



*Q&A Series
on
Palm Oil*



Professional *kitchen*

Mr. Teah Yau Kun

Q&A Series on Palm Oil
Malaysian Palm Oil in Professional Kitchen

Published by
MALAYSIAN PALM OIL COUNCIL
2nd Floor, Wisma Sawit,
Lot 6, SS6, Jalan Perbandaran,
47301 Kelana Jaya, Selangor,
Malaysia.

For more information, please visit
www.mpoc.org.my
<http://palmoiltoday.net>
www.palmoiltv.org

Copyright © 2018 Malaysian Palm Oil Council

All rights reserved. No part of this book may be reproduced
in any form or by any means without prior written permission
from the Publisher.

Perpustakaan Negara Malaysia
Cataloguing-in-Publication Data

Q&A Series on Palm Oil: Malaysian Palm Oil in Professional Kitchen

ISBN-978-983-9191-40-0

1. Palm oil--Malaysia--Miscellanea.
2. Palm oil industry--Malaysia--Miscellanea.
633.85109595



Contents

- 1 Introduction
- 3 Palm Oil
- 6 Oils and Fats in Professional Kitchen
- 8 Cooking Oils
- 15 Merits of Malaysian Palm Oil
- 21 Deep Fat Frying
- 25 Margarine
- 27 Shortening and Solid Fats
- 29 Specialty Fats
- 31 Other Applications of Palm Oil
- 35 Health Benefits of Palm Oil
- 39 Sustainability

The Oil Palm Facts

History

The first local, commercial plantation was in Selangor, established in 1917 by a young Frenchman, named Henry Fauconnier.

In the early '60s, the oil palm plantation had increased significantly to reduce Malaysia's dependency on rubber and tin.



Origin

A species of oil palm from West Africa, between Angola and Gambia.

Its scientific name is *Elaeis guineensis*.



Aesthetics

The plant can grow over 20 metres tall, and is able to produce fruits until the end of its economic lifespan of 25-30 years.

Fruits in large bunches, or otherwise known as fresh fruit bunches (FFB) weigh between 5-30kg each.

It bears fruits all year round, which makes the plant a lucrative and competitive commodity.



Route to Malaysia

Oil palms were brought to Malaya in 1875, by the British as ornamental plants.



There is an archaeological evidence of palm oil being used in food more than 5000 years ago.

Introduction



Palm oil, is the most widely produced and consumed vegetable oil. It is derived from the African palm tree belonging to the *Palmaceae* family. It is a vital and most versatile vegetable oil, and is widely used as a raw material from both food and non-food industries.

Being a vegetable oil, palm oil is cholesterol-free, just like all vegetable oils. In effect, palm oil like olive oil, are the only two common vegetable oils that are derived from palm trees. As such, there are certain compositional similarities among the two oils.

Palm oil has a unique and balanced composition, which rendered palm oil a highly versatile oil. This makes palm oil a preferred choice for food manufacturers, as palm oil can readily meet the characteristics demanded by different food products.



AT THE PALM OIL MILL

Transportation of
Fresh Fruit Bunches
(FFB)



Receiving & Sterilisation



Stripping fruits from
bunches in rotating drum



Digestion & Pressing

- Separates sterilised fruit flesh from the nuts and breaks open the oil cells



Screening & Clarification

- Removes dirt and coarse solids
- Separates oil from fat sludge



Centrifuging & Purification

- Recovers remaining oil from the sludge
- Removes impurities and moisture from clean oil



Drying & Storage

- Before shipment to refineries for further refinement
- Proper storage is critical to quality levels



Crude Palm Oil



Palm Oil



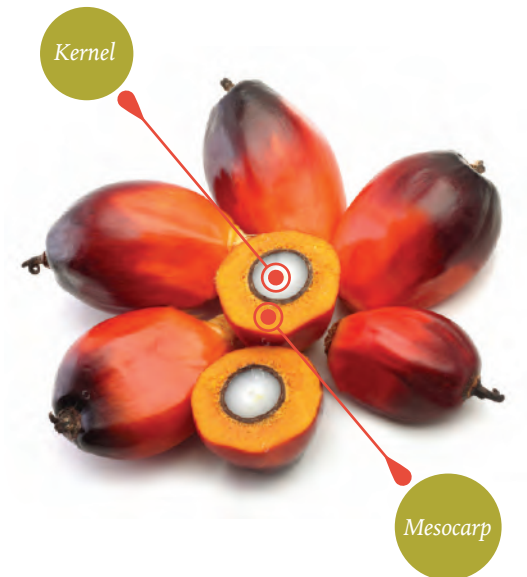
One of the unique features of palm oil lies in the fact that a single palm fruit yields two kinds of oils, which are entirely different, in terms of physical and chemical characteristics.

Both oils find profound use in different applications, in both food and non-food sectors.

