

PALM OIL FACTS & FIGURES

EFFICIENT & HIGHLY PRODUCTIVE

- Oil palm is the most efficient oilseed crop in the world.
- One hectare of oil palm plantation is able to produce up to ten times more oil than other leading oilseed crops. (Refer to Figure 1)
- The most efficient producers may achieve yields as high as eight tonnes of oil per hectare.
- Among the 10 major oilseeds, oil palm accounted for 5.5% of global land use for cultivation, but produced 32.0% of global oils and fats output in 2012. (Refer to Figure 2 and Figure 3)
- Indonesia and Malaysia produce about 85% of the world's palm oil. Other producer countries include Thailand, Columbia, Nigeria, Papua New Guinea and Ecuador.

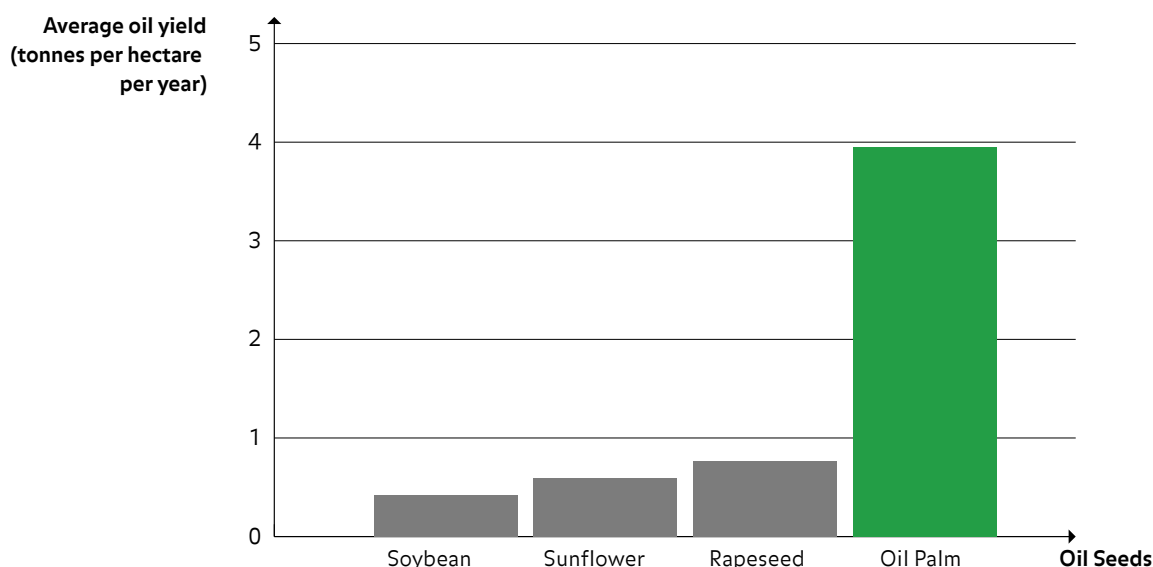


Figure 1
Oil Palm Efficiency vs Other Major Oil Crops
(Source: Oil World 2013)

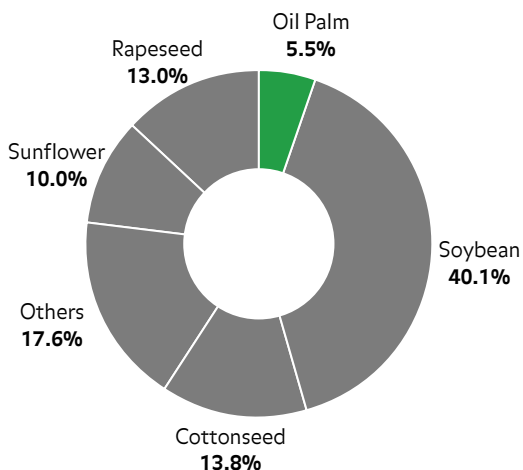


Figure 2
10 Major Oilseeds : Area in 2012 (Total =258.9 mil hectares)
(Source: Oil World 2013)

