

## **PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS**

*Olea europaea* L.

**OLIVE**

UPOV Code: OLEAA\_EUR

**Adopted on 28/11/2012**

**Entry into force on 01/01/2011**

## **I SUBJECT OF THE PROTOCOL**

The protocol describes the technical procedures to be followed in order to meet the Council Regulation (EC) N°2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV Document TG/1/3 and UPOV Guideline TG/99/4 dated 20/10/2011 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of *Olea europaea* L.

## **II SUBMISSION OF PLANT MATERIAL**

### 1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the examination office to which material is to be sent.

A sub-sample of the material submitted for test will be held in the variety collection as the definitive sample of the candidate variety.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

### 2. Final dates for receipt of documentation and material by the Examination Office

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. Immediately after the closing date for the receipt of plant material the Examination Office should inform the CPVO whether acceptable plant material has been received or not. However if unsatisfactory plant material is submitted the CPVO should be informed as soon as possible.

### 3. Plant material requirements

Information with respect to closing dates and submission requirements of plant material for technical examination of varieties can be found on the CPVO website ([www.cpvo.europa.eu](http://www.cpvo.europa.eu)) in the S2 Gazette.

Quality of plants: Should not be less than the standards laid down in Council Directive 2000/29/EC and its amendments concerning quarantine organisms, and Council Directive 2008/90/EC and Commission Directive 93/48/EEC and their amendments concerning organisms impairing quality, at the date of adoption of this protocol; please refer to "Eur-Lex" for the full text and in case of any subsequent amendments to the three aforesaid Directives.

Chemical treatment: The plant material must not have undergone any treatment unless the CPVO and the examination office allow or request such treatment. If it has been treated, full details of the treatment must be given.

Labelling of sample:

- Species
- File number of the application allocated by the CPVO
- Breeder's reference
- Examination reference (if known)
- Name of applicant
- The phrase «On request of the CPVO»

### **III CONDUCT OF TESTS**

#### 1. Variety collection

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a variety collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation (EC) No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level or at least in one of the EEA Member States;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

The composition of the variety collection in each Examination Office depends on the environmental conditions in which the Examination Office is located.

Variety collections will be held under conditions which ensure the long term maintenance of each accession. It is the responsibility of Examination Offices to replace reference material which has deteriorated or become depleted. Replacement material can only be introduced if appropriate tests confirm conformity with the existing reference material. If any difficulties arise for the replacement of reference material, Examination Offices must inform the CPVO. If authentic plant material of a variety cannot be supplied to an Examination Office the variety will be removed from the variety collection.

#### 2. Material to be examined

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the variety collection. When necessary an Examination Office may also include other candidates and varieties. Examination Offices should therefore make efforts to coordinate the work with other Offices involved in DUS testing of olive. There should be at least an exchange of technical questionnaires for each candidate variety, and during the test period, Examination Offices should notify each other and the CPVO of candidate varieties which are likely to present problems in establishing distinctness. In order to solve particular problems Examination Offices may exchange plant material.

#### 3. Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the Annex 1. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted. In the latter case, the CPVO should be informed. In addition the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation (EC) No. 874/2009, to insert additional characteristics and their expression in respect of a variety.

#### 4. Grouping of varieties

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characteristics which could be used for grouping are the following:

- a) Tree: growth habit (characteristic 2)
- b) Fruit: weight (characteristic 8)
- c) Fruit: over colour at full maturity (characteristic 10)
- d) Fruit: symmetry in position A (characteristic 11)
- e) Fruit: shape of apex in position A (characteristic 12)
- f) Fruit: nipple (characteristic 13)
- g) Stone: ratio length/width (characteristic 15)
- h) Stone: weight (characteristic 16)
- i) Stone: mucron (characteristic 22)
- j) Stone: rugosity of surface (characteristic 24)

#### 5. Trial designs and growing conditions

The minimum duration of tests will normally include at least two satisfactory crops of fruit. Tests will be carried out under conditions ensuring normal growth. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

##### The test design is as follows

Each test should include 5 plants.

Unless otherwise stated, all observations should be made on 5 plants or parts taken from each of 5 plants. In the case of observations of parts, the number of parts taken from each of the plants should be 5.

#### 6. Special tests

In accordance with Article 83(3) of Council Regulation No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

Special tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characteristics listed in the protocol.

#### 7. Standards for decisions

##### a) **Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity a population standard of 1% and an acceptance probability of 95% should be applied.

For a sample size of 5 plants, no off-types are allowed.

c) **Stability**

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

#### **IV REPORTING OF RESULTS**

After each recording season the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after two fruiting periods but in some cases three fruiting periods may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not, the reasons for failure and a summary of the test results will be included with the final report.

