1. GENERAL DESCRIPTION OF OLIVE GROWING IN SYRIA

1.1. Introduction

Figure 1. Location of Syria (Source: UN)

Syria is known to be the first land to produce olives in the ancient world. Olive seeds dating back to before 2500 B.C. have been discovered at the ruins of Ebla, in Idleb. Historical studies consider it to be the cradle of olive growing and the starting point for its spread to other Mediterranean countries. Arab Muslims played an important part in this process, transporting it to the Mediterranean coasts of Europe.

The olive tree is considered a natural resource in Syria and a strategic agricultural choice in a large proportion of its arid and semi-arid areas. It provides staple foodstuffs and generated 25 420 workdays in 2009/10 (17 450 in olive growing and 7 970 in the olive oil and table olive industries).

(Source: IOC questionnaire)

1.2. Socio-economic indicators

- **Area: 185 180 sq km (UN, 2008)**
- **Capital city: Damascus (UN)**
- **Currency: Syrian Pound (SYP) (UN, 2008)**
- **Population: 21 092 262 (World Bank, 2009)**
- **Urban population: 55% (World Bank, 2010)**
- **Rural population: 45% (World Bank, 2010)**
- **Population growth rate: 3.3% (UN, 2005/10)**
- **Life expectancy: 76.1 years (men), 72.3 years (women) (UN, 2005/10)**
- **Main exports by quantity: fruit, nut, peel and sugar products (FAOSTAT, 2009)**
- **Main imports by quantity: maize and barley (FAOSTAT, 09)**
- **GNI per capita, PPP (current international $): 5 150 (World Bank, 2010)**
- **GDP per capita, PPP (current international $): 5 248 (World Bank, 2010)**
- **Employment in agriculture: 19.1% (World Bank, 2008)**
- **Employees in agriculture, female: 26% (World Bank, 2008)**
- **Employees in agriculture, male: 18% (World Bank, 2008)**
- **Employment in olive growing: 25 420 (IOC, 2009/10 workdays)**