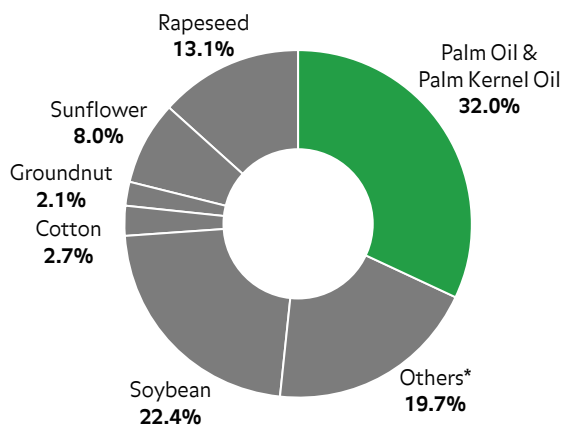


Figure 3
17 Major Oils & Fats : Global Production in 2012 (Total =186.4 mil tonnes)
*Includes oils and fats such as butter, lard, fish oil, tallow and grease
(Source: Oil World 2013)



TOP SELLING

- Palm oil is one of the 17 major oils and fats produced globally. China is the largest consumer of oils and fats, followed by the EU, India, and the United States. (Refer to Figure 4)
- Among the 17 oils and fats, palm oil was the highest consumed oil in 2012, reaching three billion people in 150 countries. (Refer to Figure 5 and Figure 6)
- High palm oil consumption countries include China, India, Indonesia, and the European Union.
- Global consumption for palm oil was 52.1 million tonnes in 2012. (Refer to Figure 5)
- Palm oil is competitively priced against soybean, rapeseed and sunflower oil in the world's market for oils and fats. (Refer to Figure 7)

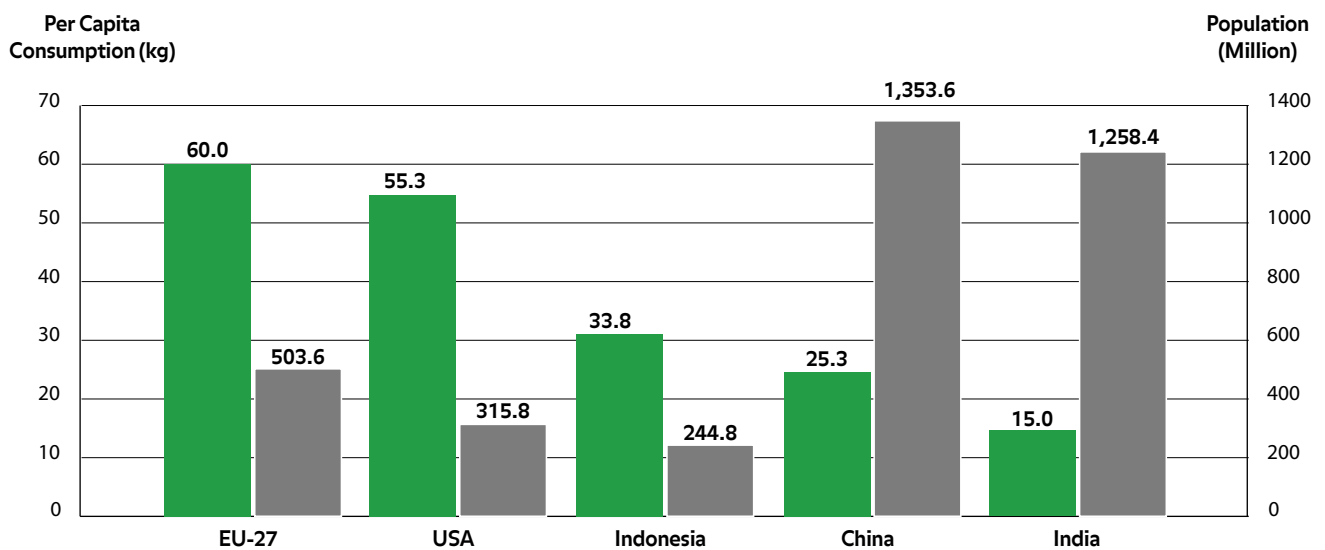


Figure 4

Per Capita Consumption of Oils & Fats, 2012
(Source: Oil World 2013)

