

Health and Economic Benefits of Coconut Oil Production Development in Thailand ^{1/}

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Abstract

Coconut oil is one of the world's oldest oils, if not the oldest. People from countries where the coconut palms are grown have made use of it to cure all kinds of ailments for thousands of years. Its amazing properties include having: (i) saturated fatty acids (SFAs), whose single bonds prevent oxidation and hydrogenation, their end products - free radicals and trans fats - of which are detrimental to health (ii) medium chain fatty acids (MCFAs) that are directly converted into energy in the liver; they also increase the metabolic rate resulting in a better conversion of food into energy and thermogenesis that stimulates the breakdown of stored fats into energy, all of which culminate in weight loss; (iii) antimicrobial property of lauric acid (C-12, 48-52%) and other MCFAs that kill pathogenic bacteria, fungi, viruses, protozoa and parasites; and (iv) antioxidants in the form of vitamin E, phenolic compounds and phytosterols that prevent oxidation from occurring; thus no dangerous free radicals are formed. In addition to its numerous beneficial health effects, coconut oil has proven to be effective against heart disease, cancer and diabetes which are considered as emerging new diseases simply because of the adoption of modern lifestyle of the people, e.g., consuming processed foods, changing from saturated to unsaturated oils, having no exercise, staying away from sunlight, having not enough rest and too much stress, etc. Several new viral diseases occur as a result of changing climate, convenient and rapid transportation, and the raising of domesticated livestock which culminate in new strains of the viruses causing HIV/AIDS, SARS, and 2009 pandemic influenza that cannot be treated by the use of chemical drugs and antibiotics because they possess lipid coat that does not allow drugs to penetrate the viral particles, but surrender to the coconut oil, which, being lipid itself, could dissolve and break down their lipid coat, thereby penetrating them.

The author founded CDCOT in August 2007 aiming at providing proper knowledge of virgin coconut oil (VCO) and encouraging people to use it to promote health and beauty. Its activities include the publication of technical bulletins and a quarterly newsletter, giving lectures to public and academic gatherings and sharing information through television and radio broadcasting, news releases, technical seminars, etc. Seventeen technical bulletins (300,000 copies) have already been published. CDCOT members have reached 700 in less than three years and coconut oil is now "talk-of-the town" of people of all walks of live. The number of manufacturers of

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VCO has increased from three at the beginning to more than 100 at present, and still increases at a rapid rate as the demand of VCO has never been met. Several innovative techniques of VCO extraction have been developed. VCO worth of over 65 million Bath (US\$ 2.2 million) has been exported in 2008. Although this is still a small amount as compared to other export commodities from Thailand, a ten-fold increase is expected in 2009, and much more in 2010.

Keywords: Saturated fatty acid, medium chain, antioxidant, heart disease, cancer, diabetes, obesity, CDCOT, VCO, lauric acid.

1. Introduction

1.1 Ancient Use of the Coconut Oil

Coconut oil has a record in the Ayurvedic script of India of being used as food and to cure illness as far back as 4,000 years ago. The Chinese had used it for more than 2,000 years to cure 69 diseases (Fife 2005). Likewise, people in most other lands where the coconut palms are grown have made use of it to cure all kinds of ailments for thousands of years. Similarly, coconut oil, together with its precursor, the coconut milk, has been used as foods in most countries from time immemorial. In this connection, Thailand is number one in the world in using coconut milk as a food ingredient. It is fair to say that it is the coconut milk that has made Thai dishes one of the most popular foods in the world.

1.2 Dark Age of the Coconut Oil

Since almost 40 years ago coconut oil has been blamed to be the cause of heart disease. Because of its high saturated fat content it is assumed that it has a negative effect on blood cholesterol and, therefore, according to the diet-heart hypothesis (Weinberg 2004), promotes heart disease.

1.3 Rebirth of the Coconut Oil

After years of study researchers have been unable to link coconut oil consumption with an increased risk of heart disease. In fact, the evidence shows that coconut oil may actually protect against heart disease (Fife 2005). Research to date has shown that coconut

oil has the potential to protect against not only heart disease (Lindeberg and Lundh 1993) but a wide variety of chronic health problems including diabetes and cancer as well as a whole range of infectious diseases. It is now gaining popularity in being used as medicine, foods and cosmetics (Peat 2004, 2005).

2. Properties of the Coconut Oil that Make It A Miracle Oil

Coconut oil has the following properties which make it the best oil for food, medicine and cosmetic in the world.

2.1 Saturated Fatty Acids (SFAs)

The same property that has given it a bad name turns out to be the one that makes it far better for the health of the consumers than all other unsaturated oils which are predominantly produced for the world market at present. Coconut oil contains the highest amount of SFAs of 92% as compared to 10-20% of most other oils. The molecules of SFAs are made up of the chain of carbon atoms connected by single bonds which are stabilized and not replaced by oxygen atom known to create free radicals which affect the health of the consumers (Enig 2000). This is not the case of other oils having one or more double bonds, known as mono- (MUFAs) and poly-unsaturated fatty acids (PUFAs), in which their molecules are easily replaced by oxygen that is always plentiful in the atmosphere and in the body of the human beings. In addition, these unsaturated oils are hydrogenated when used in deep frying or in industrial food production when hydrogen gas is pumped into the oil to