



These Test Guidelines have been superseded by a later version. The latest adopted version of Test Guidelines can be found at [http://www.upov.int/test\\_guidelines/en/list.jsp](http://www.upov.int/test_guidelines/en/list.jsp)

This publication has been scanned from a paper copy and may have some discrepancies from the original document.

---

Ces principes directeurs d'examen ont été remplacés par une version ultérieure. La version adoptée la plus récente des principes directeurs d'examen figure à l'adresse suivante : [http://www.upov.int/test\\_guidelines/fr/list.jsp](http://www.upov.int/test_guidelines/fr/list.jsp)

Cette publication a été numérisée à partir d'une copie papier et peut contenir des différences avec le document original.

---

Diese Prüfungsrichtlinien wurden durch eine neuere Fassung ersetzt. Die neueste angenommene Fassung von Prüfungsrichtlinien ist unter [http://www.upov.int/test\\_guidelines/en/list.jsp](http://www.upov.int/test_guidelines/en/list.jsp) zu finden.

Diese Veröffentlichung wurde von einer Papierkopie gescannt und könnte Abweichungen von der originalen Veröffentlichung aufweisen.

---

Las presentes directrices de examen han sido reemplazadas por una versión posterior. La versión de las directrices de examen de más reciente aprobación está disponible en [http://www.upov.int/test\\_guidelines/es/list.jsp](http://www.upov.int/test_guidelines/es/list.jsp).

Este documento ha sido escaneado a partir de una copia en papel y puede que existan divergencias en relación con el documento original.



TG/218/1

ORIGINAL: English

DATE: 2004-03-31

**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**PARSNIP**

*(Pastinaca sativa L.)*

\*

**GUIDELINES**

**FOR THE CONDUCT OF TESTS**

**FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

Alternative Names:\*

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Pastinaca sativa L.</i>	Parsnip	Panais	Pastinake	Chirivía

**ASSOCIATED DOCUMENTS**

These 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.

---

\* 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.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED .....	3
3. METHOD OF EXAMINATION.....	3
3.1 Duration of Tests.....	3
3.2 Testing Place .....	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design .....	4
3.5 Number of Plants / Parts of Plants to be Examined.....	4
3.6 Additional Tests .....	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY .....	4
4.1 Distinctness .....	4
4.2 Uniformity.....	5
4.3 Stability .....	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL .....	5
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS .....	6
6.1 Categories of Characteristics.....	6
6.2 States of Expression and Corresponding Notes.....	6
6.3 Types of Expression .....	6
6.4 Example Varieties .....	6
6.5 Legend.....	7
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	8
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS .....	13
8.1 Explanations covering several characteristics .....	13
8.2 Explanations for individual characteristics .....	13
9. LITERATURE .....	19
10. TECHNICAL QUESTIONNAIRE.....	20

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Pastinaca sativa* 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:

100 g or 15,000 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 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 *Duration of Tests*

The minimum duration of tests should normally be two independent growing cycles.

3.2 *Testing Place*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be observed at that place, the variety may be tested at an additional place.

3.3 *Conditions for Conducting the Examination*

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.

3.3.1 Type of observation

The recommended method of observing the characteristic is indicated by the following key in the second column of the Table of Characteristics:

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

### 3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 200 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 on single plants should be made on 60 plants or parts taken from each of 60 plants and any other observations made on all plants in the test.

### 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 minimum duration of tests recommended in Section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

#### 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*

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.

### 4.2.1 Cross-pollinated varieties

The assessment of uniformity for cross-pollinated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.

### 4.2.2 Single cross hybrids and self-pollinated varieties (inbred lines)

For the assessment of uniformity of single cross hybrids and self-pollinated varieties (inbred lines), a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 200 plants, 7 off-types are allowed.

### 4.2.3 Hybrids

The assessment of uniformity for hybrid varieties depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction. In the case of single cross hybrids, the uniformity standards are set out in Section 4.2.2.

## 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.

4.3.3 The stability of a hybrid variety may, in addition to an examination of the hybrid variety itself, also be assessed by examination of the uniformity and stability of its parent lines.

