

# Mangosteen Production and Marketing in Thailand



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# Introduction

- Thailand covers an area of 51.3 million hectares, of which 46.5% are used for agriculture.
- Horticulture production area covers 8.8% of the agricultural land.
- Thailand is well-known for its tropical fruits which are exotic, tasty flavor and good quality such as Durian, Mangosteen and Rambutan.
- Commercial fruit production area is estimated at 1.6 million hectares. Major crops grown are Mango (20.5%), Longan (10.4%), Durian (5.8%), Mangosteen (4.1%), Longkong (3.7%), Rambutan (3%), Lychee (1.3%) and Tangerine (0.9%)



# Introduction

- Mangosteen (Mangkhut), *Garcinia mangostana* Linn., is one of the most favorite fruits of Thailand, popularly known as “Queen of Tropical Fruits”.
- It is grown commercially in Thailand, Indonesia, Vietnam, Malaysia and the Philippines; and is grown on a smaller scale in Sri Lanka, Australia, Hawaii, Puerto Rico, Costa Rica and Mexico.
- However, Thai mangosteen has attracted foreigners and export markets in Europe, the Middle East and many Asian countries such as Japan and China as it is of high quality.

# Introduction

- At present, mangosteen is well established as an important new Superfruit due to its richness in nutritional benefits and medicinal properties.
- Nutritionally, mangosteen contains energy, protein, carbohydrate, fiber, calcium, phosphorus, iron, niacin, vitamin C, B1 and B2.
- Medicinally, its shiny purple skin contains tannin, which helps healing wounds and stopping serious diarrhea. Tannin from mangosteen skin is also used in the cosmetic industry.
- Its fruit pericarp contains five poly-oxygenated xanthenes, which are used as anti-bacterial agents in Thai medicine for healing skin infections and for the relief of diarrhea.

# Production

- Thailand is one of the main mangosteen producing countries, of which it is ranked the 4th in the world by the volume of total production.
- Other notable producing countries include India, China, Kenya and Indonesia.

No.	Country	Production (MT)
1	India	15,250,000
2	China, Mainland	4,400,000
3	Kenya	2,781,706
4	Thailand	2,650,000
5	Indonesia	2,376,339

Source: FAOSTAT, 2014



- The mangosteen cultivated area in Thailand increased from 65,514 hectares in 2013 to 66,017 hectares in 2014.
- The major planted areas are in the south and the east of the country, which accounts for 68 and 31% of total area under mangosteen cultivation.

# Production

- Chanthaburi province is the major area for mangosteen cultivation in the east, whereas Chumphon and Nakhon Si Thammarat provinces are major producers in the south.
- Mangosteen is grown as a component in mixed crop planting in southern Thailand while growers in the eastern part of the country, especially Chanthaburi, changed from the traditional style of fruit cultivation as in the south to commercial scale monocrop farms.

# Production

- The production season in the east of the country starts from April to June, but in the south continues from July to September.
- Total production increased from 279,263 tons in 2013 to 289,359 tons in 2014.
- The production obtained from the cultivated areas in the south contributed 49.35% (142,823 tons) of the total production of the country, whereas only one province in the east, Chanthaburi, produced up to 35.56% (102,908 tons) of the total production in 2014.

# Marketing

- Although most of the mangosteen produced in Thailand is domestically consumed, many have also been exported.
- Thailand exports mangosteen to many Asian countries. Taiwan and Hong Kong are major markets for fresh mangosteen. Markets accepting Thai fresh mangosteen fruits include China, Japan, and Canada.
- Thailand also exports frozen mangosteen to Japan, the United States of America, and Taiwan.

# Marketing

- The export of Thai fresh mangosteen dramatically increased from the approximately volume of 119,572 tons, valued at 55.88 million US\$ in 2010 to 195,838 tons, valued at 138.15 million US\$ in 2014.

Year	Export Volume (Tons)	Export Value (Million US\$)
2010	119,572	55.88
2011	111,717	59.16
2012	149,398	83.41
2013	215,865	122.76
2014	195,838	138.15

Source: Office of Agricultural Economics, 2014

# Marketing

- In 2014, Thailand exported fresh mangosteen at the value of 138.15 million US\$.
- Major importing countries are Hong Kong, the United States of America, the Republic of Korea, the United Arab Emirates, and Australia.

Country	Export Value (Million US\$)
Hong Kong	13.63
United States of America	2.51
Republic of Korea	1.51
United Arab Emirates	0.93
Australia	0.82
Others	118.75
<b>Total</b>	<b>138.15</b>

Source: The Custom Department, 2014

# Development potential of mangosteen

## *Production aspect*

- Agronomically, the plant has no serious pests or diseases, and labour requirements are not high, except during harvesting.
- Environmentally, the tree makes a good crop mix with other species of tropical fruit trees.