2. BACKGROUND DATA

2.1. Olive oils

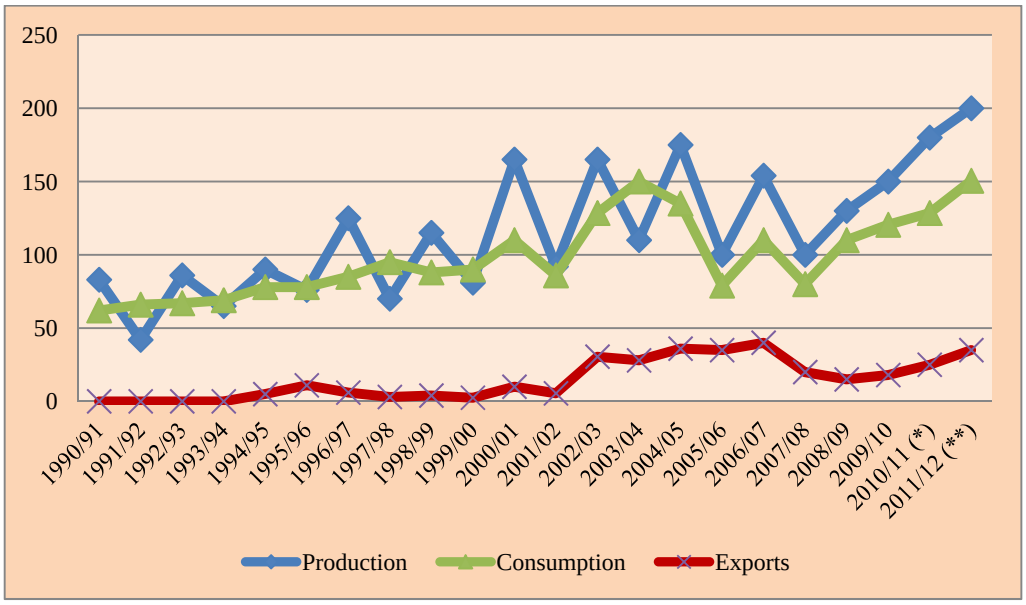
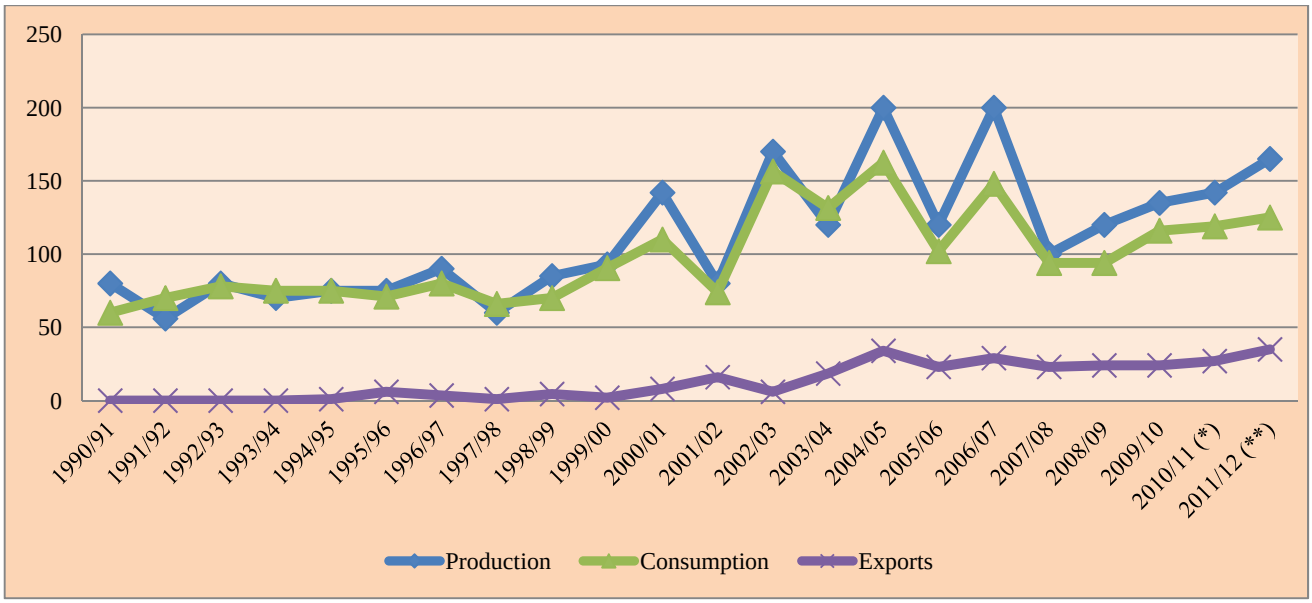


Figure 2. Olive oil production, consumption and exports 1990–2012 (1 000 tonnes)
* Estimates
** Forecasts (Source: IOC)

Table 1.Olive oils (1 000 tonnes) (Source: http://www.internationaloliveoil.org/estaticos/view/131-world-olive-oil-figures)

	2000/01	*2001/02*	*2002/03*	*2003/04*	*2004/05*	*2005/06*	*2006/07*	*2007/08*	*2008/09*	*2009/10*
Production	165.0	92.0	165.0	110.0	175.0	100.0	154.0	100.0	130.0	150.0
Consumption	110.0	86.0	128.5	150.0	135.0	79.0	110.0	80.0	110.0	120.5
Exports	10.0	5.5	30.5	28.0	36.0	35.0	40.0	20.0	15.0	18.0

2.2. Table olives



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	2000/01	*2001/02*	*2002/03*	*2003/04*	*2004/05*	*2005/06*	*2006/07*	*2007/08*	*2008/09*	*2009/10*
Production	142.0	80.0	170.0	120.0	200.0	120.0	200.0	100.0	120.0	135.0
Consumption	110.0	74.0	156.5	131.5	162.5	102.0	148.0	94.0	94.0	116.0
Exports	8.0	16.0	6.0	18.5	34.0	23.0	29.0	23.0	24.0	24.0