The anatomy of an oil palm fruit is indicated below:

Crude Palm Kernel Oil (CPKO)

- Palm Kernel Oil
- Palm Kernel Olein
- Palm Kernel Stearin



Crude Palm Oil (CPO)

- Red Palm Oil
- Palm Oil
- Palm Olein
- Palm Stearin

Palm Oil Applications

In a Nutshell



Oil Palm Fruits

↓ ↓ ↓

CRUDE PALM OIL

Palm Olein

- Cooking Oil

- Frying Applications for Homes, Factories & Fast Food Outlets
- Confectionery

Palm Stearin

- Shortening
- Margarine
- Puff Pastry
- Laminated Pastry

- Bakery Industry (Bread, Cookies & Cakes)

Palm Kernel Oil

- Cocoa Butter Replacer

- Confectionery

Uses of



FOOD APPLICATIONS



Margarine • Shortening • Vegetable Ghee
• Chocolate • Ice Cream • Creamer

NON-FOOD APPLICATIONS



Detergents • Pharmaceuticals • Cosmetics
• Oleochemicals

Getting the Oil

Malaysian palm oil is extracted through mechanical pressing. It is called crude palm oil, as it has not been refined yet.

For it to be used in food applications, Malaysian palm oil is processed by using physical and not chemical refining.

Oils and Fats in Professional Kitchen



Oils and fats play many significant roles in the food we eat, and their uses in the professional kitchen are innumerable. In addition to being a vital nutrient, fat performs a number of culinary functions.

Fats provide a rich flavour, silky mouthfeel, or texture that most people find very satisfying. Fat also provides an appealing visual element and performs a multitude of chemical functions such as tenderizing, leavening, aiding in moisture retention, and creating flaky or crumbly textures in baking process.

The goodness of the Malaysian palm oil, which makes it favourable in professional kitchen, include:

- **Stability**

Its high oxidative stability allows quality and healthy food to be cooked at high temperature and is found to be much less susceptible to oxidation. This makes it ideal for household and industrial frying.

- **Nutritionally Balanced**

There is a balanced composition between saturated and unsaturated fatty acids.

- **Trans-Fat Free**

Food manufacturers could use it in food production without the need for hydrogenation (which solidifies liquid oils), as it is naturally semi-solid at room temperature. In modifying the hardness of oil, hydrogenation can either be partial or full. Partial hydrogenation produces trans-fatty acids, which is proven to be harmful to health, including raising the cholesterol level.

- **Halal**

As it is derived from the mesocarp of the oil palm fruit, Malaysian palm oil is therefore halal, and suitable for vegans too.

- **Non Genetically Modified Organism (GMO)**

It has not undergone any genetic modifications.

- **Bland Taste**

Malaysian palm oil is odourless and neutral in flavour, which is important in ensuring that the final taste desired in a particular food is achieved. Therefore, it allows the food to carry the flavour intended.

- **Competitively Priced**

The yield of oil palm is higher per hectare, at 5 to 9 times more than rapeseed, sunflower, or soybean. Being the most productive, allows palm oil to enjoy a more economical pricing. Consequently, oil palm requires less land than other crops, making it more sustainable and environmentally friendly.

- **Excellent Storage & Shelf Stability**

The moderate content of heat sensitive polyunsaturated fatty acids allows Malaysian palm oil to be stable even during prolonged exposure to high heat. Its content of natural antioxidant, vitamin E, provides good resistance to oxidation.



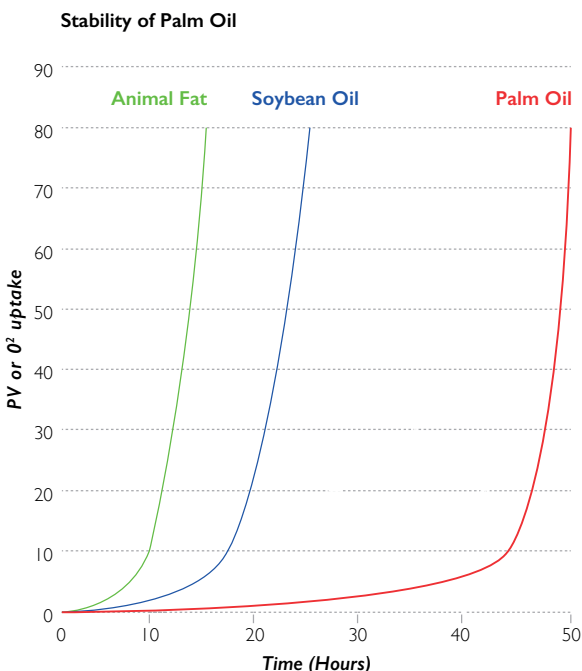
Cooking Oils



Cooking is one of the most common ways of food preparation in the professional kitchen. During cooking, oils serve as a medium of heat transfer, but they also get absorbed by the food.

Oils should be treated with great care as the fatty acids, the key chemical components of oils, are sensitive to heat, light, and oxygen. Overexposure to these undesirable elements during storage or cooking can alter the chemical structure of the fatty acids. This can produce 'off flavours', and lead to the destruction of vitamins and loss of nutritional value.

The stability of the fatty acids varies between oils. For high temperature cooking and frying, oil that has high oxidative stability should be chosen as the preferred choice. Palm oil and palm olein (the liquid fraction of palm oil) have the highest oxidative stability among the vegetable oils.



Palm oil has indeed established itself as one of the best alternatives to liquid vegetable oils for cooking. Palm oil's excellent heat resistance and balanced composition allow it to be one of the healthiest options that are readily available.

In fact, the latest oil to hit the health food scene, as people are reaching for a healthier alternative, is red palm oil. The red palm oil is fully packed with good nutrition, as it is minimally processed from palm fruits by steaming, expeller pressing, and undergoing a mild processing to remove the odour and scent.

Red palm oil, as the name implies, gets its super rich orange-red colour from the presence of carotenes, which are also commonly found in carrots and tomatoes. The carotenoids present are precursors to vitamin A, and are important antioxidants for healthy eyes.