## 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 is 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) Root: length (characteristic 15)
- (b) Root: width (characteristic 16)

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*

(\*) Asterisk characteristic – see Section 6.1.2

QL Qualitative characteristic – see Section 6.3

QN Quantitative characteristic – see Section 6.3

PQ Pseudo-qualitative characteristic – see Section 6.3

MG Single measurement of a group of plants or parts of plants – see Section 3.3.1

MS Measurement of a number of individual plants or parts of plants – see Section 3.3.1

VG Visual assessment by a single observation of a group of plants or parts of plants – see Section 3.3.1

VS Visual assessment by observation of individual plants or parts of plants – see Section 3.3.1

(a) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 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
<b>1. VG</b>	<b>Foliage: attitude</b>	<b>Feuillage: port</b>	<b>Laub: Haltung</b>	<b>Follaje: porte</b>		
<b>QN</b>	erect	dressé	aufrecht	erecto	MS 2	1
	erect to semi erect	dressé à demi-dressé	aufrecht bis halbaufrecht	erecto a semierecto	Countess	2
	semi erect	demi-dressé	halbaufrecht	semierecto	Gladiator	3
	semi erect to prostrate	demi-dressé à étalé	halbaufrecht bis liegend	semierecto a postrado	Guernsey	4
	prostrate	étalé	liegend	postrado		5
<b>2. VG</b>	<b>Foliage: intensity of green color</b>	<b>Feuillage: intensité de la couleur verte</b>	<b>Laub: Intensität der Grünfärbung</b>	<b>Follaje: intensidad del color verde</b>		
<b>QN</b>	light	claire	hell	claro	Avonresister	3
	medium	moyenne	mittel	medio	Alba, Guernsey	5
	dark	foncée	dunkel	oscuro	Andover	7
<b>3. VG</b>	<b>Foliage: glossiness</b>	<b>Feuillage: brillance</b>	<b>Laub: Glanz</b>	<b>Follaje: brillo</b>		
<b>QN</b>	weak	faible	gering	débil	Avonresister	3
	medium	moyenne	mittel	medio	Polar	5
	strong	forte	stark	fuerte	Imperial Crown	7
<b>4. VG/ MS (+)</b>	<b>Foliage: width of basal leaves at crown</b>	<b>Feuillage: largeur des feuilles basales de la partie supérieure</b>	<b>Laub: Breite der basalen Blätter an der Krone</b>	<b>Follaje: anchura de las hojas basales de la corona</b>		
<b>QN</b>	narrow	étroite	schmal	estrecha	Alba	3
	medium	moyenne	mittel	media	New White Skin	5
	broad	large	breit	ancha	Tender and True	7
<b>5. VG</b>	<b>Foliage: blistering</b>	<b>Feuillage: cloqûre</b>	<b>Laub: Blasigkeit</b>	<b>Follaje: abullonado</b>		
<b>QN</b>	weak	faible	gering	débil	Imperial Crown	3
	medium	moyenne	mittel	medio	Avonresister	5
	strong	forte	stark	fuerte	Paragon	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota	
<b>6.</b>	<b>VG/</b>	<b>Leaf: length</b>	<b>Feuille: longueur</b>	<b>Blatt: Länge</b>	<b>Hoja: longitud</b>		
(*)	<b>MS</b>						
(+)							
<b>QN</b>	<b>(a)</b>	short	courte	kurz	corta	Alba	3
		medium	moyenne	mittel	media	New White Skin	5
		long	longue	lang	larga	Tenor	7