2.3. Total area planted

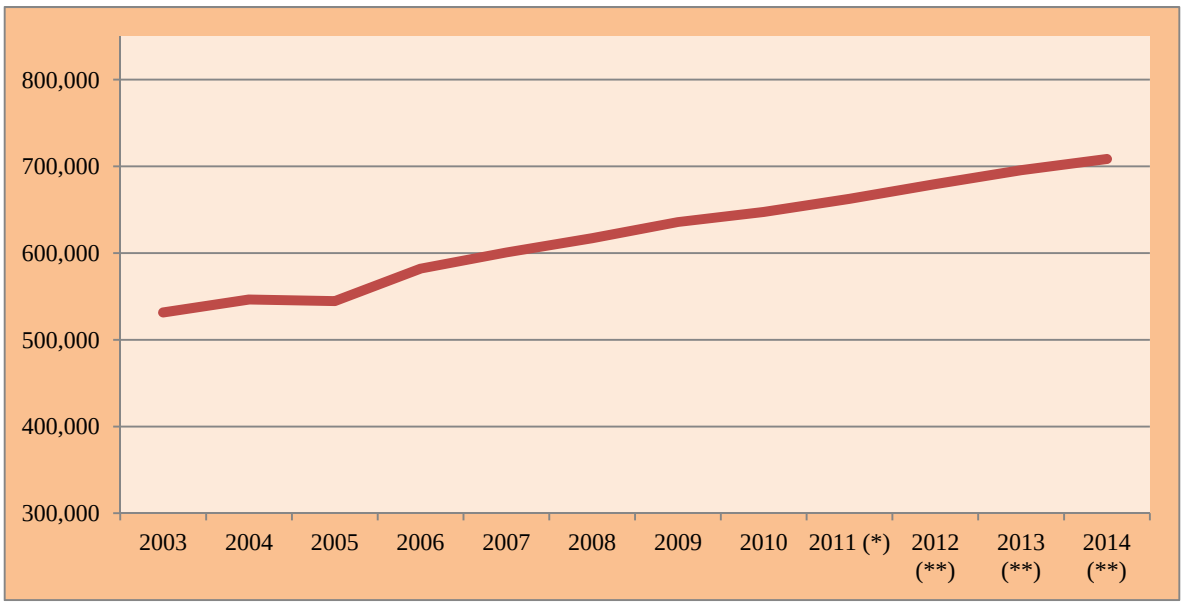


Figure 4. Changes in area planted with olive trees (ha)

* Estimates
** Forecasts (Source: IOC)

3. OLIVE INDUSTRY IN SYRIA

3.1. Orchard resources

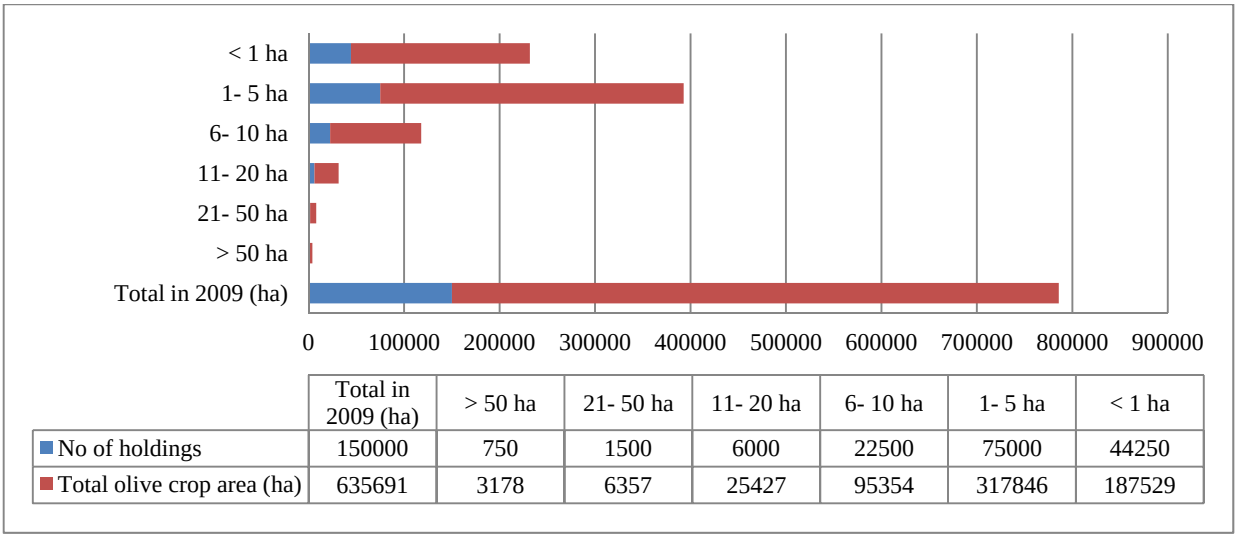
With an olive crop area of 635 691 ha in 2009, Syria continues to be the major olive growing power in the Middle East and olive production continues to be a prominent feature of its economic and social fabric. In addition, according to forecasts, it has enormous potential for expansion. By 2014, the area under olives is expected to reach 708 500 ha through the implementation of nationwide olive development programmes.