■ Consumption
■ Population

**Consumption
(million tonnes)**

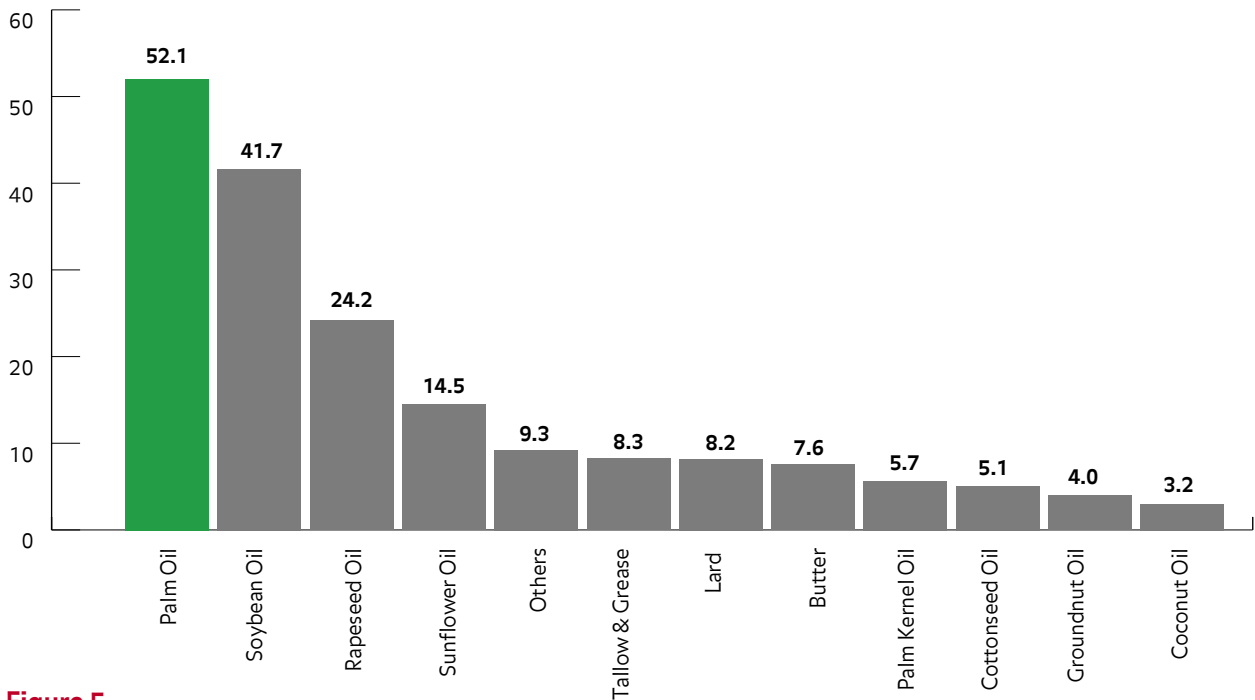


Figure 5

17 Major Oils & Fats: World Consumption in 2012 (Total = 183.9 mil tonnes)

(Source: Oil World 2013)

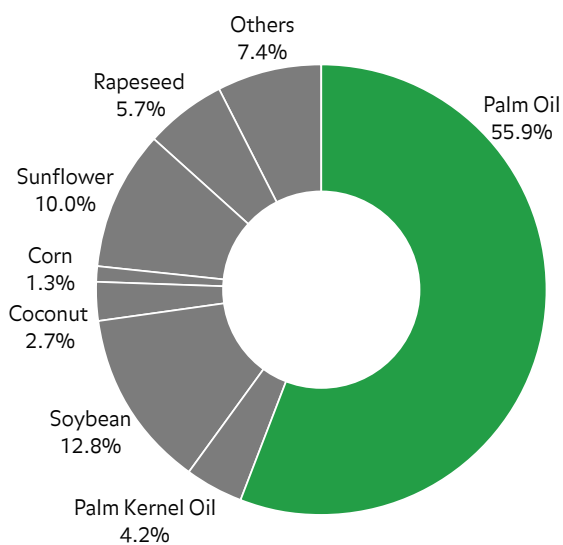
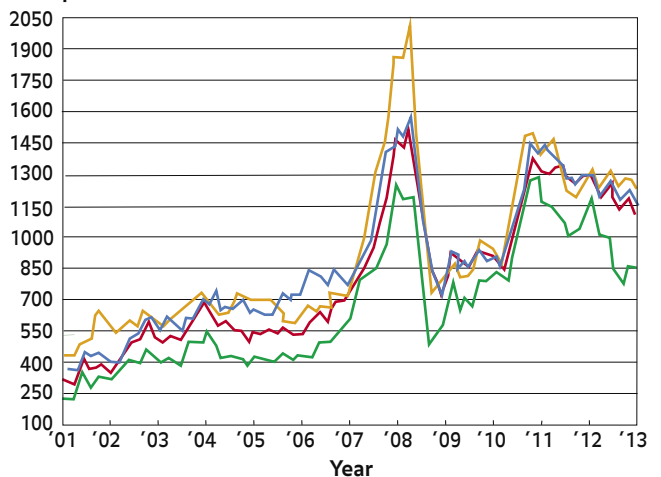


