

UPOV

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

**DRAFT****ROCKETS**

UPOV Code: ERUCA\_SAT;  
DIPLO\_TEN

*Eruca sativa* Mill.  
*Diplotaxis tenuifolia* DC.

**GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

*prepared by experts from France*

*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: \*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Eruca sativa</i> Mill.	Salad Rocket, Rugula, Rocket-salad, Garden Rocket, Arugula	Roquette cultivée	Senfrauke, Ruke, Ölrauke	Roqueta Oruga común
<i>Diplotaxis tenuifolia</i> DC.	Lincoln's-weed, Sand mustard, Sand rocket, Wall rocket	Roquette sauvage		

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

**ASSOCIATED DOCUMENTS**

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

\* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Eruca sativa* Mill. and *Diplotaxis tenuifolia* DC.

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:

25 g or 15,000 seeds for *Eruca sativa* Mill.  
4 g or 15,000 seeds for *Diplotaxis tenuifolia* DC

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

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 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 60 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 20 plants or parts taken from each of 20 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 differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

#### 4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being

examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

#### 4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 For the assessment of uniformity, a population standard of 2 % and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 60 plants, 4 off-types are allowed.

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

#### 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) Leaf: length (blade and petiole) (characteristic 7)
- (b) Leaf: maximum width (characteristic 8)
- (c) Leaf: division (in middle third of leaf) (characteristic 10)
- (d) Leaf: secondary lobing (characteristic 12)

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. They will be noted in the Table of Characteristics according to (Es) for varieties of *Eruca sativa* Mill. And (Dt) for varieties of *Diplotaxis tenuifolia* DC.

6.5 *Legend*

(\*) Asterisk 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 3.3.1

MS: measurement of a number of individual plants or parts of plants – see Chapter 3.3.1

VG: visual assessment by a single observation of a group of plants or parts of plants – Chapter 3.3.1

VS: visual assessment by observation of individual plants or parts of plants” – see Chapter 3.3.1

(+) See Explanations on the Table of Characteristics in Chapter 8

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

ERUCA

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>1. VS</b>	<b>Cotyledon: length</b>	<b>Cotylédon: longueur</b>		<b>To delete?</b>		
<b>QN</b>	short	court				3
	medium	moyen				5
	long	long				7
<b>2. VS</b>	<b>Cotyledon: width</b>	<b>Cotylédon: largeur</b>		<b>To delete?</b>		
<b>QN</b>	narrow	étroit				3
	medium	moyen				5
	broad	large				7
<b>3. VG</b>	<b>Leaf: attitude (before appearance of flowering stem)</b>	<b>Feuille : port (avant apparition de la tige florale)</b>				
<b>QN</b>	erect	dressé			Runway (Es), 2401 (Es)	1
	semi- erect	demi- dressé			Myway (Es)	3
	horizontal	horizontal				5
<b>4. VG (+)</b>	<b>Leaf: recurving of tip</b>	<b>Feuille: enroulement au sommet</b>				
<b>QN</b>	weak	faible			Highway (Es)	3
	medium	moyen			Myway (Es)	5
	strong	fort				7
<b>5. VG (*)</b>	<b>Leaf: color of blade</b>	<b>Feuille : couleur du limbe</b>				
<b>PQ</b>	yellow green	vert jaune			Highway (Es) Runway (Es)	1
	green	vert			Myway (Es)	2
	grey green	vert gris				3



