



INTERNATIONAL SOCIETY FOR HORTICULTURAL SCIENCE

Section Tropical and Subtropical Fruits

Newsletter No 14 January 2016

Dear Colleagues,

Wish you and your family a Happy, Healthy and Prosperous New Year

In 2016, the Section is responsible for organizing several symposia (please see forthcoming events). We have successfully organized two symposia in the last six months (XI International Mango Symposium, September 28-October 2, 2015, Darwin, Australia and 1st International Symposium on Moringa, November 15-18, 2015, Manila, Philippines). We are pleased to inform you that for the first time the Section is organizing the International Symposium on Tropical Plantation Crops at Cairns, Australia on 20-25 November, 2016 and the International Symposium on Avocado during the XXX International Horticulture Congress at Istanbul, Turkey on August 12-16, 2018. Due to some unavoidable situation, the International Symposium on Valorization, Preservation and Processing of Tropical Fruits and Vegetables to be held at Haiti from 22-26 May, 2016 has been cancelled.

This e-Newsletter is your and you are welcome to use it as a vehicle to disseminate information to other colleagues. We will be happy to receive your comments, suggestions and will look forward for your inputs for the next issue.

With regards,

H.Jaenicke
Vice-Chair

S.K. Mitra
Chair

Section Tropical and Subtropical Fruits



Longkong) *Lansium parasiticum* (Osbeck) K.C. Sahni & Bennet

Longkong is one of the major fruit crops grown in the south and east of Thailand and it was widely spread over the country. The planting area was 184,417 acres, with at least 100,000 tons of yield. Thailand is the world's largest producer of longkong.

Lansium species are native of the western part of South East Asia, from the west of the southern part of Thailand to the east of Borneo. Longkong was first found in Naratiwat province, southern Thailand and was brought up to the northern and eastern part. These species were also found in Malaysia, Indonesia and The Philippines.

It is an evergreen tree, up to 25 m tall, with circumferences of 75-100 cm, but for commercial growth, trees are 5-10 m high. Surface is smooth with shallow grooves found in older trees, gray brown color with green underneath; canopy: dense, branches were 20-40° angled to the main stem, 5-12 m diameter. Leaf: impari-pinnate of 3-9 leaves, alternate, upper surface green and shiny, lower surface pale green, crispy, wavy and prominent veins and midrib, oblong with acuminate apex and obtuse base, size 5-8 cm wide, 9-12 cm long. Flower: inflorescence born in cluster, 1-20 spikes per cluster, 10-50 flowers per spike, 5-15 cm long, found at the same spot every year, along the stem and branches, flower pale yellow, 2-4 mm diameter. Fruit: globular, dull yellow, size 2.5-4.0 cm diameter, weight: 17-25 g per fruit, 5-45 fruits per bunch, 10-30 cm long, no latex excreted when the rind is peeled, white flesh, juicy but not watery, sweet taste with a slightly sour and mild aroma, 0-2 seeds per fruit. Fruiting season: May-June (eastern part) and August-October (southern part). The average yield is about 50-200 kg per tree. It is mainly propagated by seed or grafting. Crop management, branch thinning after harvesting, to optimize vegetative growth and maximize yield in longkong have to be applied. The plants need water stress at least 30 days to induce flower initiation.





Trees are fertilized with 1 kg of N-P-K 15-15-15 per tree after harvesting and 1 kg of 15-15-15 per tree during flower development stage. Foliar spray of micronutrients, and calcium should be made to prevent fruit abscission. Inflorescences should be thinned to have 1 spike for each cluster and about 10-15 cm apart when they are 3-5 cm long. Spraying of growth regulators, GA_3 , GA_{4+7} , are usually applied for consistent development of inflorescences and fruit set. The fruit are ready for harvesting after 140 days of blooming. Fresh fruits can be stored at room temperature for 4-5 days.

Nataya Dum-ampai

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Tropical and subtropical fruits in Egypt

Egypt is known as one of the oldest agricultural civilizations; the River Nile allowed a sedentary agricultural society to develop thousands of years ago. It lies between latitudes 21 and 31° North and longitudes 25 and 35° East with a total area of 1001450 km².

The climate in Egypt is generally moderate; it is mostly hot or warm during the day, and cool at night. In the coastal regions, daytime average temperatures range between minimum 14°C in winter and maximum 30°C in summer. In deserts the temperatures vary considerably, especially in summer; when they may range from 7°C at night, to 52°C during the day. While the winter temperatures in deserts do not fluctuate so wildly, they can be as low as 0°C at night, and as high as 18°C during the day. Egypt receives less than 80 mm of precipitation annually in most areas, although in the coastal areas it reaches 200 mm. It hardly ever rains during the summer.