Figure 6

17 Major Oils & Fats: World Export in 2012
(Total = 72.9 mil tonnes)

(Source: Oil World 2013)

USD per tonne



- Crude Palm Oil (cif Dutch)
 - Crude Degummed Soybean (fob Dutch)
 - Sunflower Oil (fob EU)
 - Rapeseed Oil (fob Dutch)
- cif = cost, insurance and freight*
fob = free on board

Figure 7

Comparison of prices of major vegetable oils from January 2001 to April 2013 (USD per tonne)

(Source: Oil World 2013)

CERTIFIED SUSTAINABLE

- Palm oil is one of the few vegetable oils in the market with a crop-specific sustainable certification standard, the Roundtable on Sustainable Palm Oil (RSPO).
- The RSPO brings together stakeholders, including Non-Governmental Organisations (NGOs) and social groups along the process value chain of palm oil production to promote the growth and use of sustainable palm oil products.

VERSATILE & UNIQUE

Oil palm produces two different types of oils: palm oil and palm kernel oil.

Palm oil is used in a wide variety of food products such as cooking oil, shortenings and margarine. Palm kernel oil is a raw material in the production of non-food products which include soaps, detergents, toiletries, cosmetics and candles.

Palm oil is increasingly being used as feedstock for biofuel although its primary use remains for food.

Palm oil is a balanced oil with a unique chemical composition that offers greater advantages compared to other vegetable oils:

- It has a longer shelf life as it does not become easily rancid.
- Unlike other vegetable oils, palm oil is naturally semi-solid and does not need to undergo hydrogenation* to make it suitable for solid applications. The hydrogenation process is responsible for the formation of trans fatty acids which are detrimental to health.

**Hydrogenation is a chemical process that turns liquid oil into semi-solid form for the manufacturing of food products. It produces trans fatty acids that have higher levels of Low-Density Lipoprotein ("bad cholesterol") and lower levels of High-Density Lipoprotein ("good cholesterol").*

NUTRITIONAL VALUES

- Oils and fats are vital nutrients required by the human body to achieve and maintain good health. There are two types of natural fats - saturated and unsaturated fats.
- An adequate amount of fat is necessary in the human diet for proper digestion and nutrient absorption. Palm oil provides the right amounts of fat in a balanced diet.
- Vitamins A and E, essential for the normal growth and development of the human body, is obtained through food consumption.
- All vegetable oils contain natural vitamin E in compounds such as tocopherols and tocotrienols. Palm oil has the richest known content of natural tocotrienols. Studies have shown that tocotrienol helps lower bad cholesterol levels and protects the brain against diseases.
- Palm oil is also high in carotenoids, a rich source of vitamin A. Carotenoids can be stored in the body and be converted to vitamin A when needed. Vitamin A stimulates the immune system and controls the growth and functions of body tissues. Red palm oil, or mildly refined palm oil, has seventeen times more carotenoids than carrots.
- Palm oil is cholesterol-free and trans fat free. It is composed mainly of triglycerides of fatty acid with a balanced composition between saturated and unsaturated fatty acids. The latter comprises 40% monounsaturated and 10% polyunsaturated fat.