	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>6. VG</b>	<b>Leaf: intensity of green color</b>	<b>Feuille: intensité de la couleur verte</b>				
<b>QN</b>	light	claire				3
	medium	moyenne				5
	dark	foncée				7
<b>7. VG/ (*) MG</b>	<b>Leaf: length (blade and petiole)</b>	<b>Feuille: longueur (limbe et petiole)</b>				
<b>QN</b>	short	court				3
	medium	moyenne				5
	long	longue			Runway (Es)	7
<b>8. VG/ (*) MG</b>	<b>Leaf: maximum width</b>	<b>Feuille : largeur maximum</b>				
<b>QN</b>	narrow	étroit				3
	medium	moyen			Myway (Es)	5
	broad	large			Highway (Es)	7
<b>9. VS (*)</b>	<b>Leaf: type</b>	<b>Feuille : type</b>				
<b>QL</b>	entire	entière			Apollo (Es?)	1
	lobed	lobée			Runway (Es)	2
<b>10. VG (*) (+)</b>	<b>Leaf: division (in middle third of leaf)</b>	<b>Feuille : découpe (dans le tiers médian de la feuille)</b>				
<b>QN</b>	absent or very weak	absente ou très faible			Apollo (Es?)	1
	weak	faible			Aladin (Es?)	3
	moderate	moyenne			Rococo (Es)	5
	strong	forte			Highway (Es), Myway (Es)	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>11. VG</b>	<b>Leaf: width of primary lobes (in middle third of leaf)</b>	<b>Feuille : largeur des lobes primaires (dans le tiers médian de la feuille)</b>				
(+)						
<b>QN</b>	narrow	étroite				3
	medium	moyenne				5
	broad	large			Roccoco (Es)	7
<b>12. VG</b>	<b>Leaf: secondary lobing</b>	<b>Feuille : découpe secondaire</b>				
(*)						
(+)						
<b>QN</b>	absent or very weak	absente ou très faible			Aladin (Es?)	1
	weak	faible				3
	moderate	moyenne			Roccoco (Es)	5
	strong	forte			Myway (Es)	7
	very strong	très forte			Highway (Es), Runway (Es)	9
<b>13. VG</b>	<b>Leaf: undulation of margin</b>	<b>Feuille : ondulation du bord</b>				
<b>QN</b>	weak	faible			Highway (Es)	3
	medium	moyenne			Rococo (Es)	5
	strong	forte			Myway (Es)	7
<b>14. VG</b>	<b>Leaf: blistering</b>	<b>Feuille : cloque</b>				
<b>QN</b>	very weak	faible				1
	weak	faible				3
	medium	moyenne				5
	strong	forte				7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>15. VG (*)</b>	<b>Leaf: thickness of blade</b>	<b>Feuille: épaisseur du limbe</b>		<b>To Delete?</b>		
QN	thin	fine			Highway (Es)	3
	medium	moyenne				5
	thick	épaisse				7
<b>16. VG</b>	<b>Leaf: hairiness</b>	<b>Feuille : pilosité</b>				
QN	absent or very weak	absente à très faible				1
	weak	faible			Highway (Es)	3
	medium	moyenne			2401	5
	strong	forte				7
<b>17. VG/ MG</b>	<b>Time of flowering (50% of plants with at least one open flower)</b>	<b>Epoque de floraison (50% des plantes avec au moins une fleur épanouie)</b>				
QN	early	précoce				3
	medium	moyenne			Highway (Es)	5
	late	tardive			Runway (Es)	7
	very late	très tardive			2401	9
<b>18. VG</b>	<b>Flowering stem: anthocyanin coloration</b>	<b>Hampe florale : coloration anthocyanique</b>				
QN	absent to weak	absente à faible				1
	medium	moyenne				2
	strong	forte			Rococo (Es)	3
<b>19. VG</b>	<b>Flowering stem: length</b>	<b>Hampe florale : longueur</b>				
QN	short	courte				3
	medium	moyenne			Rococo (Es)	5
	long	longue			Highway (Es)	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>20. VG</b>	<b>Flower: color of petals</b>		<b>Fleur : couleur des pétales</b>			
(*)						
<b>PQ</b>	whitish	blanchâtre			Rococo (Es)	1
	creamish	blanc jaunâtre			Myway (Es)	2
	pale yellow	jaune pâle			Highway (Es)	3
	yellow	jaune soufre				4
<b>21. VG</b>	<b>Flower: anthocyanin coloration of vein</b>		<b>Fleur : coloration anthocyanique des nervures</b>			
(*)						
<b>QN</b>	absent or very weak	absente à faible				1
	moderate	moyenne			Highway (Es)	2
	strong	forte			Rococo (Es)	3
<b>22. VG</b>	<b>Silique: hairiness</b>		<b>Silique: pilosité</b>		<b>To delete</b>	
(+)						
<b>QL</b>	absent	absente			Myway (Es)	1
	present	presente			2401 (Es)	2