The bulk of olive acreage in 2009 was for oil-olives (508 553 ha), with 127 138 ha dedicated to growing table olives; 15 000 ha had been newly planted that year for oil production and 3 640 ha for table olive production. New plantings have continued upwards in the following years, confirming the expansion of olive orchards in Syria.

When itemised by type of cultivation, 603 706 ha of Syria's olive crop area were dry farmed while 31 785 ha were under irrigation.

Average orchard density varies depending on whether the trees are dry farmed (90 trees/ha) or irrigated (180 trees/ha).

In 2009, olive orchards were grown on 150 000 agricultural holdings. Fifty percent of the orchards (317 846 ha) were between 1 and 5 ha in size, as can be inferred from Figure 5 below.



	Total in 2009 (ha)	> 50 ha	21- 50 ha	11- 20 ha	6- 10 ha	1- 5 ha	< 1 ha
No of holdings	150000	750	1500	6000	22500	75000	44250
Total olive crop area (ha)	635691	3178	6357	25427	95354	317846	187529

Figure 5. Number of agricultural holdings growing olive trees in 2009 (Source: IOC)

Three categories emerge when olive resources are itemised by orchard age:

- Young orchards (< 5 years old): 63 569 ha (10%);
- Orchards at full bearing (5–50 years old): 444 983 ha (70%);
- Old orchards (> 50 years old): 127 138 ha (20%).

Sixty percent of the crop area (381 415 ha) is suitable for full mechanisation of cultural practices and harvesting and a further 35% (222 491ha) can be partially mechanised, but mechanisation is not possible at all on the remaining 5% (31 785 ha).

Lastly, the olive sector accounted for 11% of Syria's final agricultural production (excluding stock farming products) in both 2009 and 2010, and 9% and 7% respectively of its exports in the same two years. (Source: IOC questionnaire)

3.2. Location

Olive growing in Syria is centred in the southern and western regions where Aleppo ranks first, followed by Idleb, Lattakia, Dar'a and Rural Damascus. Olive oil is produced in small amounts, principally in the middle and southern regions (Homs, Hama, Tartous, and Al-Sweida) and rarely in the eastern provinces (Al-Rakka- Al-Hassakeh- Deir ez Zor) (Source: NAPC)

Owing to its adaptability to differing bioclimatic conditions, the olive tree is found in several very contrasting environments and micro-climates. It is found in coastal areas (humid and semi-humid) where the precipitation is as high as 900 mm, and southern areas (arid and semi-arid) where it is less than 250 mm, and at altitudes ranging from 10 m to more than 1 500 m.

Olive orchards are also cultivated in very different types of soil:

- 60% are on limestone and are sometimes exposed to heavy rains in winter, which cause soil erosion
- 30% are stony
- 10% are heavy, deep clay (40%-60% of soil texture)

The most widespread soil types are Aridosols, Vertisols, Inceptysols, etc.

(Source: Study on the Olive Oil Sector in Syria)

3.3. Varieties

Being as it is the birthplace of olive growing, Syria has seen the development of many varieties over the centuries. The most significant ones from the point of view of oil production are now listed:

Sorani

This dual-purpose variety is grown mainly in the areas of Aleppo, Hamah and Idleb, as well as in the northern and north-western parts of the country. It is a very hardy variety and holds a lot of interest because of its tolerance of cold, drought and salinity.

