

Versatility of Palm Oil along the Whole Supply Chain

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Versatility is the KEY word used often to describe palm oil, and the many products that can be obtained from just ONE oil. Palm oil contains almost equal proportions of the Saturated Palmitic fatty acid and the Unsaturated Oleic acids. The advantage of this combination allows the oil to have a variety of triacylglycerols stretching from C48 to C56, unlike many seed oils where the most prominent group of fatty acids is of C18. The main triacylglycerols are C54, which are mainly beta promoting, an undesirable crystal form in many functional fat products. Whereas, the C50 and C52 are mainly beta prime forming, providing the anchor for the most suitable crystal network in margarines and shortenings.

The many different fractions of palm oil, obtained by simple physical process of fractionation, open up more uses for palm oil. From hard fats to semi solid fats, to liquid oils at ambient temperatures of 25°C, even “cocoa butter” type fats are possible. Known uses of the oils have been traditionally in foods, such as for frying, general cooking, shortenings for cakes and biscuits, margarines, etc. Palm mid fractions which have traditionally been accepted as a good cocoa butter equivalent, is now finding new uses as frying oils.

Red palm olein is being manufactured from the crude oils, providing the richest source of carotenes and vitamin A. The crude oil is also a source of tocopherols and in particular tocotrienols, for the nutraceutical industry.

In the inedible applications, palm oil is used in soaps, cosmetics and cosmaceuticals, fine chemicals and biofuels, etc. It is a tussle between the use of the oil as food to feed the world and as biofuels to feed the automobiles and other machineries. The advantages of using palm oil has always been its cost effectiveness, fit of use, sustainability, oil stability and versatility. The usage of palm oil is to complement other oils and fats, and not to fully replace them. Therefore, instead of fighting against the use of palm oil in both food and inedible applications, the best use of all oils should be the answer to today's limited resources.