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DIPLOTAXIS

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>1.</b>	<b>VG Cotyledon: length</b>	<b>Cotylédon: longueur</b>		<b>To DELETE?</b>		
<b>QN</b>	short	court				3
	medium	moyen				5
	long	long				7
<b>2.</b>	<b>VG Cotyledon: width</b>	<b>Cotylédon: largeur</b>		<b>To DELETE?</b>		
<b>QN</b>	narrow	étroit				3
	medium	moyen				5
	broad	large				7
<b>3.</b>	<b>VG Leaf: attitude (before appearance of flowering stem)</b>	<b>Feuille : port (avant apparition de la tige florale)</b>				
<b>QN</b>	erect	dressé			Olivetta (Dt)	1
	semi -erect					3
	horizontal	horizontal			Tiger (Dt), 2402 (Dt)	5
<b>4.</b>	<b>VG Leaf: recurving of tip (+)</b>	<b>Feuille: enroulement au sommet</b>		<b>Interest for Dt?</b>		
<b>QN</b>	weak	faible				3
	medium	moyen				5
	strong	fort				7
<b>5.</b>	<b>VG Leaf: color of blade (*)</b>	<b>Feuille : couleur du limbe</b>				
<b>PQ</b>	yellow green	vert jaune				1
	green	vert			2402 (Dt)	2
	grey green	vert gris			Tiger (Dt)	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>6.</b>	<b>VG</b>	<b>Leaf: intensity of green color</b>	<b>Feuille: intensité de la couleur verte</b>			
<b>QN</b>	light	claire				3
	medium	moyenne				5
	dark	foncée				7
<b>7.</b>	<b>VG/ (*) MG</b>	<b>Leaf: length (blade and petiole)</b>	<b>Feuille: longueur (limbe et petiole)</b>			
<b>QN</b>	short	court			Olivetta (Dt)	3
	medium	moyenne			Tiger (Dt)	5
	long	longue			2402 (Dt)	7
<b>8.</b>	<b>VG/ (*) MG</b>	<b>Leaf: maximum width</b>	<b>Feuille: largeur maximum</b>			
<b>QN</b>	narrow	étroit			Olivetta (Dt)	3
	medium	moyenne			Tiger (Dt)	5
	broad	large			2402 (Dt)	7
<b>9.</b>	<b>VS (*)</b>	<b>Leaf: type</b>				
<b>QL</b>	entire				Olivetta (Dt)	1
	lobed				Tiger (Dt)	2
<b>10.</b>	<b>VG (*) (+)</b>	<b>Leaf: division (in middle third of leaf)</b>	<b>Feuille : découpe (dans le tiers médian de la feuille)</b>			
<b>QN</b>	absent or very weak	absente ou très faible			Olivetta (Dt)	1
	weak	faible			Tiger (Dt)	3
	moderate	moyenne			2402 (Dt)	5
	strong	forte				7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>11.</b>	<b>VG</b>	<b>Leaf : width of primary lobes (in middle third of leaf)</b>	<b>Feuille: largeur des lobes primaires (dans le tiers médian de la feuille)</b>			
(+)						
<b>QN</b>	narrow	étroite				3
	medium	moyenne				5
	broad	large				7
<b>12.</b>	<b>VG</b>	<b>Leaf: secondary lobing</b>	<b>Feuille : découpe secondaire</b>			
(*)						
(+)						
<b>QN</b>	absent or very weak	absente ou très faible				1
	weak	faible			Tiger (Dt)	3
	moderate	moyenne			2402 (Dt)	5
	strong	forte				7
	very strong	très forte				9
<b>13.</b>	<b>VG</b>	<b>Leaf: undulation of margin</b>	<b>Feuille: ondulation du bord</b>	<b>Interest for Dt?</b>		
<b>QN</b>	weak	faible			Tiger (Dt)	3
	medium	moyenne				5
	strong	forte				7
<b>14.</b>	<b>VG</b>	<b>Leaf: blistering</b>	<b>Feuille : cloque</b>	<b>Interest for Dt?</b>		
<b>QN</b>	very weak	très faible			Tiger (Dt)	1
	weak	faible				3
	medium	moyenne				5
	strong	forte				7
<b>15.</b>	<b>VG</b>	<b>Leaf: thickness of blade</b>	<b>Feuille: épaisseur du limbe</b>	<b>Interest for Dt?</b>		
(+)						
<b>QN</b>	thin	fine				3
	medium	moyenne				5
	thick	épaisse			Tiger (Dt)	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>16. VG</b>	<b>Leaf: hairiness</b>	<b>Feuille : pilosité</b>		<b>Interest for Dt?</b>		
<b>QN</b>	absent or very weak	absente à très faible			Tiger (Dt)	1
	weak	faible				3
	medium	moyenne				5
	strong	forte				7
<b>17. VG/ MG</b>	<b>Time of flowering (50% of plants with at least one open flower)</b>	<b>Epoque de floraison (50% des plantes avec au moins une fleur épanouie)</b>				
<b>QN</b>	early	précoce				3
	medium	moyenne			Tiger (Dt)	5
	late	tardive			2402 (Dt)	7
	very late	très tardive				9
<b>18. VG NEW</b>	<b>Flowering stem: anthocyanin coloration</b>	<b>Hampe florale : coloration anthocyanique</b>				
<b>QN</b>	absent to weak	absente à faible				1
	medium	moyenne			Tiger (Dt)	2
	strong	forte				3
<b>19. VG NEW</b>	<b>Flowering stem: length</b>	<b>Hampe florale : longueur</b>				
<b>QN</b>	short	courte			Tiger (Dt)	3
	medium	moyenne			2402 (Dt)	5
	long	longue				7
<b>20. VG (* )</b>	<b>Flower: color of petals</b>	<b>Fleur : couleur des pétales</b>				
<b>PQ</b>	whitish	blanchâtre				1
	creamish	blanc jaunâtre				2
	pale yellow	jaune pâle				3
	sulfur yellow	jaune soufre		All Dt?	Tiger (Dt), 2402 (Dt)	4