<b>7.</b>	<b>VG/</b>	<b>Leaf: width</b>	<b>Feuille: largeur</b>	<b>Blatt: Breite</b>	<b>Hoja: anchura</b>		
(*)	<b>MS</b>						
(+)							
<b>QN</b>	<b>(a)</b>	narrow	étroite	schmal	estrecha	Arrow	3
		medium	moyenne	mittel	media	New White Skin	5
		broad	large	breit	ancha	Tenor	7
<b>8.</b>	<b>MS</b>	<b>Leaf: distance from widest point to tip</b>	<b>Feuille: distance du point le plus large au sommet</b>	<b>Blatt: Abstand von breitester Stelle bis zur Spitze</b>	<b>Hoja: distancia del punto mas ancho al extremo</b>		
(+)							
<b>QN</b>	<b>(a)</b>	short	petite	klein	pequeña	Alba	3
		medium	moyenne	mittel	media	Avonresister	5
		long	grande	groß	grande	Tenor	7
<b>9.</b>	<b>VG</b>	<b>Leaf: division</b>	<b>Feuille: division</b>	<b>Blatt: Fiederung</b>	<b>Hoja: división</b>		
(+)							
<b>QN</b>	<b>(a)</b>	weak	faible	gering	débil	Andover	3
		medium	moyenne	mittel	media	Lancer	5
		strong	forte	stark	fuerte	Tender and True	7
<b>10.</b>	<b>VG</b>	<b>Leaflet: division</b>	<b>Foliolo: division</b>	<b>Blattfieder: Fiederung</b>	<b>Folíolo: división</b>		
(+)							
<b>QN</b>	<b>(a)</b>	weak	faible	gering	débil	Countess	3
		medium	moyenne	mittel	media	White King	5
		strong	forte	stark	fuerte	Paragon	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>11.</b>	<b>VG</b>	<b>Leaflet: dentation of margin</b>	<b>Foliolo: dentelure du bord</b>	<b>Blattfieder: Zähnung des Randes</b>	<b>Folíolo: dentado del borde</b>	
<b>QN</b>	<b>(a)</b>	weak	faible	gering	débil	Avonresister 3
		medium	moyenne	mittel	medio	Javelin 5
		strong	forte	stark	fuerte	Countess 7
<b>12.</b>	<b>VG/ MS (+)</b>	<b>Leaflet: size</b>	<b>Foliolo: taille</b>	<b>Blattfieder: Größe</b>	<b>Folíolo: tamaño</b>	
<b>QN</b>	<b>(a)</b>	small	petite	klein	pequeño	Arrow 3
		medium	moyenne	mittel	medio	Panache 5
		large	grande	groß	grande	Tenor 7
<b>13.</b>	<b>VG</b>	<b>Petiole: intensity of anthocyanin coloration</b>	<b>Pétiole: intensité de la pigmentation anthocyanique</b>	<b>Blattstiel: Stärke der Anthocyanfärbung</b>	<b>Pecíolo: intensidad de la pigmentación antocianica</b>	
<b>QN</b>		weak	faible	gering	débil	Tender and True 3
		medium	moyenne	mittel	media	White Gem 5
		strong	forte	stark	fuerte	MS2 7
<b>14.</b>	<b>VG/ MS (* (+)</b>	<b>Petiole: length</b>	<b>Pétiole: longueur</b>	<b>Blattstiel: Länge</b>	<b>Pecíolo: longitud</b>	
<b>QN</b>		short	court	kurz	corto	Excalibur 3
		medium	moyen	mittel	medio	New White Skin 5
		long	long	lang	largo	Countess 7
<b>15.</b>	<b>VG/ MS (* (+)</b>	<b>Root: length</b>	<b>Racine: longueur</b>	<b>Rübe: Länge</b>	<b>Raíz: longitud</b>	
<b>QN</b>		short	courte	kurz	corta	Alba 3
		medium	moyenne	mittel	media	White Gem 5
		long	longue	lang	larga	Paragon 7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>16.</b>	<b>VG/ MS</b>	<b>Root: width</b>	<b>Racine: largeur</b>	<b>Rübe: Breite</b>	<b>Raíz: anchura</b>	
(*)						
(+)						
<b>QN</b>	narrow	étroite	schmal	estrecha	Arrow	3
	medium	moyenne	mittel	media	Tender and True	5
	broad	large	breit	ancha	White King	7