MALAYSIA

- 62% of Malaysia's land area is forest and this includes some of the world's oldest rainforests.
- Malaysia's forests are home to a rich diversity of flora and fauna that contribute to the natural preservation of the ecology.
- A recent study by Forest Resource Assessment reveals the forest area by country:

COUNTRY	% FOREST AREA	TOTAL FOREST AREA (MIL HA)	TOTAL LAND AREA (MIL HA)
Sweden	69	28.203	41.033
Brazil	62	519.522	832.512
Malaysia	62	20.456	32.855
United States of America	33	304.022	916.193
Germany	32	11.076	34.877
France	29	15.954	55.010
Argentina	11	29.400	273.669
United Kingdom	12	2.881	24.250
Denmark	13	0.544	4.243

(Source: www.fao.org – Global Forest Resources Assessment 2010)

- As at December 2012, Malaysian oil palm accounted for just 1.97% (5.1 million hectares) of the total 258.9 million hectares planted with the 10 major oilseed crops globally.
- Yet, this 1.97% was able to supply a total of 10.0% (18.8 million tonnes) of global vegetable oils and fats output in 2012. (Source: Oil World 2013)
- Malaysian palm oil accounted for 24.1% (17.6 million tonnes) of the total global trade of oils and fats in 2011. (Source: Oil World 2013)
- In Malaysia, oil palm plantations make up 77% of agricultural land or about 15% of total land area. (Source: MPOB 2012)
- Sime Darby produces 2.44 million tonnes or 5% of the world's crude palm oil output annually.

“It has the scent of violets, the taste of olive oil and a colour which tinges food like saffron but is more attractive”

Ca'da Mosto, a 15th century explorer on discovering palm oil

POVERTY ALLEVIATION

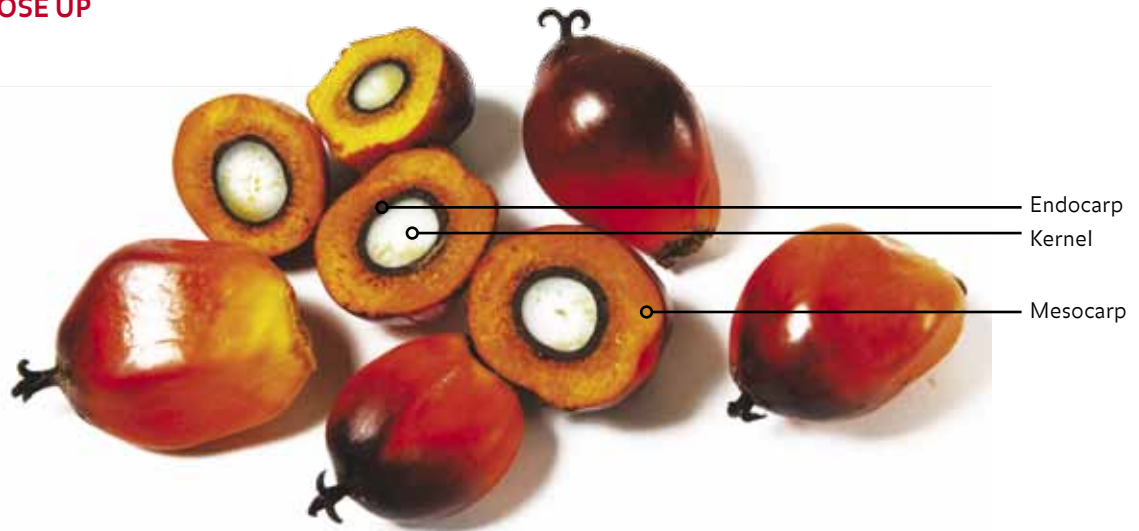
- The palm oil industry is one of the key economic drivers of the agricultural sector in developing countries such as Malaysia and Indonesia. Its economic potential is greatest in the oil palm growing belt, a region that encompasses 10° north and south of the equator.
- In Malaysia, the industry provides direct employment for about 570,000 people. (Source: MPOC 2011)
- The industry also offers a long-term and stable source of income for its smallholders.