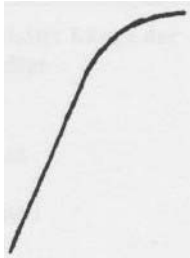
	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>21.</b>	<b>VG</b>	<b>Flower: anthocyanin coloration of vein</b>	<b>Fleur: coloration anthocyanique des nervures</b>	<b>NEW</b>		
<b>QN</b>	absent or very weak	absente à faible		All Dt?	Tiger (Dt)	1
	moderate	moyenne				2
	strong	forte				3
<b>22.</b>	<b>VG</b>	<b>Siliqua: hairiness</b>	<b>NEW –</b>	<b>Interest for Dt? to DELETE?</b>		
<b>QL</b>	absent	absente				1
	present	présente				9

8. Explanations on the Table of Characteristics

Ad. 4: Leaf: recurving of tip



3  
weak



5  
medium



7  
strong

Ad. 9: Leaf: type

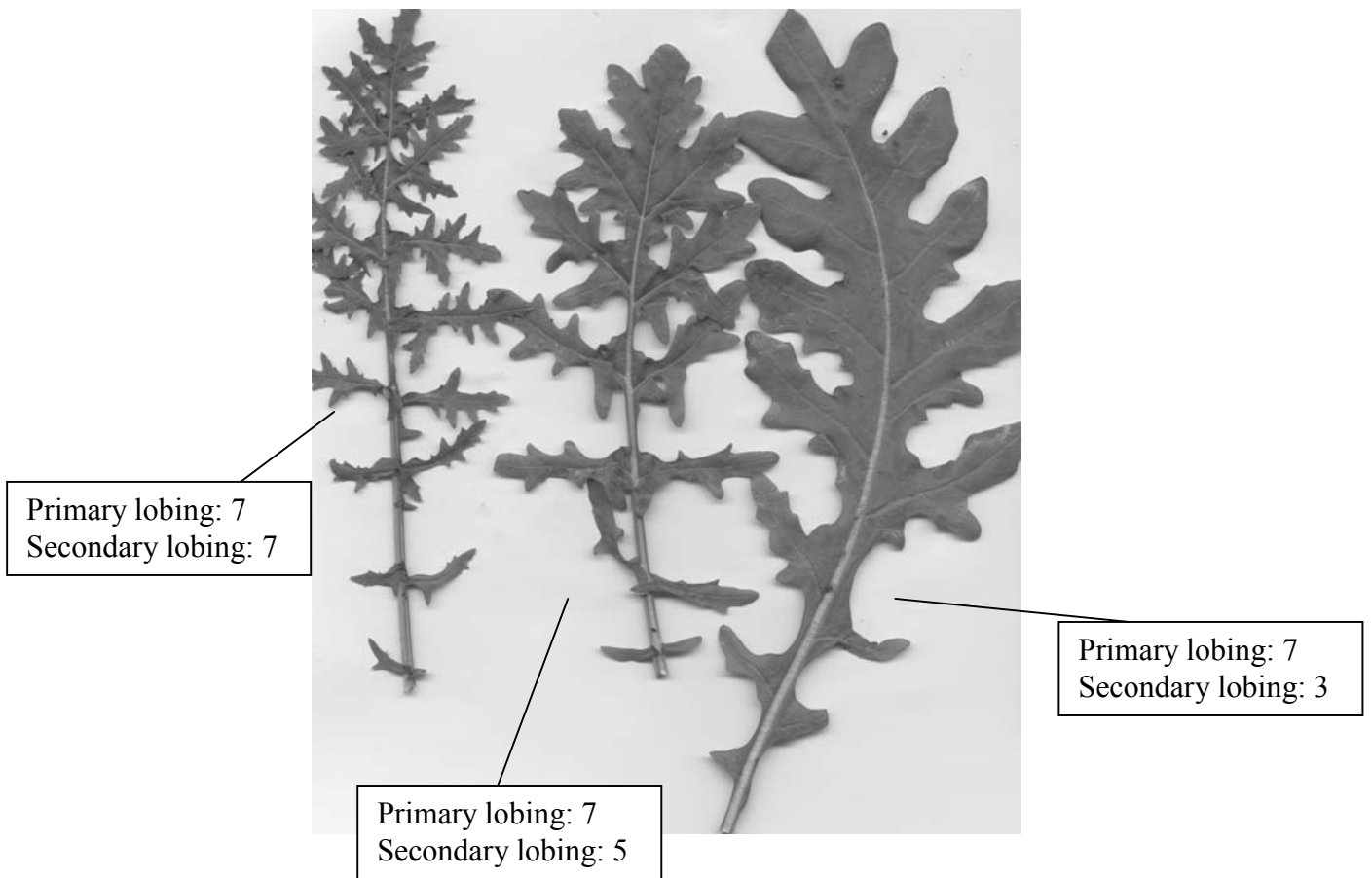


1  
entire

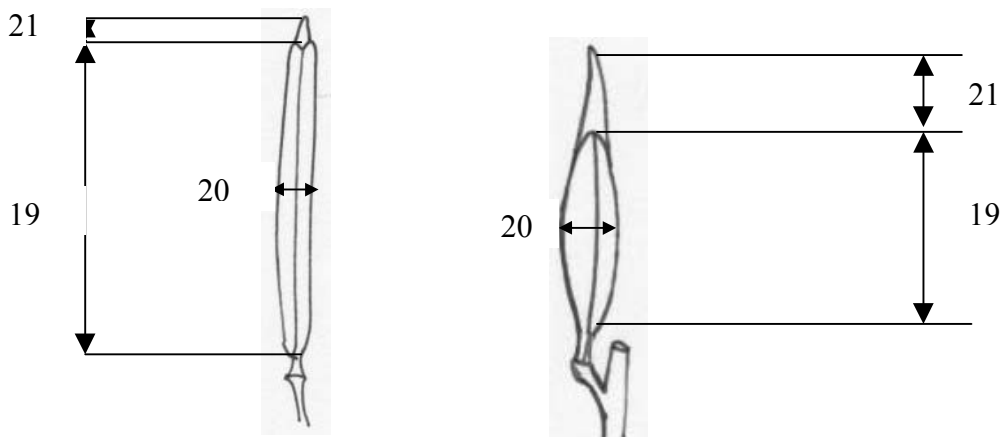


2  
lobed

Ad. 9, 10: For variety withlobed leaves only: intensity of primary (8), secondary (9) lobing



Ad. 19, 20, 21: Siliqua: length (between pedicel and beak) (19), width (widest point) (20), length of beak (21)



*Diplotaxis tenuifolia* DC.      *Eruca sativa* Mill.

9. Literature