Red palm oil is also a rich source of tocopherols and tocotrienols, members of the vitamin E family. Vitamin E is a fat soluble vitamin, which is also an essential antioxidant that protects cell membranes from free-radical damage.

Red palm oil is especially rich in tocotrienols, which have been shown to lower the LDL cholesterol (the bad cholesterol), and help to increase the HDL cholesterol (the good cholesterol).

Red palm oil is also being used as a natural and healthy food colourant, adding nutritional value, and improving the shelf life of products. Examples of its applications include dressings, mayonnaise, and bakery products.

The culinary FACTORS



- Stable at high heat above 200°C
- Malaysian palm oil has a high smoke point of 235°C and can be reused without much quality issues



- Cost effective
- Malaysian palm oil is competitively priced, making it economical for home, and commercial use



- Food using Malaysian palm oil is less oily
- It is also resistant to food spoilage, and food flavour is properly retained

- Palm-based cocoa butter substitute requires no tempering for making chocolate.
- In baking, margarine and shortening are easier to handle than butter



- Malaysian palm oil imparts a long shelf life, and can be stored at room temperature



CLOUDING POINT

Palm olein (the liquid fraction of palm oil) has a cloud point of 10°C. So at a low temperature, its molecules crystallise, which tends to make the oil undesirably cloudy in appearance. But there is absolutely no adverse effect on its quality or performance.

This is a natural physical transformation, when subjected to a lower temperature, or used in cold climate. Palm olein at that point poses no harmful effect on health.

In fact, when temperature is raised beyond the cloud point, the cloudiness will then disappear. This is similar to the water-ice phenomenon.

Cloudiness in palm olein can be prevented by lowering its cloud point value. One way to do this is by blending palm olein with any polyunsaturated or monounsaturated vegetable oils. The use of monounsaturated super olein with a lower cloud point also helps to improve the blend and increase its resistance to cloudiness.



THE BEST COOKING PARTNER



Stable at
high
temperatures



Produces
less volatile
compounds



Less oil
absorption
in food

Retains the
flavour of
the food



Long
shelf life



Nutritionally
balanced



Good and
consistent texture
in fried products

Less sticky
residue on walls
and utensils

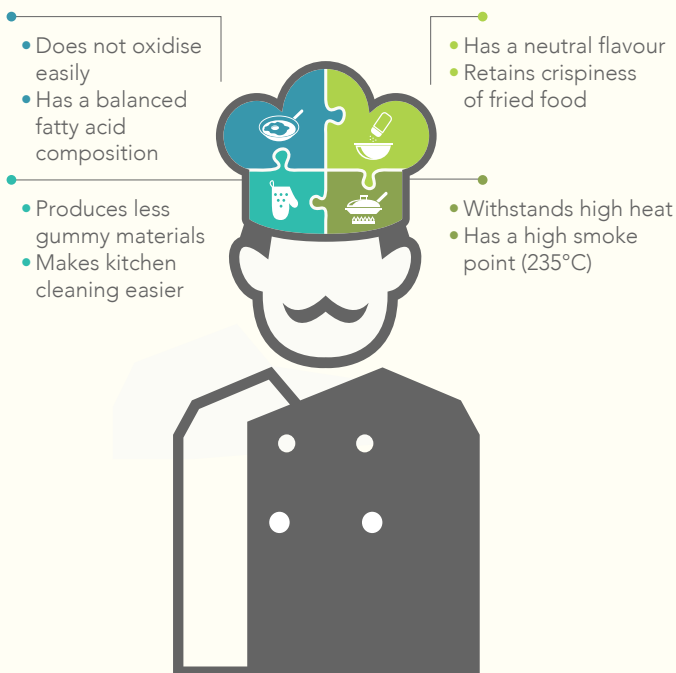


Suitable to be used
for blends in the
cold regions.



Resistant
to spoilage

Malaysian Palm Oil is popularly used in global kitchens



Cholesterol free



Trans-fat free



Contains natural Vitamin E



GMO free



Merits of Malaysian Palm Oil



**COMPETITIVE
PRICING**



**STABLE AND
SUSTAINABLE
SUPPLY**



**VERSATILE
FUNCTIONALITY**



**UNIQUE
COMPOSITION**

Merits of Malaysian Palm Oil



From the consumers' and manufacturers' viewpoint, the ready acceptance of palm oil centres principally on the following merits:

- Stable and sustainable supply
- Competitive pricing
- Unique composition
- Versatile functionality

STABLE AND SUSTAINABLE SUPPLY

Unlike the annually produced normal vegetable oils, oil palm is a perennial crop, with an average productive lifespan of 25 years. Once planted, the oil palm seedling grows for about 3 years, before it begins to bear fruits. Then it remains on that patch of land, where it grows for another 25 years. Therefore, a constant and uninterrupted supply is assured.

COMPETITIVE PRICING

Palm oil is the most productive oil-bearing crop, among all the vegetable oils. Its yield per hectare is 5 to 9 times higher than that of oilseed crops. Although the oil palm now provides a larger portion of the vegetable oil used globally, it grows on only a fraction of the land, compared to other crops. In addition, all processed palm oil from the Malaysian refining industry does not require chemical refining, or chemical modification, generally in the downstream utilization; thus reducing the cost of manufacturing.