The CPVO must receive interim reports and final reports by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

The interim report as well as the final report shall be sent by the Examination Office to the CPVO.

#### **V LIAISON WITH THE APPLICANT**

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

#### **VI ENTRY INTO FORCE**

The present protocol enters into force on **01/01/2011**. Any ongoing DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the new TP. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for the submission of plant material for the first growing period.

In cases where the CPVO requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process of being carried out at the moment of the request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

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## ANNEXES TO FOLLOW

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Legend:	
(*)	UPOV asterisked characteristic
(+)	See Explanation on the Table of Characteristics
(a)-(e)	See Explanations on the Table of Characteristics
G	Grouping characteristics
<u>Types of expression of characteristics:</u>	
QL	Qualitative characteristic
QN	Quantitative characteristic
PQ	Pseudo-qualitative characteristic
<u>Type of observation of characteristics:</u>	
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
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## ANNEX I

### TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
<b>1.</b>	<b>1.</b> (* )	<b>VG</b>	<b>Tree: vigour</b>		
(+)	(+)		weak	Aloreña	3
<b>QN</b>	<b>QN</b>		medium	Picual	5
			strong	Lechin de Sevilla, MGS ASC315	7
<b>2.</b>	<b>2.</b> (* )	<b>VG</b>	<b>Tree: growth habit</b>		
(+)	(+)		upright	Alameño de Cabra	1
<b>QN</b>	<b>QN</b>		spreading	Picual	3
<b>G</b>			drooping	Sikitita	5
<b>3.</b>	<b>3.</b> (* )	<b>VG</b>	<b>Tree: canopy density</b>		
(+)	(+)		sparse	Gordal de Granada	3
<b>QN</b>	<b>QN</b>		medium	MGS GRAP561, Picudo	5
			dense	Lechin de Sevilla	7
<b>4.</b>	<b>5.</b> (* )	<b>MS</b>	<b>Leaf blade: length</b>		
<b>QN</b>	<b>QN</b>		short	Arbequina	3
		<b>(a)</b>	medium	MGS ASC315, Picudo	5
			long	Gordal Sevillana	7
<b>5.</b>	<b>6.</b> (* )	<b>MS</b>	<b>Leaf blade: width</b>		
<b>QN</b>	<b>QN</b>		narrow	Callosina, MGS MARIENSE	3
		<b>(a)</b>	medium	Hojiblanca, MGS ASC315	5
			broad	Picudo	7
<b>6.</b>	<b>7.</b> (* )	<b>MS</b>	<b>Leaf blade: ratio length/width</b>		
(+)	(+)	<b>(a)</b>	slightly elongated	Manzanilla de Sevilla	3
<b>QN</b>	<b>QN</b>		moderately elongated	Picual	5
			very elongated	Cornezuelo de Jaén, MGS MARIENSE	7

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
<b>7.</b>	<b>9.</b> (*)	<b>VG</b>	<b>Leaf blade: curvature of longitudinal axis</b>		
(+)	(+)	(a)	incurved	Picual	1
PQ	PQ		straight	Galego	2
			recurved	Zarza	3
<b>8.</b>	<b>16.</b> (*)	<b>MG</b>	<b>Fruit: weight</b>		
QN	QN	(c)	very low		1
			low	Koroneiki	3
			medium	Carrasqueño de la Sierra	5
			high	Picudo	7
G			very high	Gordal Sevillana	9
<b>9.</b>	<b>18.</b> (*)	<b>VG</b>	<b>Fruit: ratio length/ width in position A</b>		
QN	QN	(c)	slightly elongated	Manzanilla de Sevilla	3
			moderately elongated	Frantoio	5
			very elongated	Cornezuelo de Jaén	7
<b>10.</b>	<b>22.</b> (*)	<b>VG</b>	<b>Fruit: over color at full maturity</b>		
PQ	PQ	(c)	medium violet	Ascolana Tenera	1
			dark violet	Maurino, Mission, Verdial de Huevar	2
G			black	Picual	3
<b>11.</b>	<b>23.</b> (*)	<b>VG</b>	<b>Fruit: symmetry in position A</b>		
QN	QN	(c)	symmetric	Manzanilla de Sevilla	1
			weakly asymmetric	Hojiblanca, MGS MARIENSE	2
G			strongly asymmetric	Picudo	3
<b>12.</b>	<b>24.</b> (*)	<b>VG</b>	<b>Fruit: shape of apex in position A</b>		
PQ	PQ	(c)	acute	Cornezuelo de Jaén	1
			obtuse	Coratino, Gordal Sevillana	2
G			rounded	Manzanilla de Sevilla, MGS GRAP541	3



CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
<b>13.</b>	<b>25.</b> (*)	<b>VG</b>	<b>Fruit: nipple</b>		
(+)	(+)	(c)	absent or weak	Hojiblanca	1
<b>QN</b>	<b>QN</b>		moderate	Pajarero	2
<b>G</b>			strong	Limoncillo, MGS ASC315	3
<b>14.</b>	<b>26.</b> (*)	<b>VG</b>	<b>Fruit: shape of base in position A</b>		
(+)	(+)	(c)	rounded	Gordal Sevillana, MGS GRAP541	1
<b>QN</b>	<b>QN</b>		rounded to truncate		2
			truncate	Manzanilla de Sevilla	3
<b>15.</b>	<b>31.</b> (*)	<b>VG</b>	<b>Stone: ratio length/width</b>		
<b>QN</b>	<b>QN</b>	(e)	slightly elongated	Arbequina	1
			moderately elongated	Barouni	2
<b>G</b>			very elongated	Bella di Cerignola	3
<b>16.</b>	<b>32.</b> (*)	<b>MG</b>	<b>Stone: weight</b>		
<b>QN</b>	<b>QN</b>	(e)	very low		1
			low	Arbequina	3
			medium	Imperial, Itrana	5
			high	Barouni, Picudo	7
<b>G</b>			very high	Gordal Sevillana	9
<b>17.</b>	<b>33.</b> (*)	<b>VG</b>	<b>Stone: symmetry in position A</b>		
(+)	(+)	(e)	symmetric	Arbequina	1
<b>QN</b>	<b>QN</b>		weakly asymmetric	Lechin de Sevilla, MGS MARIENSE	2
			strongly asymmetric	Picudo	3
<b>18.</b>	<b>34.</b> (*)	<b>VG</b>	<b>Stone: symmetry in position B</b>		
(+)	(+)	(e)	symmetric	Hojiblanca	1
<b>QN</b>	<b>QN</b>		weakly asymmetric	Lechin de Sevilla, MGS MARIENSE	2
			strongly asymmetric	Pajarero	3

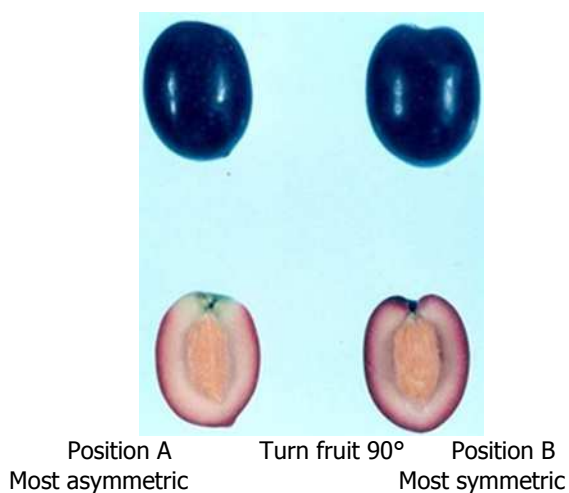
CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
<b>19.</b>	<b>35.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: number of grooves on basal end</b>		
<b>(+)</b>	<b>(+)</b>	<b>(e)</b>	less than 7	Bical, MGS GRAP541	1
<b>QN</b>	<b>QN</b>		between 7 and 10	Picual	2
			more than 10	Manzanilla Prieta	3
<b>20.</b>	<b>36.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: distribution of grooves on basal end</b>		
<b>(+)</b>	<b>(+)</b>	<b>(e)</b>	evenly distributed	Hojiblanca, MGS GRAP541, MGS MARIENSE	1
<b>PQ</b>	<b>PQ</b>		weakly grouped around suture		2
			strongly grouped around suture	Villalonga	3
<b>21.</b>	<b>37.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: shape of apex in position A</b>		
<b>(+)</b>	<b>(+)</b>	<b>(e)</b>	acute	Picudo	1
<b>PQ</b>	<b>PQ</b>		obtuse		2
			rounded	Chorrúo	3
<b>22.</b>	<b>38.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: mucron</b>		
<b>(+)</b>	<b>(+)</b>				
<b>QL</b>	<b>QL</b>	<b>(e)</b>	absent	Lucio, MGS MARIENSE	1
<b>G</b>			present	Chorrúo, MGS GRAP561	9
<b>23.</b>	<b>39.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: shape of base in position A</b>		
<b>(+)</b>	<b>(+)</b>	<b>(e)</b>	acute	Cornezuelo de Jaén	1
<b>PQ</b>	<b>PQ</b>		rounded	Morona	2
			truncate	Azapa, MGS GRAP561	3
<b>24.</b>	<b>40.</b> <b>(*)</b>	<b>VG</b>	<b>Stone: rugosity of surface</b>		
<b>QN</b>	<b>QN</b>	<b>(e)</b>	weak	Lechin de Sevilla	1
			medium	Cacereña, Manzanilla de Sevilla	2
<b>G</b>			strong	Bodoquera, MGS ASC315	3