<b>17.</b>	<b>MS</b>	<b>Root: distance from widest point to crown</b>	<b>Racine: distance du point le plus large à la partie supérieure</b>	<b>Rübe: Abstand von breitester Stelle bis zur Krone</b>	<b>Raíz: distancia del punto mas ancho a la corona</b>	
(*)						
(+)						
<b>QN</b>	short	courte	kurz	corta	Andover	3
	medium	moyenne	mittel	media	Tender and True	5
	long	longue	lang	larga	Avonresister, White King	7
<b>18.</b>	<b>VG</b>	<b>Root: shape</b>	<b>Racine: forme</b>	<b>Rübe: Form</b>	<b>Raíz: forma</b>	
(*)						
(+)						
<b>PQ</b>	narrow obtriangular	obtriangulaire étroite	schmal verkehrt dreieckig	obtriangular estrecha	Arrow	1
	obtriangular	obtriangulaire	verkehrt dreieckig	obtriangular	Guernsey	2
	broad obtriangular	obtriangulaire large	breit verkehrt dreieckig	obtriangular ancha	Tender and True	3
	obovate	obovale	verkehrt eiförmig	oboval	Avonresister	4
<b>19.</b>	<b>VG</b>	<b>Root: depth of crown depression</b>	<b>Racine: profondeur de la dépression de la partie supérieure</b>	<b>Rübe: Tiefe der Einsenkung der Krone</b>	<b>Raíz: profundidad de la depresión de la corona</b>	
(*)						
(+)						
<b>QN</b>	shallow	peu profonde	flach	poco profunda	Polar	3
	medium	moyenne	mittel	media	New White Skin	5
	deep	profonde	tief	profunda	Avonresister, White King	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>20.</b>	<b>VG</b>	<b>Root: width of crown depression</b>	<b>Racine: largeur de la dépression de la partie supérieure</b>	<b>Rübe: Breite der Einsenkung der Krone</b>	<b>Raíz: anchura de la depresión de la corona</b>	
(+)						
<b>QN</b>	narrow	étroite	schmal	estrecha	Alba	3
	medium	moyenne	mittel	media	Andover	5
	broad	large	breit	ancha	White Gem, Tenor	7
<b>21.</b>	<b>VG</b>	<b>Root: external color</b>	<b>Racine: couleur externe</b>	<b>Rübe: Außenfarbe</b>	<b>Raíz: color externo</b>	
<b>PQ</b>	white	blanche	weiß	blanco	New White Skin	1
	whitish cream	crème blanchâtre	weißlich cremefarben	crema blanquecino	Gladiator	2
	cream	crème	cremefarben	crema	Avonresister	3
<b>22.</b>	<b>VG</b>	<b>Root: surface</b>	<b>Racine: surface</b>	<b>Rübe: Oberfläche</b>	<b>Raíz: superficie</b>	
<b>QN</b>	very smooth	très lisse	sehr glatt	muy lisa	Javelin	1
	smooth	lisse	glatt	lisa	Gladiator	3
	medium	moyenne	mittel	media	White King	5
	rough	rugueuse	rauh	rugosa	Avonresister	7
	very rough	très rugueuse	sehr rauh	muy rugosa	Exhibition Long	9
<b>23.</b>	<b>VG</b>	<b>Root: core width</b>	<b>Racine: largeur du cœur</b>	<b>Rübe: Breite der Mittelzone</b>	<b>Raíz: anchura del corazón</b>	
(+)						
<b>QN</b>	narrow	étroit	schmal	estrecho	Arrow	3
	medium	moyen	mittel	medio	New White Skin	5
	broad	large	breit	ancho	White King	7
<b>24.</b>	<b>VG</b>	<b>Root: internal color</b>	<b>Racine: couleur interne</b>	<b>Rübe: Innenfarbe</b>	<b>Raíz: color interno</b>	
<b>PQ</b>	white	blanche	weiß	blanco	New White Skin	1
	whitish cream	crème blanchâtre	weißlich cremefarben	crema blanquecino	Gladiator	2
	cream	crème	cremefarben	crema	Avonresister	3