In this respect, palm oil has all along been competitive with other competing oils, and will continue to be so.

UNIQUE COMPOSITION

Palm oil has a naturally balanced composition of the unsaturated and saturated fatty acids. The principle fatty acids in palm oil are palmitic acid (C:16) and oleic acid (C:18:1):

Fatty acids (%)		
CI6:0	Palmitic	44.6
CI8:0	Stearic	4.1
CI8:1	Oleic	39.1
CI8:2	Linoleic	9.7

(No trans-fatty acids)

This makes the oil naturally stable oxidatively, which is of critical importance in many food products especially when high temperatures are involved. Palm oil also contains about 10% linoleic acid, which is an essential fatty acid, and lacks linolenic acid, which causes flavour reversion in food.

VERSATILE FUNCTIONALITY

One of the main problems encountered by food producers is finding fats, which possessed sufficient physical properties required for functionality that are associated with different food products. Most vegetable oils are liquid in nature, and as such could not meet the demand of food processors unless the oil undergoes a process called hydrogenation.

Hydrogenation, which not only is costly but also produces trans-fatty acids that are now seen as a health risk.

Palm oil is naturally semi-solid, which is an important advantage in many food formulations. It therefore requires no hydrogenation, and hence is very useful in formulating trans-fat-free products. Being semi-solid in nature, palm oil can be fractionated to different fractions of varying melting points.

PALM OIL
APPLICATIONS

Palm Olein is the Liquid Fraction of Palm Oil



RESTAURANTS / HOTELS

- french fries
- fried chicken
- seafood
- mayonnaise
- sauces

FOOD FACTORIES

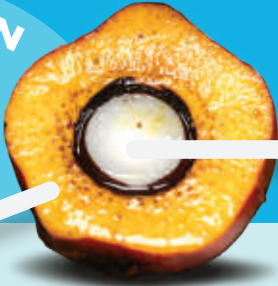
- chips
- frozen foods
- instant noodles
- chocolate spread

HOMES

- home cooking

FRACTIONATION

MESOCARP



Crude Palm Oil (CPO)

SOAP

REFINING

Oleochemicals

Uses:

- detergents and surfactants, toiletries, lubricants, agrochemicals, cosmetics, candles, pharmaceuticals, toothpastes, biofuels

RBD Palm Oil

FRACTIONATION

RBD Palm Stearin

RBD Palm Olein

FRACTIONATION

FRACTIONATION

Mid Stearin

Palm Mid Fraction

Super Olein



Uses:

- hard stock for margarine



Uses:

- frying oil, biscuit fillings, confectionery fillings



Uses:

- snack food, frying oil

Super Stearin



Uses:

- dry soup mixes, dry cake mixes

KERNEL

CRUSHING

Crude Palm Kernel Oil (CPKO)

