel	3
<b>17. VG</b>	<b>Kernel: size</b>					
<b>QN (99)</b>	small				Tufa	1
<b>B</b>	medium				Kanosel	2
	large				Rambo	3
<b>18. VG</b>	<b>Shell: thickness</b>					
<b>QN (99)</b>	thin					1
<b>B</b>	medium				Kanosel	2
	thick					3
<b>19. VG</b>	<b>Time of maturity</b>					
<b>(+)</b>						
<b>QN (85)</b>	early					3
	medium					5
	late					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) all leaf characteristics should be made on a fully developed basal leaflet

### 8.2 *Growth Stages*

Characteristics containing the 2-digit code in the second column of the Table of Characteristics should be examined as indicated below:

<b>Growth stage</b>	<b>Code</b>	<b>Description</b>	
0: Germination	00	Dry seed	
	01	Beginning of seed imbibition	
	03	Seed imbibition complete	
	05	Radicle emerged from seed	
	07	Hypocotyl with cotyledons breaking through seed coat	
	08	Hypocotyl reaches the soil surface: hypocotyl arch visible	
	09	Emergence: hypocotyl with cotyledons arising above soil surface (cracking stage)	
	1: Leaf development (main shoot)	10	Cotyledons completely unfolded <sup>1</sup>
		11	First true leaf (pinnate) unfolded <sup>1</sup>
12		2nd true leaf (pinnate) unfolded <sup>1</sup>	
13		3 <sup>rd</sup> true leaf (pinnate) unfolded <sup>1</sup>	
1 .		Stages continuous till	
2: formation of side shoots	19	9 or more true leaves unfolded <sup>1</sup> . No side shoots visible <sup>2</sup>	
	21	1 <sup>st</sup> side shoot visible	
	22	2 <sup>nd</sup> side shoot visible	
	23	3 <sup>rd</sup> side shoot visible	
	2 .	Stages continuous till ....	
3: Main stem elongation (crop cover)	29	9 or more side shoots visible	
	31	Beginning of crop cover: 10% of plants meets between rows	
	32	20% of plants meets between rows	
	33	30% of plants meets between rows	
	34	40% of plants meets between rows	
	35	50% of plants meets between rows	
	36	60% of plants meets between rows	
	37	70% of plants meets between rows	
	38	80% of plants meets between rows	
5: Inflorescence emergence	39	Crop cover complete. 90% of plants meets between rows	
	51	First inflorescence buds visible	
	55	First individual flower buds visible	
6: Flowering	59	First flower petals visible. Flower buds still closed	
	61	Beginning of flowering	
	62	First carpophore pegs visible	
	63	Continuation of flowering	
	64	First carpophore pegs visibly elongated	
	65	Full flowering	
	66	First carpophore pegs penetrating the soil	
	67	Flowering declining <sup>3</sup>	
	68	Tip of first carpophore pegs growing horizontally in the soil	
7: Development of fruits and seeds	69	End of flowering	
	71	Beginning of pod development: tip of first carpophore pegs swollen (at least twice the original diameter)	
	73	Continuation of pod development: beginning of pod filling: first pods have attained final size and are ripening	
	75	Main phase of pod development: continuation of pod filling	
	77	Advance pod filling	
	79	Fresh seeds fill the cavity of the pods which have attained their final size	

8: Ripening of fruits and seeds <sup>4</sup>	81	Beginning of ripening: about 10% of pods developed to final size are ripe
	82	About 20% of pods developed to final size are ripe
	83	Continuation of ripening: about 30% of pods developed to final size are ripe
	84	About 40% of pods developed to final size are ripe
	85	Main phase of ripening: about 50% of pods developed to final size are ripe
	86	About 60% of pods developed to final size are ripe
	87	Advanced ripening: about 70% of pods developed to final size are ripe
	88	About 80% of pods developed to final size are ripe
	89	Full maturity: nearly all pods developed to final size are ripe
9: Senescence	91	About 10% of above ground parts of plant dry
	92	About 20% of above ground parts of plant dry
	93	About 30% of above ground parts of plant dry
	94	About 40% of above ground parts of plant dry
	95	About 50% of above ground parts of plant dry
	96	About 60% of above ground parts of plant dry
	97	Above ground parts of plant dead
	99	Harvested product

<sup>1.</sup> Leaves are counted from the cotyledon node (= node 0)

<sup>2.</sup> Side shoot development may occur earlier; in this case continue with principal growth stage 2

<sup>3.</sup> Only for varieties with a determinate flowering period

<sup>4.</sup> Criteria of maturity: Pericarp hard, with distinct texture, can be split open easily;