Newly grafted mango

Egyptian agriculture is almost entirely dependent on irrigation. More than 90% of Egypt is desert. The agricultural land base totals about 3.8 million ha which represents about 3.8% of the total area in 2013 (FAOSTAT Official data, 2013). Of this agricultural land, 676 771 ha are occupied with fruit trees which represents 17.8% of the agricultural area (Ministry of Agriculture and Land Reclamation, Bulletin of economic affairs sector, 2014).

Egypt's climate allows growing several tropical and subtropical fruit trees. The most important fruits are shown in table 1.

Citrus has the highest percentage of fruit total cultivated area followed by mangoes, olives and grapes (Fig. 1).

Characteristics of the most important fruits will follow.

Citrus is a major export product of Egypt and Egypt will remain a leading orange producer and exporter, ranking as the sixth largest producer and the second largest exporter of oranges in the world (USDA Foreign Agricultural Service, GAIN Report, 2014).

Oranges represent around 30% of total Egyptian fruit production and about 65% of citrus production (Fig.2).

Citrus is grown in almost all governorates: Delta, New lands (Sharkia, Ismailia and Behara), Upper Egypt and Middle Egypt because of the suitable climatic conditions which lead to an early harvest compared to other major producers in the region. Harvest season of orange begins in October and lasts to July depending on the variety.



Producing mango nurslings

Several varieties of citrus are grown in Egypt, including Baladi Orange, Valencia Orange, Blood Orange, Navel Orange, Sweet Orange (Sukhary), Khalily Orange, Sour Orange, Egyptian Lemon and limes. There are also small areas of other citrus such as grapefruit.



Russia, Saudi Arabia, United Arab Emirates, and The Netherlands will remain Egypt's top export destinations. Spain, South Africa and Morocco are Egypt's main competitors in the international marketplace. Other competitors include Turkey, the United States, China, Australia, and Argentina.

The date palm grows well in any arable land, from the northern to the southern part of Egypt. Soft date varieties such as Zaghlol, BintIsha, El-Hayany, El-Amhat and El-Samani grow in lower Egypt (North). Semi-dry dates (among the well-known varieties are El-Sewi, El-Amry and El-Aglany) are common in middle Egypt. The semi-dry varieties are required and preferable for exportation. Dry varieties which require a large amount of heat to ripen grow in upper Egypt. Among the well-known varieties are El-Ebremiy, El-Gondela and El-Bartmoda. Area and distribution of date palm throughout Egypt is shown in table 2.

In Egypt mangoes grow well mostly in loamy or sandy well-drained soils. Mango economically ranked third after citrus and grapes. It has been imported from Bombay in 1825. Several varieties grow in Egypt from different origins; from India and Sri Lanka; Hindi Bicenara, Long, Ewis and Mabroka and from Florida and South Africa; Carrie, Glenn, Keitt and Kent. Moreover, local varieties exist such as Zebda, Taimor, Mesk and Dabsha. Figure 3 shows the progress in the cultivated area of mango.

Bananas have been in Egypt for a long time. The well-known varieties are Williams, Grandnain and Maghrabi. Recently, propagation via tissue culture became the commercial method of propagation to obtain virus-free plants.

The olive trees are mostly in middle Egypt, oases, and the coastal area from Alexandria to Lybia. Due to olives tolerance to abiotic stresses such as drought and salinity, there is a remarkable increase in its cultivated area (Fig. 4).

Most olives are used for pickling and almost 32% is used for oil extraction. Both table and oil varieties are grown in Egypt. Among the well-known varieties are Toffahi, AggeziShami and Hamed as local ones and Mission, Picual, Coratina, Frantoio and Manzanilla as imported ones.

The figs varieties are scattered all over the country. In upper Egypt AbidAsswan, El-Abbody and El-soltany thrive. In the delta, El-Addsy and El-Abbodyare are among the successful varieties. Some new varieties were imported like Mission, Adriatic and Kadota. None of these varieties require pollination for fruit setting since the Blastophaga wasp failed to reproduce under Egyptian conditions.

The guavas have been introduced at the same time with mango from India in 1825. Since then, it has been developed through seed reproduction. Selected stains have been selected locally and budded or grafted. From India a seedless variety was imported in 1927 and has become well known. Guava cultivation is concentrated in lower Egypt, especially in El-Beheira, Damietta,



Newly planted banana orchard outside the valley



Packing orange fruit for exportation at a private station



Kafr El-Sheikh, Alexandria and Qaliubiya governorates. The cultivated area increased from 16526.67 ha in 2007 to reach 17453.75 ha in 2013. This increment is about 5.61%.