Palm Kernel Expeller

REFINING

Refined Palm Kernel Oil



Uses:
• animal feed

FRACTIONATION

RBD Palm Kernel Olein



Uses:
• coffee whiteners
• margarine

RBD Palm Kernel Stearin



Uses:
• confectionery,
cream biscuits,
chocolate coatings

DISTILLATION

Palm Kernel Fatty Acid Distillates



Uses:
• animal feed,
detergents

RBD Palm Kernel Oil



Uses:
• confectionery,
ice-cream,
soap formulas

Oleochemicals



Uses:
• cleaners, detergents,
toiletries, soaps,
candles, toothpastes,
cosmetics

MALAYSIAN PALM OIL

Undoubtedly the Best Natural Frying Medium

No
hydrogenation

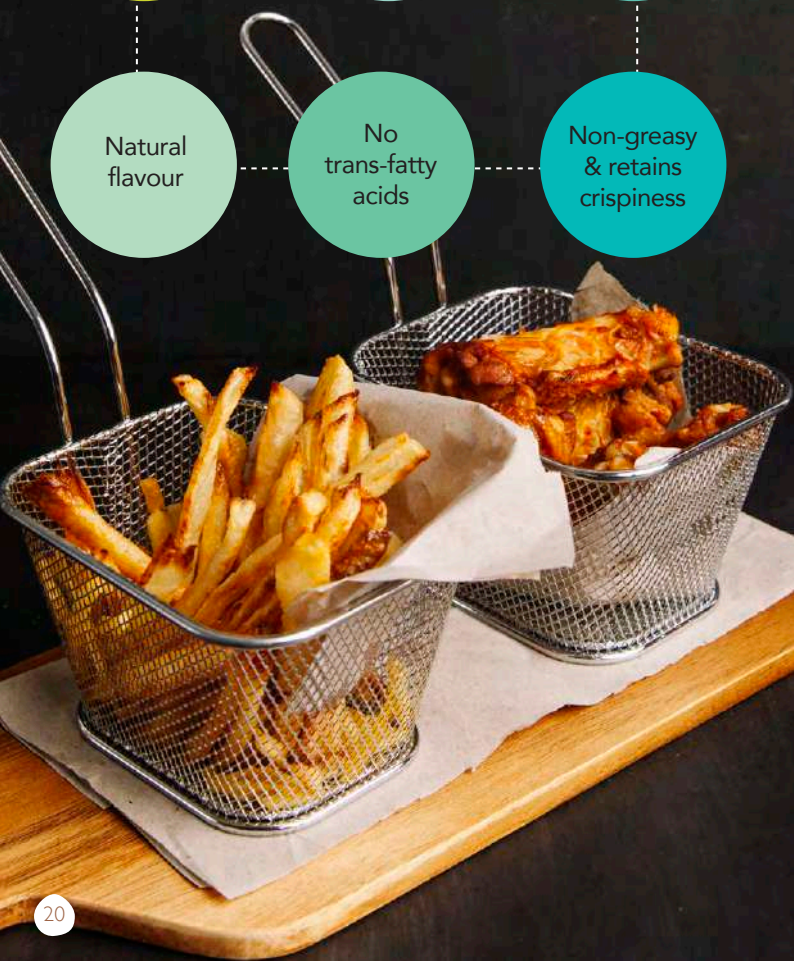
Balanced
composition

Stable
at high
temperatures

Natural
flavour

No
trans-fatty
acids

Non-greasy
& retains
crispiness



Deep Fat Frying



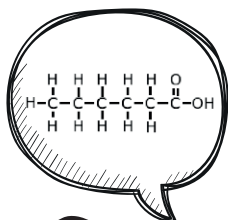
Deep fat frying, one of the most common processes used for food preparation is popular worldwide. In this process, fat is exposed to high temperatures in the presence of air and food containing water. Consequently, many physical and chemical reactions take place during the process, manifested as deterioration of the frying fat. As such, the choice of fat for deep frying is important as some oils can withstand much higher temperatures than others. The criteria for choosing a deep frying fat include:

- oils with high smoke points
- oils that do not breakdown at deep frying temperature
- oils that have high oxidative stability

The more saturated the fats, the more stable they are when heated. For this reason, oils that are mostly saturated and monounsaturated are best to meet the above criteria.

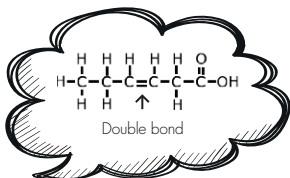
Oils that contain large amounts of polyunsaturated fats are to be avoided. Polyunsaturated fats contain two (or more) double bonds in their chemical structure. These double bonds tend to react with oxygen, and form harmful compounds when exposed to high temperatures. Taste is important too, and as such, deep frying oils that have a 'neutral' flavour are generally preferred.

DIETARY *FATS*



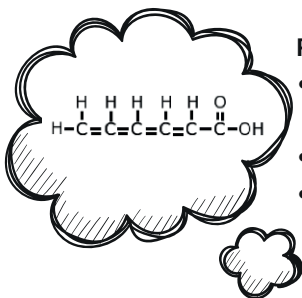
SATURATED FATS

- no double bonds in their chemical structure
- “saturated” with hydrogen atoms - solid consistency at room temperature
- beef, butter, tallow, lard



MONOUNSATURATED FATS

- only one double bond in its structure
- typically liquid at room temperature
- canola oil and olive oil



POLYUNSATURATED FATS

- contain two, or more double bonds in their structure
- liquid at room temperature
- soybean oil, safflower oil, sunflower oil, and corn oil

Palm olein contains a mixture of polyunsaturated, monounsaturated, and saturated fatty acids. The relative concentrations are 40% monounsaturated oleic acid, 10% linoleic acid, 44% saturated palmitic acid, and 5% stearic acid.

Palm oil, with its naturally balanced composition, is mainly saturated, and monounsaturated fatty acids with a moderate amount of polyunsaturated fatty acids. It fits the criteria for frying fat perfectly.

Palm oil is indeed one of the most oxidatively stable vegetable oils, and is widely chosen as a frying fat. Experiments have indicated that palm oil is the best natural frying fat as shown below:

Frying Oils—Time to Reach End of Useful Life

Oil	Acid Value 2.5 (Hours)	Oxidised Fatty Acids 1% (Hours)
Hardened fish oil	130	100
Hardened groundnut oil	140	92
Coconut oil	100	125
Palm oil	130	103
Groundnut oil	140	63
Soybean oil	160	55

Source: The Use of Palm Oil in Frying (K. G. Berger)

Palm oil in effect has the longest, useful lifespan of 103 hours.

Other vegetable oils such as soybean oil need to be hydrogenated, for use as a frying fat, thus resulting in high trans-fatty acids.

Palm Oil Applications



- Shortening

- Margarine
- Vegetable Ghee



- Puff Pastry
- Laminated Margarine



- Creamer



Margarine



Margarine is basically an emulsion of water-in-fat, resembling butter in appearance, character, and composition. There are various types of margarine available and are tailor-made to suit specific applications. The most popular types of margarines are table (tub), industrial, and pastry margarines.

Palm oil and palm oil products are now the main ingredients or base stock used as they possess the ideal characteristics for this purpose. The wide range of its natural solid content, makes palm oil the most versatile raw material in margarine manufacture, unlike liquid oils.

In contrast with liquid oils, palm oil can impart the necessary solid content and the texture required for margarine without the need of hydrogenation (which produces trans-fatty acids). Additionally, the product can be tailored specifically for different requirements.

Palm oil is the preferred fat used for solid fat production, due to its naturally balanced fatty acid composition. It contains a balanced composition of unsaturated and saturated fatty acids, which makes the oil naturally stable and allow manufacturers to custom-make margarine formulations.

One of the prime characteristics of palm oil, prompting its selection for solid fats production, is its crystalline tendency. The crystal form in margarine greatly affects its texture. The ideal form is beta-prime (β'), which promotes plasticity and immobilises a large amount of the liquid oil, which if free, would make the product soggy.