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:

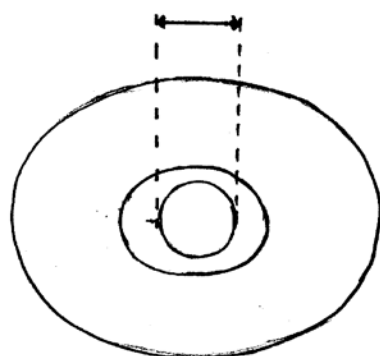
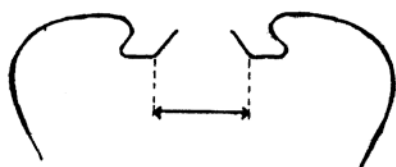
- (a) All observations on the leaf and the leaflet should be made on fully developed plants before harvest maturity.

8.2 *Explanations for individual characteristics*

Ad. 4: Foliage: width of basal leaves at crown

Assessment is easiest when roots are harvested.

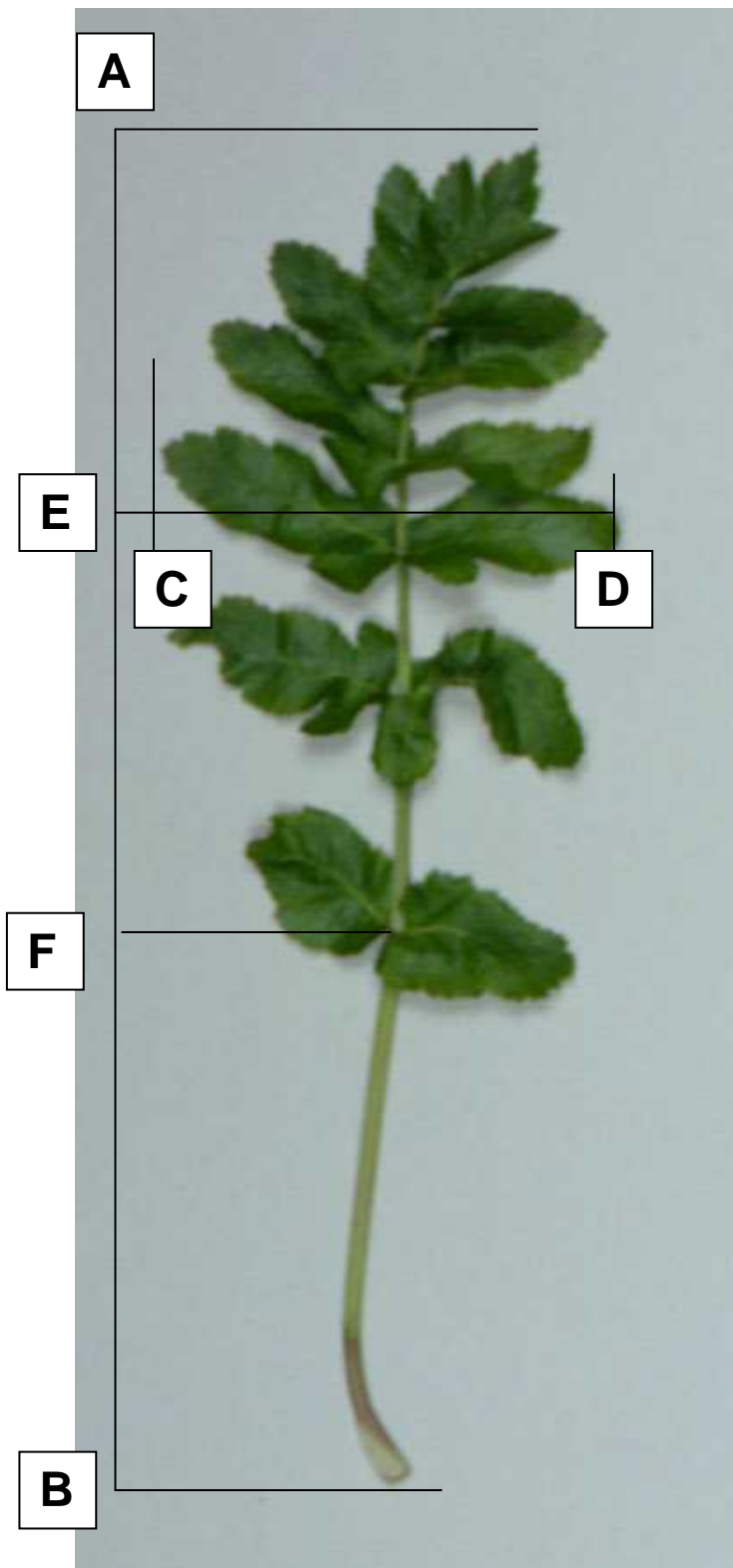
Lateral view (longitudinal section)