OIL PALM RESEARCH & DEVELOPMENT IN MALAYSIA

- In the 1960s, research and development in oil palm breeding began to expand after Malaysia's Department of Agriculture established an exchange programme with West African economies and four private plantations formed the Oil Palm Genetics Laboratory.
- The government also established Kolej Serdang which became the Agriculture University of Malaysia (now known as Universiti Putra Malaysia) in the 1970s to train agriculture and agro-industrial engineers as well as agro-business graduates to conduct research in the field.
- In 1979, the Palm Oil Research Institute of Malaysia (PORIM) was established.
- In 2000, the Malaysian Palm Oil Board (MPOB) was established following the merger of the Palm Oil Research Institute of Malaysia (PORIM) and the Palm Oil Registration and Licensing Authority (PORLA). Its principal objectives are to conduct and promote research and development in oil palm tree breeding, palm oil nutrition and potential oleochemical use.
- MPOB is funded by both the public and private sectors in a coordinated effort and as a result has become Malaysia's top research entity.
- MPOB is committed to assisting the industry to maximise productivity and production, increase product ranges, introduce new technologies and create opportunities for the Malaysian palm oil industry.



OIL PALM : A CLOSE UP



- Palm oil, referring to the oil extracted from the fruits of the oil palm tree, is an edible plant oil that is naturally reddish as it contains high amounts of beta-carotene.
- The oil palm tree has an average productive life-span of about 25 to 30 years. It can reach a height of up to 30 feet and produces fruit bunches from three years of age after field planting.
- In each productive year, an oil palm tree may produce between 8 to 12 bunches of fruit.
- Each bunch weighs between 10 and 25 kilogrammes and contains between 1,000 and 3,000 fruitlets.
- Loose fruits are ripe fruitlets which have fallen from a ripe bunch. They are often used as an indication to measure bunch ripeness.
- These fruits are the ripest in the bunch, and therefore they contain the highest amount of oil.
- The oil palm fruit is almost spherical in shape. It consists of a hard seed (kernel) enclosed in a shell (endocarp) which is surrounded by fleshy husk (mesocarp).
- Palm oil is extracted from the mesocarp.
- Palm kernel oil is derived from the kernel after being separated from the mesocarp.



Oil palm fruit harvesting and mechanisation of fruit evacuation on Sime Darby Plantation estates

HISTORY

- The oil palm (*Elaeis guineensis*) is an ancient tropical plant from the West African tropical rainforest region. It is still being cultivated there as well as across the tropics.
- Palm oil has been used as food and medicine throughout the ages. The earliest archaeological evidence of palm oil use is an earthenware jar containing residues of palm oil in a 5,000-year-old Egyptian tomb.
- The Industrial Revolution in 19th century Europe sparked the international trade in palm oil when demand soared due to its use as lubricant in steam engines and other machinery and soap.
- In 1848, Dutch tobacco planters brought the first African oil palm seedlings to the Far East to be planted in the botanical gardens of Bogor, Java as ornamental plants.
- It was not until the early 20th century that oil palm was planted commercially in South East Asia. The optimal soil conditions and ample rainfall and sunshine made the region one of the most ideal places to grow oil palm.
- In 1917, Tennamaram Estate in Selangor became the first oil palm plantation in Malaya.
- The early oil palm plantations were mostly established and operated by British planters. Many were listed in London.
- Guthrie & Co. was the first in Malaya to actively plant oil palm in 1924 in Kluang, Johor under a newly formed company called Elaeis. In 1926, two of Harrisons & Crosfield's estates in Sumatra (Rambong Sialang and Hoenong Malajoe) began planting oil palm, while in Malaya one of their agency estates planted them in Sungai Samak estate because its land was unsuitable for rubber. Sime Darby only began exploring the new oil palm crop in Merlimau Pegoh and Tali Ayer estates in 1964.
- On 1 July 1956, the Federal Land Development Authority (FELDA) was formed when the Land Development Act came into force with the main aim of eradicating poverty. To date, there are 112,635 FELDA settlers in Malaysia.
- The cultivation of oil palm increased at a fast pace in the early 1960s under the Malaysian government's agricultural diversification programme, which was introduced to reduce the country's economic dependence on rubber and tin.
- Oil palm plantations in Malaysia are largely based on the estate management system and smallholder schemes. Land settlement schemes for planting oil palm were introduced as a means to eradicate poverty for landless farmers and smallholders.
- The 1970s saw the 'Malaysianisation' movement; companies involved in rubber and oil palm that were listed in London were acquired by Malaysian government agencies. The first "Malaysianised" company was Sime Darby.