## EXPLANATIONS AND METHODS

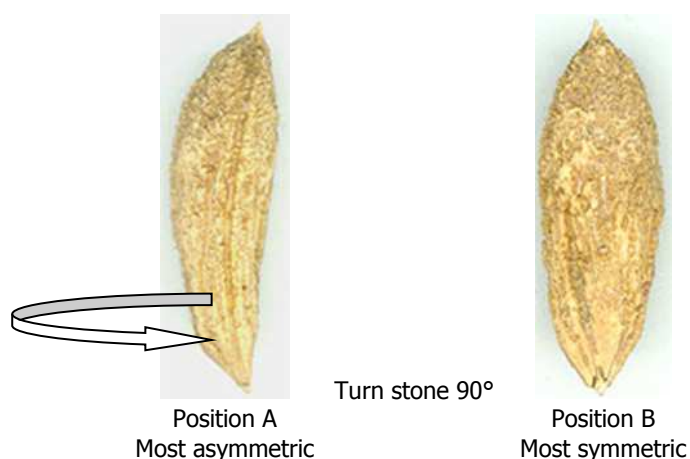
### *Explanations covering several characteristics*

Characteristics containing the following key in the third column of the Table of Characteristics should be examined as indicated below (the key letters are harmonised with the UPOV entries, irrelevant key entries have been removed):

- a) Leaf blade: Observations should be made on fully developed leaves from the central part of one-year-old shoots in full growth.
- c) Fruit: Observations should be made on fully ripened fruits at time of ripening. Time of ripening is when 80% of the fruit on the tree has coloured. For the fruit two positions (A and B) are used. Position A is the position in which the organ shows its largest asymmetry. Position B is reached from position A by turning 90° along the longitudinal axis in a way to present the most developed part of the organ to the observer.



- e) Stone: All observations on the stone should be made on dry well-cleaned stones of the same sample used for the observations on the fruit. For the stone two positions (A and B) are used. Position A is the position in which the organ shows its largest asymmetry. Position B is reached from position A by turning 90° along the longitudinal axis in a way to present the most developed part of the organ to the observer.



***Explanations for individual characteristics***

**Ad. 1: Tree: vigour**

The tree vigour should be considered as the overall abundance of vegetative growth which includes the development of the canopy in both height and volume.

**Ad. 2: Tree: growth habit**

The tree growth habit states the natural attitude of the branches and shoots.

**Ad. 3: Tree: canopy density**

The canopy density refers to the overall abundance of canopy vegetation. The following measures should be taken into account: length of internodes, number and vigour of the shoots and the size of the leaves.

**Ad. 6: Leaf blade: ratio length/width**



**Ad. 7: Leaf blade: curvature of longitudinal axis**



**Ad. 13: Fruit: nipple**



Ad. 14: Fruit: shape of base in position A



1  
rounded



3  
truncate

Ad. 17: Stone: symmetry in position A



1  
symmetric



2  
weakly asymmetric



3  
strongly asymmetric

Ad. 18: Stone: symmetry in position B



1  
symmetric



3  
strongly asymmetric

Ad. 19: Stone: number of grooves on basal end

To count the number of grooves that can be seen from the stalk insertion point.

Ad. 20: Stone: distribution of grooves on basal end



1  
evenly distributed



3  
strongly grouped around suture

Ad. 21: Stone: shape of apex in position A



1  
acute



2  
obtuse



3  
rounded

Ad. 22: Stone: mucron



1  
absent



9  
present

Ad. 23: Stone: shape of base in position A



1  
acute



2  
rounded



3  
truncate

## LITERATURE

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Moutier N. (coord.), Pinatel C., Martre A., Roger J.P., Khadari B., Burgevin J.F., Ollivier D., Artaud J., 2011 : Identification et caractérisation des variétés d'olivier cultivées en France - tome 2. Naturalia publications, Turriers (sous presse)

## **ANNEX II**

The Technical Questionnaire is available on the CPVO website under the following reference:  
CPVO-TQ/099/1