Baladi

DENOMINATIONS AND SYNONYMS:

ORIGIN AND DIFFUSION:

Main areas of olive cultivation in Lebanon (North, South, Mount Lebanon and Bekaa)

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PURPOSE:

Oil, Table olives

MORPHOLOGICAL CHARACTERISATION:

Tree	**Vigour**	Medium
	Growth habit	Spreading
	Canopy density	Medium
Leaf blade	**Length**	Medium
	Width	Medium
	Radio length/width	Moderately elongated
	Curvature of longitudinal axis	
Fruit	**Weight**	Low
	Radio length/width in position A	
	Over colour at full maturity	Black
	Symmetry in position A	Strongly asymmetric
	Shape of apex in position A	
	Nipple	Absent or weak
	Shape of base in position A	Truncate
Stone	**Ratio length/width**	
	Weight	High
	Symmetry in position A	Strongly asymmetric
	Symmetry in position B	Strongly asymmetric
	Number of grooves on basal end	
	Distribution of grooves on basal end	Evenly distributed
	Shape of apex in position A	
	Mucron	
	Shape of base in position A	
	Rugosity of surface	

MOLECULAR CHARACTERISATION (SSRs)

UDO-43	DCA3	DCA9	DCA16	GAPU-101
210/216	243/247	170/192	122/124	189/197

AGRONOMICAL CHARACTERISATION AND COMMERCIAL CONSIDERATIONS

PhenologyStart of vegetative growth: Mid February to early AprilFull bloom: Early March to mid AprilPit hardening: Mid June to late JuneFruit turning: Mid September to late September Bio-Agronomic traitsTolerance to abiotic stress: High tolerance to droughtTolerance to biotic stress: Low tolerance to olive fly, olive moth, olive weevil, peacock eye and verticilliumProductivity: HighSelf-compatibility: Slightly self-fertileIt is important to remember that previous studies have shown a large morphological variability within the Baladi population (Chalak et al, 2011).This variability is very likely the result of its broad geographic distribution in Lebanon, associated with different environmental conditions and cultural practices, and of clonal variation after years of domestication of olive trees (Chamoun et al., 2009). Moreover, it should be noted that Baladi means “local”, that is, something autochthonous. Hence, the name Baladi has been used by farmers to indicate olive genotypes that were believed to be Lebanese and this has probably contributed to the great heterogeneity found under the name Baladi.Together with Soury, Baladi is one of the main Lebanese varieties. It is mainly used for oil production, but also for table olives. The oil content of the fruit is medium-high, being around 28% when expressed on fresh weight basis and 43% when expressed on dry weight basis. The pulp/pit ratio is low (around 2.5).The production of the accession considered is very high and slightly alternant. Its self-fertility is very low, therefore it requires the presence of pollinators.During olive ripening, the fruit pulp consistency can be considered high till mid October, afterwards it becomes medium. Therefore, the risk of damage, which could decrease oil quality, caused by handling the olives (harvesting, transport and storage, which, however, should not exceed 24 h, maximum 48 h) is low.Basically, all the qualitative parameters of the oil meet the IOC trade standards for extra virgin oil. The only significant exception is represented by Δ-7-stigmastenol that sometimes had values higher than 0.5% (the maximum value allowed by IOC trade standards). This means that its content has to be carefully controlled before selling it on international markets. Considering the evolution during ripening of all data related to oil quantity and quality, the best harvesting time for the production of oil is October. The oil is characterized by relatively low oleic acid percentage (around 66%) and total phenolic content (around 220 mg GAE/kg oil).The values of fruit detachment force and weight at the suggested harvesting time make this cultivar suitable for mechanical harvesting with small handheld machines or trunk shakers (fruit detachment force/weight ratio around 2.4 N/g).The very high productivity of this accession/variety makes it recommended for the establishment of new orchards in Lebanon, by using certified plants.The not high oleic acid content could be due to the fact that the studied accession is cultivated in the south where temperatures are relatively high. The hot environment could also have contributed to determining high values of Δ-7-stigmastenol. It would be interesting to evaluate the behaviour of this accession in cooler environments.Finally, it should be noted that the investigation regarded an accession of this variety. As previously stated, there are several other ones in Lebanon and therefore there could be a large variability within the whole population.This datasheet information is prepared thanks to “The Italian cooperation project "Social and economic support for the families of producers in the olive – growing marginal regions of Lebanon (L’Olio del Libano)", funded by the Italian government and implemented by the Mediterranean Agronomic Institute of BARI (MAI-B), with the Ministry of Agriculture of Lebanon (MoA) and the Lebanese Agricultural Research Institute (LARI)”.References:Chalak L., Chehade A., Elbitar A., Hamadeh B., Youssef H., Nabbout R., Smaha M., Haj A. K., Awada A, Bouaram G, Selman M., Bassal A., Famiani, F., Dubla N. (2011). Morphological characterization of cultivated olive trees in Lebanon. Abstract, special seminars. « Olivebioteq 2011 – International Conference for Olive Tree and Olive Products», held in Chania, Greece, 31- 4 November 2011: pp. 1.Chamoun R., Baalbaki R., Kalaitzis P., Talhouk S.N. (2009). Molecular characterization of Lebanese olive germplasm tree. Genetics and Genomes, 5(1): 109- 115. Chehade A., El Bittar A., Choueiri E., Kadri A., Nabbout R., Youssef H., Smeha M., Awada A., Al Chami Z., Cavoski I., Trani A., Aly A., Piscitelli L., Bruno G., Caponio F. Gambacorta G., Famiani F., Mondelli D., Dubla E. (2012). Characterization of the main Lebanese olive germplasm. ISBN: 2 - 85352 - 493 – O

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