Top view (looking down on the crown)

Ad. 6, 7, 8: Leaf: length (6), width (7), distance from widest point to tip (8)

Ad. 14: Petiole: length

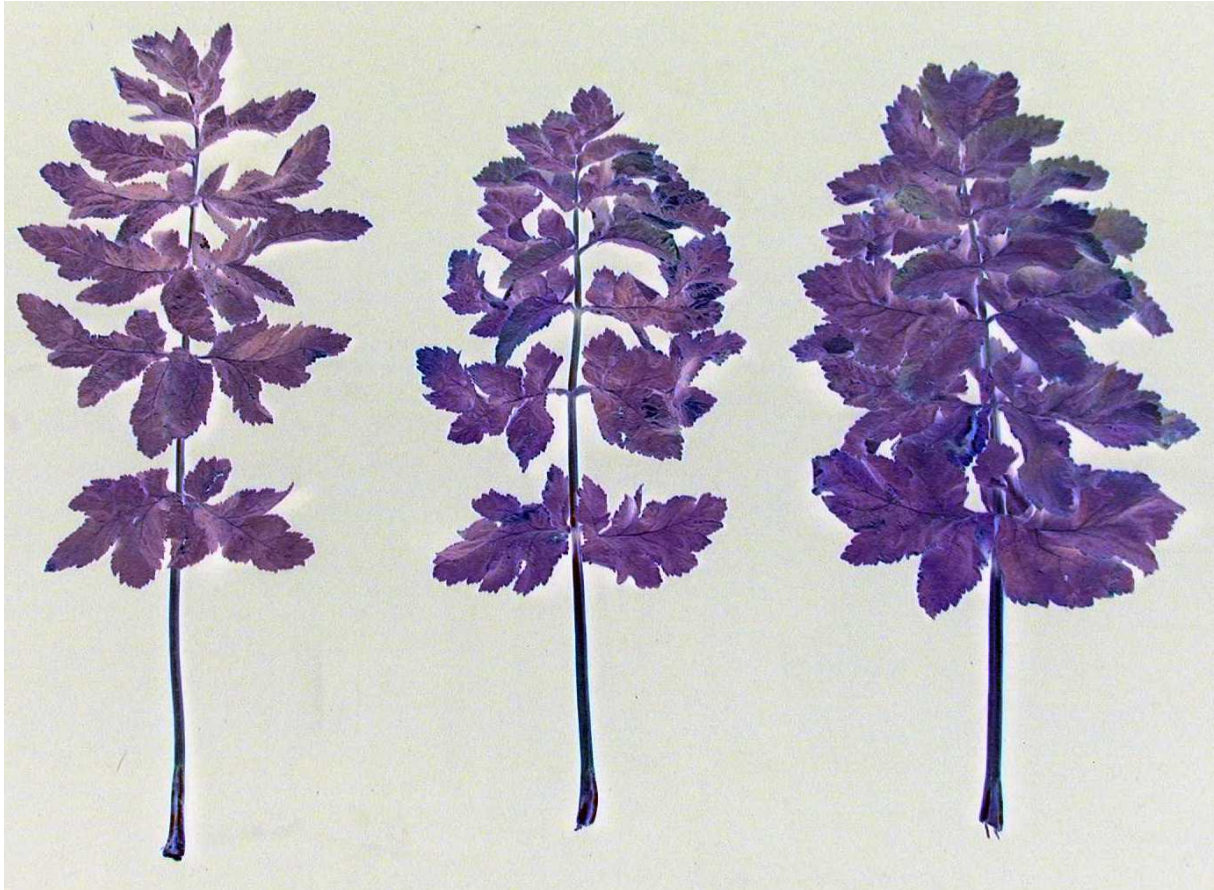


- 6. Leaf: length (A-B)
- 7. Leaf: width (C-D)
- 8. Leaf: distance from widest point to tip (A-E)
- 14. Petiole: length (B-F)