Its productivity is medium and alternate. It is rated highly for both pickling and oil production, giving a high content of excellent quality oil. It is considered resistant to olive leaf spot and olive knot and susceptible to verticillium wilt.

Zaity

Established predominantly in the Aleppo region, this variety extends over more than 30% of the country's olive area. It is of medium hardiness and is rated highly for its very high yield (about 30%) of good quality oil. Productivity is high and alternate. It shows some tolerance to cold temperatures and salinity and it is considered resistant to olive leaf spot and olive knot.

Doebli

This dual-purpose variety is cultivated mainly in Lattakia, Tartus and Tel- Kalakh. It adapts well to damp areas and shows little tolerance of drought. It comes into bearing late.

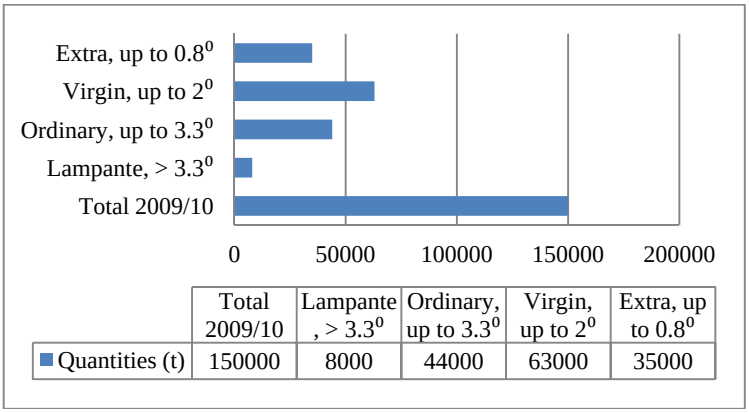
The fruit ripens early; it has a low removal force and medium oil content. It seems to be resistant to olive leaf spot, olive knot and verticillium wilt.

3.4. Olive oil: production and yield

Syrian olive oil production has fluctuated over the crop years from 2000/01 to 2009/10 due to alternate bearing phenomena. During this period, it reached a high of 175 000 t in 2004/05 (Table 1). Comparison of the averages for the two decades reported in Table 3 (1990/91–1999/00 and 2000/01–2009/10) shows an upward trend in production from 83 300t/year to 134 100 t/year, translating into 60.98% growth.

Organic olive oil production is on a very small scale in Syria and came to 250 t in 2009/10.

3.5. Olive oil: processing sector



	Total 2009/10	Lampante, > 3.3⁰	Ordinary, up to 3.3⁰	Virgin, up to 2⁰	Extra, up to 0.8⁰
Quantities (t)	150000	8000	44000	63000	35000

Figure 6. Production of virgin olive oils by grade (Source: IOC questionnaire)

In 2009, there were 1 066 olive oil processing facilities in all in Syria.

These operated on different extraction systems: 756 were continuous-process facilities (these have shot up notably from 201 facilities in the year 2000) and 310 were press mills with a respective production capacity of 5 450 t and 1 250 t per eight hours.

In addition, Syria has 20 olive pomace oil extraction plants whose production capacity is 13 000 t/8 hr, and 50 olive oil packing plants with a production capacity of 40 000 t/8 hr.

When broken down by category, 23.3% of the olive oil produced in 2009/10 was extra virgin grade, 42% was virgin, 29.3% was ordinary grade (with a free acidity of between 2º and 3.3º) and only 5.3% was lampante.