Annona plantation surrounded

The pomegranates area witnessed a significant increase during the last few years (Fig. 5). Pomegranate has a great potential in exportation and Russia is considered the main export destination, it receives more than 20000 ton yearly. Among the main varieties are Malissi, Assiuty, Manfalouty and Wonderful. The pomegranate season runs from late July in early varieties until the end of September for the late ones.

The Annona has been introduced to Egypt in the 18th century from India. However, the cultivated area is limited (431.76 ha) due to the poor fruit setting and its need for carrying out artificial pollination. Abdel-Razik, cherimoya and Finney are the most common varieties.

In conclusion, several tropical and subtropical fruits trees grow well in Egypt. The future of the Egyptian fruit industry is mainly in the subtropical fruits.

References

Bulletin of economic affairs sector, Egyptian Ministry of Agriculture and Land Reclamation, 2014.

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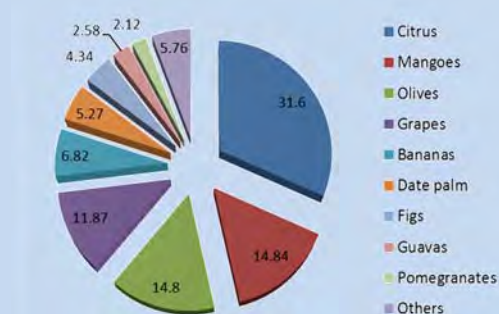


Fig. 1. Cultivated areas of fruit trees grown in Egypt as a percentage of the total fruit trees area in 2013 (Ministry of Agriculture and Land Reclamation, Bulletin of economic affairs sector, 2014)

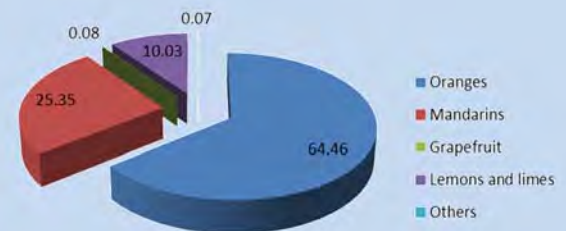


Fig. 2. Production percentage of different Citrus fruits (Arab agricultural statistics yearbook vol. 31, 2011)



Table 1: Cultivated area and total production of some fruit trees in Egypt (2013 estimates).

	Cultivated area (ha)	Total production (MT)
Citrus fruits	227523.7	1243568
Grapes	81006.66	1434666
Mangos	101262.4	712537
Bananas	30640.26	1158224
Figs	29600.76	176595
Guavas	17593.38	315281
Olives	100992.4	541790
Pomegranates	14469	106260
Prickly-pear	1724.94	23069
Kaki	852.18	14207
Annonas	431.76	4341
Loquats	112.14	1421
Papayas	50.4	872
Kiwifruit	21	158
Avocados	3.36	38

* Date palm cultivated area is not included. About 12.3 million trees are in Egypt.

Table 2: Number of date palms and its distribution throughout Egypt in 2013.

Section	Palm No.	Yield/palm (kg)	Total production (MT)
Lower Egypt	5174973	131.92	682665
Middle Egypt	2211388	112.32	248392
Upper Egypt	2553447	85.23	217638
Outside the valley	2356785	76.28	179773
Total	12296593		1328468

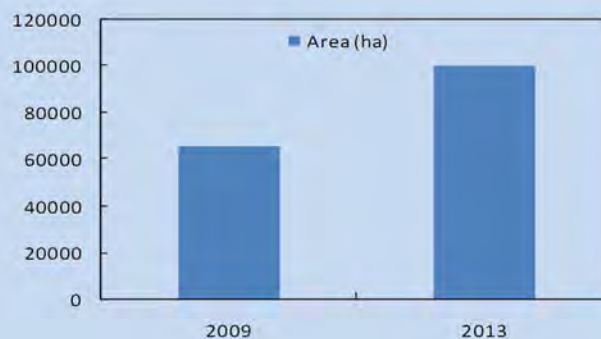


Fig. 4. Olives cultivated area in 2009 and 2013.