Palm oil and palm stearin impart a very high stability to the β' crystal form in comparison to the other common vegetable oils.

Palm oil with its naturally semi-solid consistency, is an important advantage in solid fat formulations. It does not require the costly hydrogenation process that produces trans-fatty acids, which is greatly frowned upon due to its health risk.

PALM-BASED
SHORTENING

is vegetable-based

FREE OF TRANS-FAT
COMPETITIVELY-PRICED

Shortening



Shortening and Solid Fats



Shortening and solid fats are widely used in the baking industry and also for frying. Shortening was initially intended to substitute animal fat, which was used extensively in baking. However, shortening of different melting points are now tailor-made to suit different product applications such as baking, pastry, creaming, and cold beverages.

Due to the balanced composition of palm oil, it is possible to formulate solid fats entirely from palm products and from blends of different palm fractions, to achieve the desired melting points and solid fat profiles for different intended purposes.

As such, palm shortening and solid fats do not require hydrogenation, and hence devoid of trans-fatty acids. Trans-fatty acids are undesirable, and are closely linked with coronary heart disease over the past years.

Another distinct advantage of solid fats, made from palm products, is their tendency to crystallise in the desirable β' form. Not only β' crystals are required for the plasticity and pliable consistency in solid fats, but are compulsory for stabilising the air cells; hence creating tender eating baked goods in conventional baking.

Functions of Solid Fats



- *Improve appearance*
 - *Enhance taste*
 - *Improve texture*
 - *Improve volume*
- *Assist in production*
 - *Enhance stability*



MALAYSIAN PALM OIL IS USED IN CONFECTIONERY FATS AS:

Toffees & Caramels

Coatings

Fillings

Ice Cream



Specialty Fats



Specialty fats include cocoa butter equivalents (CBE), cocoa butter substitutes (CBS), general purpose coating fats, and toffee fats. Palm oil and palm kernel oil are ideal raw materials for the production of specialty fats due to their excellent physio-chemical properties. They can be further modified to extend their range of utilisation.

CBE are specialty fats, which contain symmetrical unsaturated triacylglycerol, similar to that of cocoa butter. CBE are often regarded as fully compatible to that of cocoa butter. Generally, CBE are formulated with palm mid fraction (PMF), blended with illipe and shea fats.

CBS are classified as lauric and non-lauric-based. Lauric CBS are derived from the two major lauric oils, namely palm kernel and coconut oil. Palm kernel oil can be fractionated to give palm kernel stearin similar physical properties as cocoa butter. The stearin, with or without hydrogenation, is an excellent CBS that is suitable for the manufacture of solid, or hollow-moulded chocolate products.

Non-lauric CBS are made from oils such as palm, soybean, and cottonseed oils. These oils have to be hydrogenated in order to have the right consistency. These products find excellent uses in compound coating for biscuits, enrobed products, and chocolate baking chips.

Palm-based products are stable against oxidative deterioration, and they are available throughout the year. The oils are of high quality, and are readily available to be processed for different applications. The price of these fats is highly competitive and being bland in flavour, is widely used and accepted in most food applications.



Malaysian Palm Oil *in* Food and Beverage

Other Applications of Palm Oil



The versatile Malaysian palm oil enables the food industry to use it as an ingredient to control the quality, structure, and functionality of the end-products. As an alternative to milk, it can be used as the dairy-fat replacer to address the needs of those with lactose intolerance. Production wise, it is cost effective while from the health perspective, it is cholesterol-free.

Palm-based Non-dairy Creamer

Non-dairy creamers are used as substitutes for dairy cream and milk (evaporated or fresh) in coffee, tea, cocoa or drinking chocolate. They are primarily formulated as replacements for their natural dairy-based counterparts. Non-dairy creamers have several advantages over the dairy based creamers. These include longer shelf-life, ease of storage and handling, and lower cost of production, thus making them more appealing to consumers.

Palm-based Non-dairy Ice Cream

Palm-based fats are used to replace the milk fat in ice cream, in order to give the desired mouthfeel in products. A fat base with sharp melting properties at body temperature is highly desirable to ensure good organoleptic characteristics. Additionally, palm-based fats are competitively priced but are of high quality.

Cheese Analogue

Manufacturing of cheese requires the addition of rennet (obtained from the stomach of young calves) to coagulate the milk. This can be a religious concern for some. The use of palm blends offers the advantages of being halal, cholesterol-free, and inexpensively priced.



UNIQUE

COMPOSITION

CHOLESTEROL

FREE

NATURALLY

BALANCED

NATURAL

VITAMIN E

Technically
Superior
in Food
Applications

frying
confectionery
baking



Other palm applications include:

Animal Fat Replacer

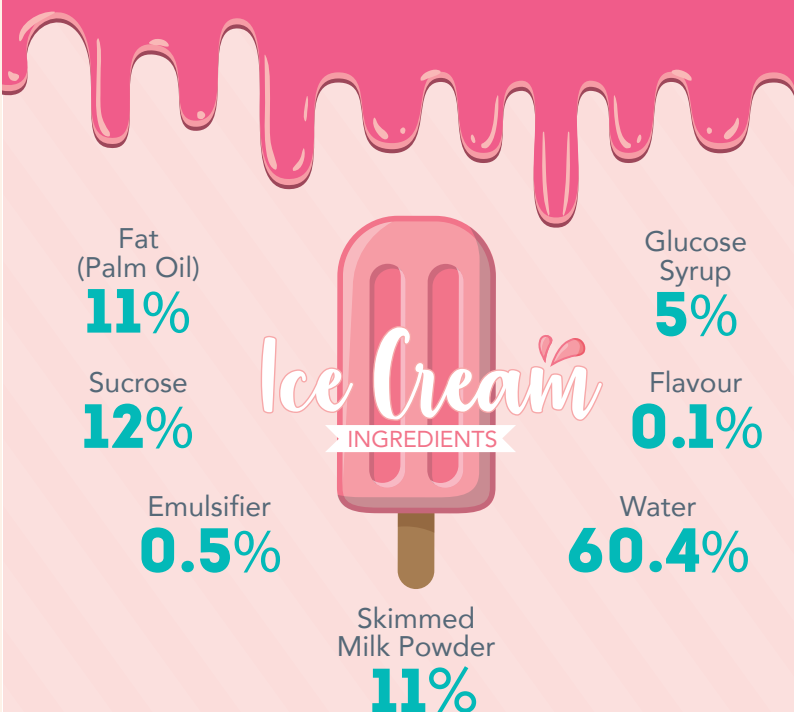
Palm-based fat imitates the function of animal fats and can be widely used in beef sausages, burger patties, chicken nuggets, pepperoni, and meat balls. The cholesterol-free characteristic of the palm oil is definitely a plus point for consumers. Moreover, the manufacturers would also financially gain in terms cost effectiveness, as compared to using animal fats.

Vegetable Ghee (Vanaspati)

Cow ghee is substituted with palm fat of similar aroma and flavour, but without the cholesterol.

Santan Sawit

Santan sawit is a healthier palm-based coconut milk substitute as compared to the conventional coconut milk. Not only it is used for Asian savoury, but also for cold dessert such as cendol.





**RICH IN PRO-
VITAMIN-A
CAROTENOIDS**

Malaysian Red Palm Oil
THE INGREDIENTS
FOR HEALTHY LIVING

**RICH IN
VITAMIN E -
TOCOTRIENOLS**





Health Benefits of Palm Oil



Being in the professional kitchen comes with the responsibility of serving not only delicious meals but healthy ones as well. Food should be fit for human consumption, contribute to a healthy lifestyle, and represent the most sustainable of choices.

Palm oil is a culinary staple due to its positive characteristics and health benefits. Like other vegetable oils, it is cholesterol free. It is also free of genetically modified organisms (GMO).

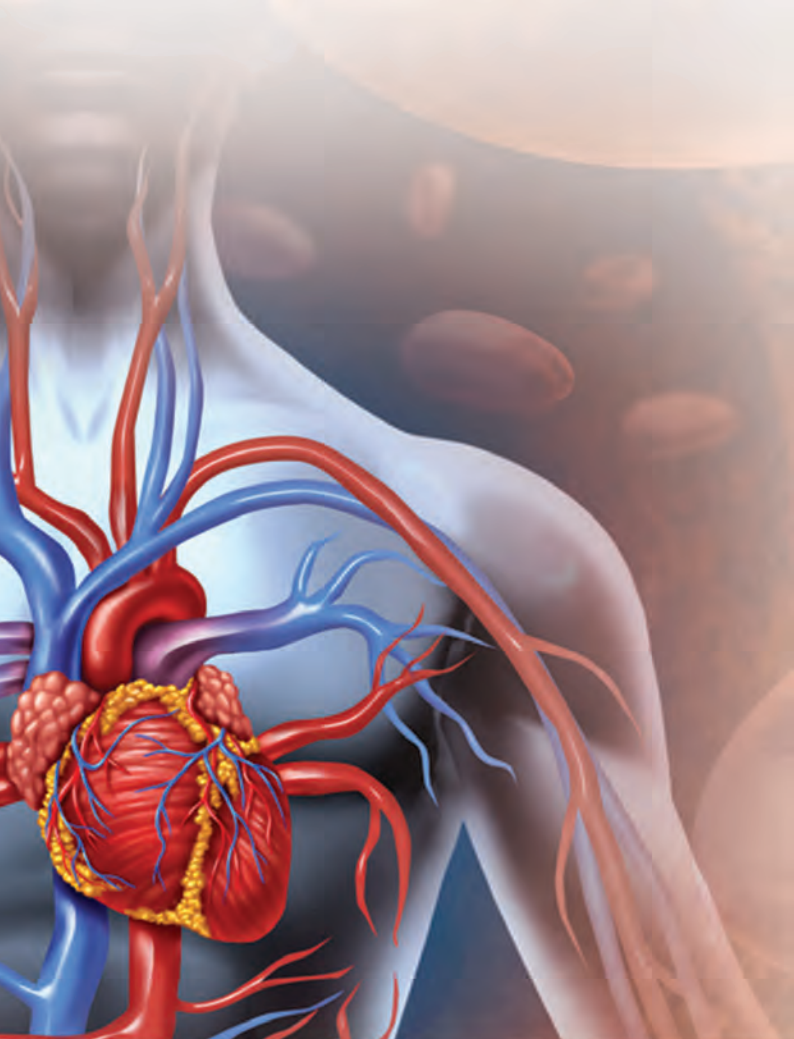
Palm oil is naturally semi-solid. It does not require hydrogenation before use in food formulations, thus avoiding the formation of trans fatty acids. Studies done on large populations have implicated trans fats as playing a role in chronic diseases such as cancer, Type 2 diabetes, and obesity.