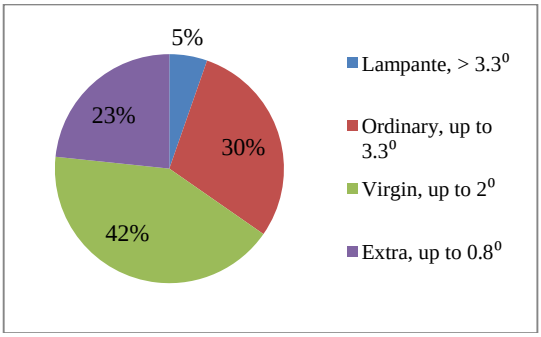


Figure 7. Production of virgin olive oils by grade in 2009/ 10 (Source: IOC questionnaire)

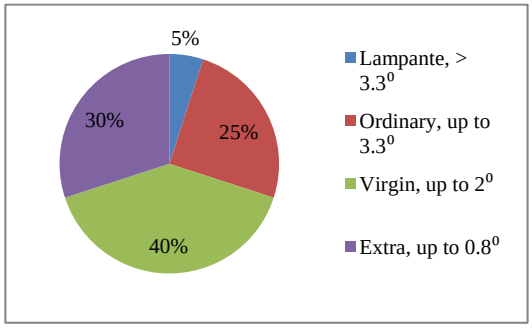


Figure 8. Production of virgin olive oils by grade in 2008/ 09 (Source: IOC questionnaire)

On comparison, the production share of extra virgin olive oil has fallen by 7% to the advantage of the virgin and ordinary categories over 2008/09 and 2009/10. (Source: IOC)

3.6. Olive oil: domestic consumption and foreign trade

Syrian consumption of olive oil is linked to two factors: the level of domestic production and the amount of that production left over after exports, which affects domestic prices. Consumption therefore fluctuates, as can be seen from Table 1where the consumption peak of 150 000 t recorded in 2003/04 contrasts with the low of 79 000 t consumed in 2005/06 due to the bad harvest.

Table 3 includes the average consumption figures for two ten-year periods and shows that Syrians consumed an average 77 800 t/year in 1990/91–1999/00. However, consumption did not behave in the same way throughout the decade: in the first half, it averaged 68 400 t/ year whereas in the second half it rose to 87 200 t/ year. In 2000/01–2009/10, domestic consumption averaged 110 900 t/year, but again with notable differences between the two halves of the decade (121 900 t vs. 99 800 t).

In 2010, per capita consumption of olive oil came to 7 kg/inhabitant. (Source: IOC questionnaire)

Syria does not import any olive oil, but it does export. In fact, exports are growing. Although the levels of exports reported in Table 3 are not sky-high, averaging 4 150 t/year in 1990/91–1999/00 and 25 300 t/year in 2000/01–2009/10, in percentage terms the growth is massive (509.64%).

Table 3. OLIVE OIL (Source: IOC)

	Average (t) 1990/91–1999/00	Average (t) 2000/01–2009/10	Change (%)
Production	83 300	134 100	60.98
Consumption	77 800	110 900	42.54
Exports	4 150	25 300	509.64

3.7. Table olives: varieties, production and yield

Two varieties are very significant in Syria for table olive production:

Abou-Satl

Found above all at the Palymra oasis, this variety is vigorous and very hardy because of its tolerance of cold temperatures and drought. It is of particular interest because of its high resistance to salinity. It has an intermediate start of bearing and a high, alternate productivity.

It is used solely for table olives because its oil content is low. It is considered resistant to olive leaf spot, olive knot and olive anthracnose.

Kaissy

This low-vigour variety tolerant of cold temperatures and drought is found in the North and in the new olive-growing areas of the South. It comes into bearing early and has a high, alternate productivity. The fruit, which ripens early and has a low removal force, is used primarily for green pickling. Its oil content is very low although the oil has a good quality. It appears to be resistant to olive leaf spot and olive knot.

Table olive production alternates heavily, as can be seen from Table 2. Between 2000/01 and 2009/10 it has swung from as low as 80 000 t to as high as 200 000 t. In mean terms, production climbed by 67.92% between the 1990s and 2000s (Table 5), rising from 82 600 t to 138 700 t. This makes Syria the third biggest table olive producer in the world, behind Spain and Turkey.

Syria has approximately 20 table olive processing plants with an average production capacity of 40 000 t/season/plant. In addition, there are seven table olive packing plants.

No organic table olives are produced in Syria. The breakdown of table olive production by type in 2009/10 was 70% green table olives, 11% olives turning colour and 19% black table olives.