IPGRI, 1999: Descriptors for Rocket (*Eruca* spp.) International Plant Genetic Resources Institute, Rome, I, 56pp.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
<b>TECHNICAL QUESTIONNAIRE</b> to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire (please indicate the relevant species)		
1.1.1 Botanical name	<input type="text" value="Eruca sativa Mill."/>	
1.1.2 Common name	<input type="text"/>	[ ]
1.2.1 Botanical name	<input type="text" value="Diplotaxis tenuifolia DC"/>	
1.2.2 Common name	<input type="text"/>	[ ]
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:
<p>#4. Information on the breeding scheme and propagation of the variety</p>		
<p>4.1 Breeding scheme</p>		
<p><i>Variety resulting from:</i></p>		
<p>4.1.1 Crossing</p>		
<p>(a) controlled cross (please state parent varieties)</p>	<p>[ ]</p>	
<p>(b) partially known cross (please state known parent variety(ies))</p>	<p>[ ]</p>	
<p>(c) unknown cross</p>	<p>[ ]</p>	
<p>4.1.2 Mutation (please state parent variety)</p>	<p>[ ]</p>	
<p>4.1.3 Discovery and development (please state where and when discovered and how developed)</p>	<p>[ ]</p>	
<p>4.1.4 Other (please provide details)</p>	<p>[ ]</p>	