Ad. 9: Leaf: division

Leaf division is the amount of tissue on the leaf relative to the leaf size.

The number of leaflets, the extent to which leaflets overlap and the degree to which leaflets are subdivided (particularly when tissue grows upwards from the plane of the leaf) all contribute to the expression of leaf division.



3  
weak

5  
medium

7  
strong



Ad. 10: Leaflet: division

Assessment should be made on the second leaflet on one side of the midrib for each leaf recorded.



3  
weak



4  
weak to  
medium



5  
medium



6  
medium to  
strong



7  
strong

Ad. 12: Leaflet: size

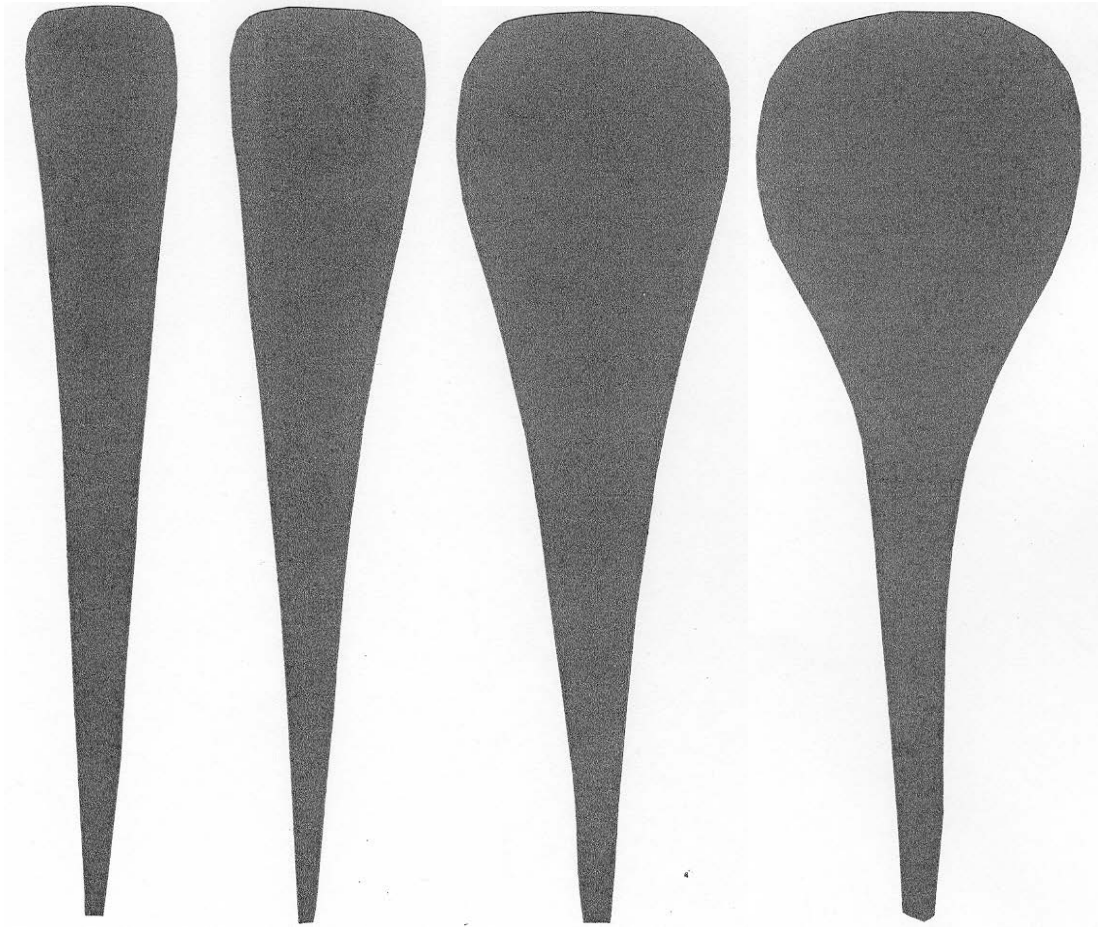
Assessment should be made on the second leaflet on one side of the midrib for each leaf recorded.