(Source: IOC questionnaire)

3.8. Table olives: domestic consumption and foreign trade

Like production, domestic consumption fluctuates quite significantly from season to season. Table 2 shows that in the past ten crop years it has ranged from a high of 162 500 t in 2004/05 and a low of 74 000 in 2001/02. It can be seen from the figures reported in Table 5 that domestic consumption averaged 73 550 t/year in the 1990s and absorbed in excess of 96% of domestic production. In the 2000s, the level had risen to 118 850 t, equating with an increase of 61.59%. Per capita consumption of table olives came to 10 kg in 2010. (Source: IOC questionnaire)

Taking 2009/10 as a reference, a more detailed analysis reveals that 92 000 t of total table olive consumption (116 000 t) were consumed by producer households, i.e. they went for self-consumption. A further 14 000 t were consumed loose, 8 000 t as packed (non-organic) product and 2 000 t were used in the food processing industry.

Itemised by type, 72% of the table olives consumed in Syria were green olives, 9% were olives turning colour and 18% were black olives (see table below.)

Table 4. SHARE OF TABLE OLIVE TYPES IN PURCHASES BY HOUSEHOLDS, INSTITUTIONAL HOUSEHOLDS AND FOOD PROCESSING PLANTS IN 2009/10 (t) (Source: IOC questionnaire)

Types	*Households*	*Institutional households*	*Food processing plants*	*Total*	
				t	*%*
Green olives	70 000	5 000	5 000	80 000	**72.07**
Olives turning colour	6 000	3 000	2 000	11 000	**9.91**
Black olives	16 000	3 000	1 000	20 000	**18.02**
Total	**92 000**	**11 000**	**8 000**	**111 000**	**100**

Syria does not import table olives, but it does export. It became an exporter for the first time in 1994/95 when it exported 1 000 t of table olives. On average, it exported 1 800 t/year in the 1990s.

In the 2000s, exports averaged 20 550 t, soaring by 1 041% from the level of the 1990s. The cause was the higher exports through the decade, particularly in 2004/05 (34 000 t). To give an idea of the breakdown of exports by type, in 2009/10 the total tonnage exported (24 000 t) was split as follows:

- 5 000 t: black olives (21%)
- 15 000 t: green olives (62.5%)
- 4 000 t: olives turning colour (16.6%)

Overall, these figures confirm the general expansion of the table olive industry in Syria, evident from the figures provided in Table 5:

Table 5.TABLE OLIVES (Source: IOC)

	Average (t) 1990/91–1999/00	Average (t) 2000/01–2009/10	Change (%)
Production	82 600	138 700	67.92
Consumption	73 550	118 850	61.59
Exports	1 800	20 550	1 041.66

3.9. Ongoing measures

The government takes a keen interest in olive growing and supports the sector, for instance by introducing measures such as loans to establish new olive orchards or to upgrade existing groves.

The specific action taken by the Ministry of Agriculture and Agrarian Reform includes:

- Creation of olive plant nurseries
- Importation of tillage equipment
- Application of collective, aerial crop health treatment
- Design of projects to establish irrigation in the northern part of the country

An Olive Bureau has been set up as a specialist centre for carrying out research, relaying modern techniques to olive growers and keeping them up to date in various ways, for example by holding an annual olive exhibition and training seminars and courses tutored by specialists and researchers.

In addition, the Bouka Olive Oil Centre (Lattakia region) is mainly concerned with training middle technical managers, who are particularly needed in Syria; another of its aims is to prioritise olive research. In parallel, the Centre for Agricultural Research has set up an olive research laboratory, which operates in the vicinity of Damascus.

4. SOURCES

IOC questionnaire

IOC database

http://www.internationaloliveoil.org/estaticos/view/130-survey-and-assessment-division

United Nations

http://data.un.org/Default.aspx

World Bank

http://data.worldbank.org/country

NAPC, National Agricultural Policy Centre, Ministry of Agriculture and Agrarian Reform World and Syrian Trade in Olive Oil and Related Agricultural Policy

http://www.napcsyr.org/dwnld-files/divisions/tpd/pubs/comd_brf/en/11_cbrf_ooli_mm_en.pdf

The Olive Oil Sector in Syria

http://ressources.ciheam.org/om/pdf/a73/00800334.pdf