# 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:
<p>4.2 Method of propagating the variety</p> <p>4.2.1 Seed-propagated varieties</p> <p>(a) Self-pollination [ ]</p> <p>(b) Cross-pollination  (i) population [ ]  (ii) synthetic variety [ ]</p> <p>(c) Hybrid [ ]</p> <p>(d) Other [ ]  (please provide details)</p> <p>4.2.2 Other [ ]  (please provide details)</p>		
<p>In the case of hybrid varieties the production scheme for the hybrid should be provided on a separate sheet. This should provide details of all the parent lines required for propagating the hybrid e.g.</p> <p><i>Single Hybrid</i></p> <p>“(... female parent ...) x (... male parent ...)</p> <p><i>Three-Way Hybrid</i></p> <p>“(... female line ...) x (... male line ...)</p> <p>“=&gt; single hybrid used as female parent x (... male parent ...)</p> <p>and should identify in particular:</p> <p>(a) any male sterile lines  (b) maintenance system of male sterile lines.</p>		

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: color of blade</b> <b>(5)</b>			
yellow green	Highway (Es) Runway (Es)	1 [ ]	
green	Myway (Es)	2 [ ]	
grey green		3 [ ]	
<b>5.2 Leaf: length (blade and petiole)</b> <b>(7)</b>			
short		3 [ ]	
medium		5 [ ]	
long	Runway (Es)	7 [ ]	
<b>5.3 Leaf: maximum width</b> <b>(8)</b>			
narrow		3 [ ]	
medium	Myway (Es)	5 [ ]	
broad	Highway (Es)	7 [ ]	
<b>5.4 Leaf: type</b> <b>(9)</b>			
entire	Apollo (Es?)	1 [ ]	
lobed	Runway (Es)	2 [ ]	
<b>5.5 Leaf: division (in middle third of leaf)</b> <b>(10)</b>			
absent or very weak	Apollo (Es?)	1 [ ]	
weak	Aladin (Es?)	3 [ ]	
moderate	Rococo (Es)	5 [ ]	
strong	Highway (Es), Myway (Es)	7 [ ]	



TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:		
		Characteristics	Example Varieties	Note
<b>5.6</b>	<b>Leaf: secondary lobing</b>			
(12)				
	absent or very weak	Aladin (Es?)	1 [ ]	
	weak		3 [ ]	
	medium	Rococo (Es)	5 [ ]	
	strong	Myway (Es)	7 [ ]	
	very strong	Highway (Es), Runway (Es)	9 [ ]	
<b>5.7</b>	<b>Time of flowering (50% of plants with at least one open flower)</b>			
(17)				
	early		3 [ ]	
	medium	Highway (Es)	5 [ ]	
	late	Runway (Es)	7 [ ]	
	very late	2401	9 [ ]	
<b>5.8</b>	<b>Flower: color of petals</b>			
(20)				
	whitish	Rococo (Es)	1 [ ]	
	creamish	Myway (Es)	2 [ ]	
	pale yellow	Highway (Es)	3 [ ]	
	sulfur yellow		4 [ ]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
<p>6. Similar varieties and differences from these varieties</p> <p><i>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.</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>Flower: color of petals</i>	<i>whitish</i>	<i>pale yellow</i>
<p>Comments:</p>			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [ ] No [ ]</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [ ] No [ ]</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>A representative color photograph of the variety should accompany the Technical Questionnaire.</p>		
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [ ] No [ ]</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [ ] No [ ]</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>		

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:												
<p>9. Information on plant material to be examined or submitted for examination.</p> <p>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.</p> <p>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:</p> <table><tr><td>(a) Microorganisms (e.g. virus, bacteria, phytoplasma)</td><td>Yes [ ]</td><td>No [ ]</td></tr><tr><td>(b) Chemical treatment (e.g. growth retardant, pesticide)</td><td>Yes [ ]</td><td>No [ ]</td></tr><tr><td>(c) Tissue culture</td><td>Yes [ ]</td><td>No [ ]</td></tr><tr><td>(d) Other factors</td><td>Yes [ ]</td><td>No [ ]</td></tr></table> <p>Please provide details for where you have indicated “yes”.</p> <p>.....</p> <p>9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?</p> <p>Yes [ ]</p> <p>(please provide details as specified by the Authority)</p> <p>No [ ]”</p>			(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 [ ]
(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 [ ]												
<p>10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant’s name <input type="text"/></p> <p>Signature <input type="text"/> Date <input type="text"/></p>														