# Development potential of mangosteen

## *Market aspect*

Mangosteen is gaining popularity with consumers and has the potential to be further developed into a mainstream tropical fruit export for the following reasons:

- Demand has been increasing in producing countries as well as in export markets, such as China, Hong Kong, Japan, Korea, the United States of America, and the European Union.
- The nutrition and medicinal value of the fruit have been established and documented. It has been reported to possess natural medicinal properties similar to antibiotic, antiseptic, anti-inflammatory and anti-allergic. It has also been used in traditional medicine to cure ailments ranging from skin disorders to dysentery. Xanthones, a photochemical found mainly in the rind of fruit, is now being commercialized as a health supplement.

# Issues affecting the production and marketing

- Due to the globalization and the emergence of new economic countries like China, the demand of mangosteen in foreign markets is increased.
- Being the best-tasting and nutritional fruit, mangosteen is gained the increasing demand by the consumers in both domestic and foreign markets.
- Thai growers have thus consequently increased their planting areas, by which causes 2 major issues.

# Issues affecting the production and marketing

## *Over-supply market*

- Mangosteen is seasonal and the harvesting season is short. Increased planting areas result in an over-supply market. This, in itself, leads to wide fluctuations in price. Meanwhile, the processing markets always demand continuity of supply.
- Research and development in staggering the production as well as processing the fruit into other products, such as food products, medicinal products and cosmetic products, could minimize this adverse effect.

# Issues affecting the production and marketing

## *Low quality of produce*

- Produce quality does not meet the market requirements, probably due to the extensive production and the lack of know-how and technical requirements. Proper handling during harvesting and post-harvest handling systems must be promoted, while the conventional growers must be change their practice to professional ones via a group or cluster of small growers.

- The new trend of the industry in producing higher-value produces, together with the professional growers and group or cluster of growers with professional management scheme will help balance the demand and supply of the produces. This will benefit the industry with more sustainability.

# Development activities

Department of Agricultural Extension (DOAE) has put an emphasis on promotion of mangosteen quality development in order to raise consumer confidence.

Group formation of mangosteen growers was strengthened and consequently 129 Mangosteen Quality Development Groups were established in the main production areas.

## Mangosteen Quality Development Groups

Region	Province	No. of Groups
East	Chanthaburi	24
	Trat	16
South	Chumphon	16
	Trang	7
	Nakhon Si thammarat	35
	Narathiwat	1
	Ranong	8
	Songkla	7
	Satun	7
	Surat Thani	6
West	Kanchanaburi	1
North-eastern	Buriram	1

Source: Department of Agricultural Extension, 2013

# Development activities

- Targeted growers have been transferred the required technology and guided to develop production and marketing plans appropriately, in compliance with the sanitary and phytosanitary requirements of importing countries.
- Mangostens exported to Japan require vapour heat treatment, while those bound for the US market need to be irradiated. This result in continuously increased export of Thai mangosteen and the growers can enjoy their higher prices.



- Quality mangosteen fruit, which is required by lucrative markets, should weigh greater than 80 g. Insect or mechanical damage and yellow latex should not be visible on the fruit skin. The inferior fruit quality, especially translucent flesh and latex exudation is unacceptable.
- Therefore, technology to improve mangosteen production has been established by the Department of Agriculture and transferred to mangosteen growers by the Department of Agricultural Extension.



In addition, the mangosteen contest has been promoted in the planting areas to encourage the growers to produce high quality mangosteen so that they can sell mangosteen at higher prices.

The contest is, therefore, a channel to raise awareness of growers and disseminate information on high mangosteen development.





# Farmer Market



# Development activities

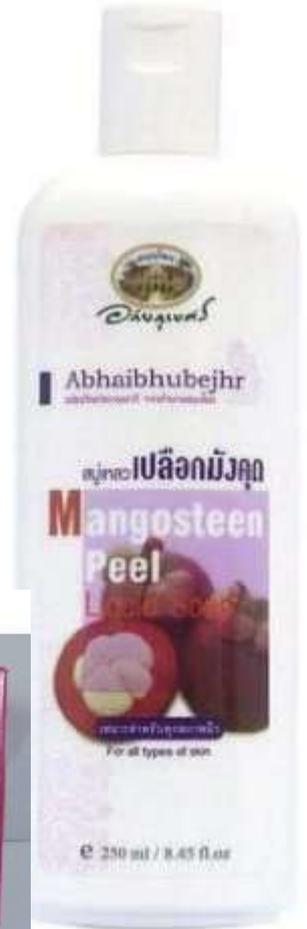
Mangosteen processed products were introduced to 81 Mangosteen Production and Processing Community Enterprises due to its nutritional benefits and medicinal properties.

Region	Province	No. of Community Enterprises
East	Chanthaburi	10
	Rayong	20
	Trat	3
South	Nakhon Si Thammarat	16
	Narathiwat	1
	Chumphon	17
	Ranong	7
	Surat Thani	1
	Pang nga	6

Source: Secretariat Office of Community Enterprise Promotion Board, 2015

- Many products from mangosteen were produced including food products such as mangosteen jam, sweet mangosteen paste, mangosteen sherbet, mangosteen freeze, and mangosteen wine, medicinal products for diarrhea and wound healing, and cosmetic products for acne, black scars and boils.





Therefore, mangosteen will be one of the most potential crops to increase income for the growers and producers.





Thank you very much for your kind attention.