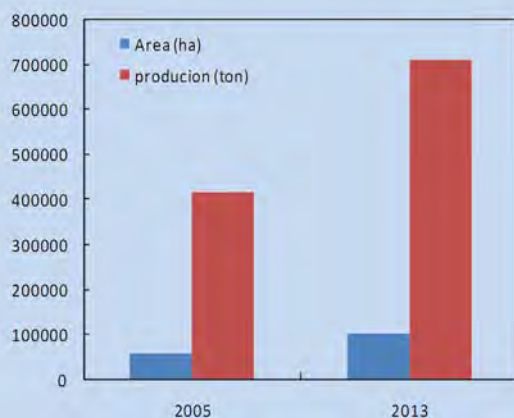


Fig. 3. Mango cultivated area and total production during 2005 and 2013 in Egypt.

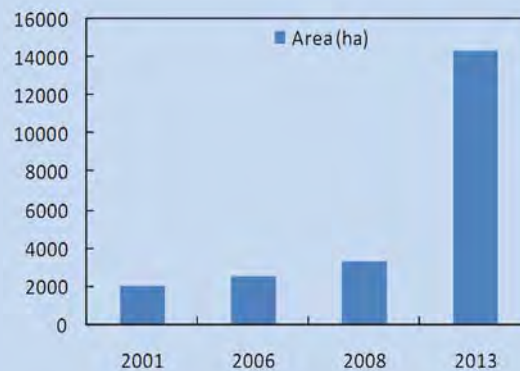


Fig. 5. Pomegranate cultivated area from 2001 to 2013.

Symposium on Persimmon



**VI International
Symposium
on Persimmon**
Valencia / Spain
October 16-20, 2016

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Instituto Valenciano
de Investigaciones Agrarias

Welcome to the VI International Symposium on Persimmon!

The aim of this Symposium is to bring together scientists and technicians from all over the world related to the persimmon fruit crop, in order to present and discuss the latest achievements in the persimmon production. This is an opportunity for scientists and technicians from nurseries, growers, packing houses, and all people involved in the production chain of this crop for gathering and exchanging information about the state of the art in different topics, from plant genetics, germplasm resources and breeding, to crop management and cultural practices aimed at improving the crop, as well as better management of pests and diseases and postharvest and marketing techniques.

Persimmon species is an emerging crop in Spain. The increase of production in the recent years along with a great success in marketing and export resulted in one of the most interesting tree crops for growers. Technical visits to the main production areas of Spain will show to the participants the main aspects of this emerging and interesting industry.

After the previous five successful symposia held at Thailand, Korea, Australia, Italy and China we would like to welcome all experts involved in persimmon crop to the VI Symposium held in Valencia. Valencia is the third largest city in Spain with a population of one million people. A modern transportation network, including an International Airport, an extensive system of motorways and trains, and one of the best ports in Europe provides easy access to the city from any part of the globe. Its privileged location in the Mediterranean coast, and a dynamic economy and cultural life, allows the city to enjoy a prominent position among other European cities.

The symposium will be held in October during the persimmon season in Valencia, which gives the opportunity to know the crop, visit and experiment this wonderful fruit.



FORTHCOMING EVENTS, 2016-2018

Forthcoming Events

VI Int. Symposium on Tropical and Subtropical Fruits (26-28 Sept., 2016, Kafr El-Sheikh, Egypt)

VI Int. Symposium on Persimmon (16-20 Oct., 2016, Valencia, Spain)

V Int. Symp. on Papaya (25-27 Oct., 2017, Merida Yucatan, Mexico)

IX Int. Pineapple Symposium (Costa Rica, 2-8 Oct. 2017)

XXX IHC 2018 (August 12-16, 2018; Istanbul, Turkey)
Int. Symp. Trop. & Subtrop. Fruits
II. IS. Jackfruit & other Moraceae.
1st Int. Avocado

II Int. Symposium on Date Palm (Tunisia, 23-24, Jan. 2017)

Int. Symp. on Flowering Fruit Set and Alternate Bearing (19-23 June, 2017, Palermo, Italy)

V Int. Symposium on Lychee, Longan and Other Sapindaceae Fruits (May 31 – June 3, 2016, Bihar, India)

XII Int. Mango Symp. (10-17 July 2017, Guangxi, China)

X Int. Symposium on TFTS (18-20 Sept., 2017, Muscat, Oman)

IV Int. Symp. on Guava (Nov. 20-25, 2016, Cairns, Australia)
II Int. Symp. on Tropical Horticulture (Nov. 20-25, 2016, Cairns, Australia)
I Int. Symp. on Tropical Plantation Crops (Nov. 20-25, 2016, Cairns, Australia)
I Int. Symp. on Beverage Crops (Nov. 20-25, 2016, Cairns, Australia)
I Int. Symp. on Tropical Plant Breeding (Nov. 20-25, 2016, Cairns, Australia)