Storing



Useful tips on how to maintain the quality and performance of palm oil:

- *Store in a dry, dark place in its original container (closed packaging) at a temperature not exceeding 28°C.*
- *Air, heat, light, and age affect the quality and the shelf life of edible oils, causing it to deteriorate through oxidation (rancidity).*



Several human studies have confirmed that **palm olein** reduces blood cholesterol, just as effectively as olive oil.

The Malaysian Palm Oil Industry



Sustainability



The Malaysian palm oil industry respects and adopts the 3Ps, principles of sustainability; People, Planet, and Profit.

PEOPLE

Palm oil, is not only Malaysia's gift to the world, in the form of nutritious and cost-efficient commodity, but it is also a crucial ingredient in the food and non-food products for billions of people.

It is clearly the ultimate edible oil when it comes to affordability, sustainability, and economic development. Its price has consistently remained lower than the prices of other major vegetable oils. It is also expected to continue meeting global edible oils and fat demand.

PLANET

Malaysian Sustainable Palm Oil (MSPO) certification is made mandatory on the Malaysian palm oil industry by 31 December 2019. The national palm oil certification scheme promotes sustainable management of oil palm in Malaysia.

MSPO is a proactive measure that was launched to take the Malaysian palm oil industry to a higher level of sustainability, transparency, and traceability.

Globally, Malaysia became the first country in the world to produce and export the Roundtable on Sustainable Palm Oil (RSPO) certified sustainable palm oil in 2008. RSPO promotes the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders. Malaysia has accounted for 31.6% of global production of RSPO certified sustainable palm oil in 2017.

As at 2016, Malaysia's forest area is 18.25 million hectares or 55.5% (more than half of Malaysia's total land area). Malaysia is committed to keeping its 1992 Rio Earth Summit pledge to maintain at least 50% of its total land area under permanent forest cover at all times. This promise is still intact.

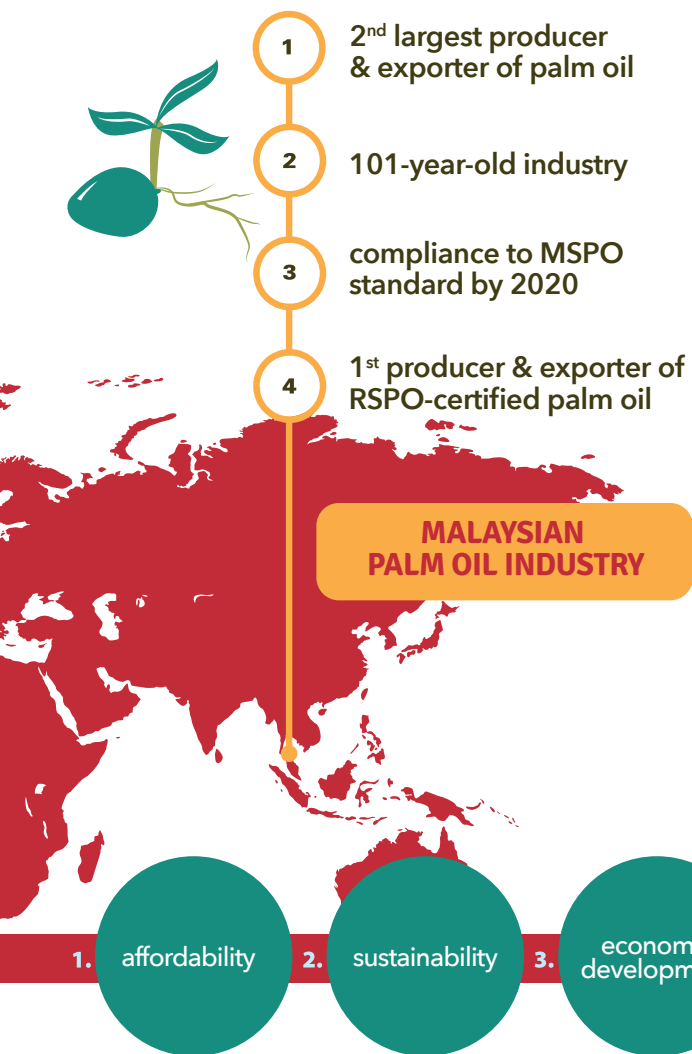
As at 2017, the oil palm is planted on 17.7% or 5.81 million hectares of the total 32.86 million hectares of land mass in Malaysia. The closed canopy of oil palm plantations stores carbon. As such, the perennial crop has a significant role in carbon dioxide balance and carbon sequestration; an important carbon sink, similar to tropical rainforests.

Unlike seasonal crop, the oil palm is found to be economically productive for around 25 years old, before any replanting is required. The oil palm can produce around 5 to 9 times more, as compared to rapeseed, sunflower, or soybean. Opting for a lower yielding crop will certainly cause a strain on the environment, as more land is required for planting.

PROFIT

Malaysia is the world's second largest producer and exporter of palm oil. Palm oil has been nature's gift to Malaysia for more than a hundred years; and also a gift to the rural poor who have benefited the most today.

Approximately 650,000 small farmers are part of Malaysia's palm oil industry. Their living standards have improved tremendously and their children have better access to education.



^{1,2,3} Oil World June 2018