### 8.3 *Explanations for individual characteristics*

#### Ad. 3: Plant: density



1  
sparse



2  
medium



3  
dense

Ad. 4: Stem: anthocyanin coloration



1  
absent



2  
weak

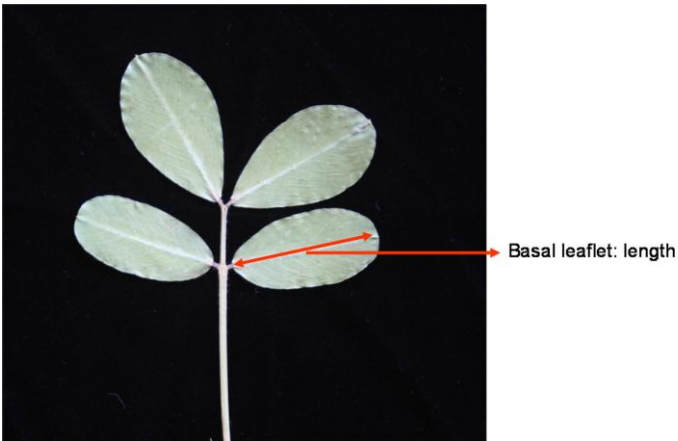


3  
medium



4  
strong

Ad 5.: Basal leaflet: length



Ad 6: Basal leaflet: predominate position of broadest part



1  
towards the apex



2  
middle

Ad. 7: Basal leaflet: predominate shape of apex



1  
acute



2  
obtuse



3  
rounded



4  
obcordate

Ad. 10: Primary branches: flowering pattern

alternate (1): nodes with flowers alternating with nodes without flowers  
sequential (2): flowers on every node

Ad. 11: Pod: constrictions

To observed the predominate expression.



1  
absent or very shallow



2  
shallow



3  
medium



4  
deep



5  
very deep

9. Literature

Munger, L.; H. Bleiholder, H. Hack, M. Hess, R. Stauss, T. van den Boom, E. Weber, 1998: Phenological Growth Stages of the Peanut plant (*Arachis hypogaea* L.) Codification and Description according to the BBCH Scale – with figures. *Journal of Agronomy and Crop Science* **180** (2): 101–107. [doi:10.1111/j.1439-037X.1998.tb00377.x](https://doi.org/10.1111/j.1439-037X.1998.tb00377.x).



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="Arachis hypogaea L."/>	
1.2 Common name	<input type="text" value="Groundnut"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
3. Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]  
(please state parent varieties)

(.....) x (.....)  
female parent male parent

(b) partially known cross [ ]  
(please state known parent variety(ies))

(.....) x (.....)  
female parent male parent

(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:
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4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

- |     |                          |     |
|-----|--------------------------|-----|
| (a) | Self-pollination         | [ ] |
| (b) | Cross-pollination        |     |
|     | (i) population           | [ ] |
|     | (ii) synthetic variety   | [ ] |
| (c) | Hybrid                   | [ ] |
| (d) | Other                    | [ ] |
|     | (please provide details) |     |

[ ]

4.2.2 Vegetatively propagated varieties [ ]

4.2.3 Other [ ]  
(please provide details)

[ ]

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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
<b>5.1 Plant: growth habit (1)</b>		
erect	Tufa	1[ ]
semi-erect	Kwarts	2[ ]
prostrate	Inkanyezi	3[ ]
<b>5.2 Primary branches: flowering pattern (10)</b>		
alternate	ARC-Opal1	1[ ]
sequential	Akwa, ARC-Oleic2	2[ ]
<b>5.3 Pod: number of kernels (13)</b>		
mostly two	Akwa	1[ ]
mostly more than two	Kanosel	2[ ]
<b>5.5 Kernel: main color of mature uncured testa (14)</b>		
white		1[ ]
brownish pink	Akwa, Kwarts	2[ ]
red pink		3[ ]
red	Harts, Kanosel	4[ ]
purple	Kurorakkasel	5[ ]
medium brown		6[ ]
<b>5.6 Kernel: presence of secondary color of mature uncured testa (15)</b>		
absent	Akwa, Harts	1[ ]
present	Shimahikari	9[ ]
<b>5.7 Commercial grouping</b>		
Spanish	Sellie	1[ ]
Valencia	Kangwane Red	2[ ]
Virginia	Inkanyezi	3[ ]

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6. Similar varieties and differences from these varieties

*Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.*

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the <b>similar</b> variety(ies)	Describe the expression of the characteristic(s) for the characteristic(s) for <b>your</b> candidate variety
<i>Example</i>	<i>Kernel: size</i>	<i>small</i>	<i>large</i>

Comments:

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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [ ] No [ ]

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

A representative color image 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.

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9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- |   |         |        |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma)    | Yes [ ] | No [ ] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [ ] | No [ ] |
| (c) Tissue culture  | Yes [ ] | No [ ] |
| (d) Other factors   | Yes [ ] | No [ ] |

Please provide details for where you have indicated "yes".

.....

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]