Ad. 15, 16, 17, 19, 20, 23: Root characteristics



- 15. Root: length (A-D)
- 16. Root: width (C-I)
- 17. Root: distance from widest point to crown (A-C)
- 19. Root: depth of crown depression (A-B)
- 20. Root: width of crown depression (E-F)
- 23. Root: core width (G-H)

Ad. 18: Root: shape



1  
narrow  
obtriangular

2  
obtriangular

3  
broad  
obtriangular

4  
obovate

9. Literature

Rubatzky, V.E., Quiros, C.F., Simon, P.W. 1999: "Carrots and Related Vegetable *Umbelliferae*." Crop Production science in horticulture series 10. CAB International, Wallingford, UK. ISBN 0 85199 129 7

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
<p><b>TECHNICAL QUESTIONNAIRE</b> to be completed in connection with an application for plant breeders' rights</p> <p>In the case of hybrid varieties which are the subject of an application for plant breeders' rights, and where the parent lines are to be submitted as a part of the examination of the hybrid variety, this Technical Questionnaire should be completed for each of the parent lines, in addition to being completed for the hybrid variety.</p>		
1. Subject of the Technical Questionnaire		
1.1 Latin Name	<input type="text" value="Pastinaca sativa L."/>	
1.2 Common Name	<input type="text" value="Parsnip"/>	
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

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 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
<b>5.1 Leaf: length</b> (6)		
short	Alba	3[ ]
medium	New White Skin	5[ ]
long	Tenor	7[ ]
<b>5.2 Petiole: intensity of anthocyanin coloration</b> (13)		
weak	Tender and True	3[ ]
medium	White Gem	5[ ]
strong	MS2	7[ ]
<b>5.3 Root: length</b> (15)		
short	Alba	3[ ]
medium	White Gem	5[ ]
long	Paragon	7[ ]
<b>5.4 Root: width</b> (16)		
narrow	Arrow	3[ ]
medium	Tender and True	5[ ]
broad	White King	7[ ]
<b>5.5 Root: shape</b> (18)		
narrow obtriangular	Arrow	1[ ]
obtriangular	Guernsey	2[ ]
broad obtriangular	Tender and True	3[ ]
obovate	Avonresister	4[ ]

Characteristics	Example Varieties	Note	
<b>5.6 Root: external color (21)</b>			
white	New White Skin	1[ ]	
whitish cream	Gladiator	2[ ]	
cream	Avonresister	3[ ]	
<b>5.7 Root: surface (22)</b>			
very smooth	Javelin	1[ ]	
smooth	Gladiator	3[ ]	
medium	White King	5[ ]	
rough	Avonresister	7[ ]	
very rough	Exhibition Long	9[ ]	
<p>6. Similar varieties and differences from these varieties</p> <p><i>Please use the table, and space provided for comments, below 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.</i></p>			
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 <b>your</b> candidate variety
<i>Example</i>	<i>Root: external color</i>	<i>whitish cream</i>	<i>cream</i>
<p>Comments:</p>			



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 Special conditions for the examination of the variety

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

Yes [ ] No [ ]

7.2.2 If yes, please give 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.

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 or pesticide) | Yes [ ] | No [ ] |
| (c) Tissue culture  | Yes [ ] | No [ ] |
| (d) Other factors   | Yes [ ] | No [ ] |

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

.....

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

Applicant's name

Signature

Date

[End of document]