



COCONUTS

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See also:

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Books: [Fife](#)

[The Coconut Oil Miracle by Bruce](#)

[Virgin Coconut Oil: How it Has Changed People's Lives, and How It Can Change Yours! By Brian Shilhavy](#)

[Coconut Water for Health and Healing by Bruce Fife, N.D.](#)

Articles: [Agents.](#)

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[Coconut: In Support of Good Health in the 21st Century](#) by Mary G. Enig, Ph.D., F.A.C.N. -- The most comprehensive article online: it was 21 pages on my printer, 9 pages of which were scientific references. An excellent read.

[Mary Enig Ph.D. On The Effects Of Coconut Oil On Serum Cholesterol Levels And Hdls](#) -- Excerpts from the longer article above with some added information.

[Nutritional And Health Aspects Of Coconut Oil](#) by Jon J. Kabara, Ph.D
[Coconut Oil -- Why it is Good for you](#) -- by Lita Lee. An excellent summary.
[Coconut Oil: A Good Fat](#) -- One page summary on the Omega Nutrition



website.

[**Cholesterol and Coconut**](#) -- An good summary article, found on the [**Temple of Thai**](#) online Thai grocery store.

[**For Thais, palm oil always has been a good thing**](#) -- by Olivia Wu, in the *San Francisco Chronicle*. Includes information from Kasma and a picture of her.

[**Coconut Oil & Its Virtues**](#) -- by Ray Peat, Ph.D

[**The Healthy Resurgence of Tropical Oils: Coconut Oil**](#) -- Also on the Omega Nutrition website.

Websites:

[**Coconut Research Center**](#)

<http://cocopura.com>

<http://www.tropicaltraditions.com/index.html>

www.coconut-connections.com

[**Center for Research on Lauric Oils, Inc.**](#) --

<http://lauric.org/mission.html> Contains information on the benefits of lauric acid and its healing effects. (Coconut oil is one of the lauric fats.)

[**Coconut-info Website**](#)

[**Research on Health Benefits of Coconut Oil**](#)

[**Coconut Resource Page by Oregon State University.**](#)

Coconutoil-online.com

Audio/Video:

*[How to open a Young Coconut,](#)
[with Markus Rothkranz](#)*

Publications:

Organizations:

The Coconut Research Center

<http://www.coconutresearchcenter.org>

People:

Integratral Nutrition:

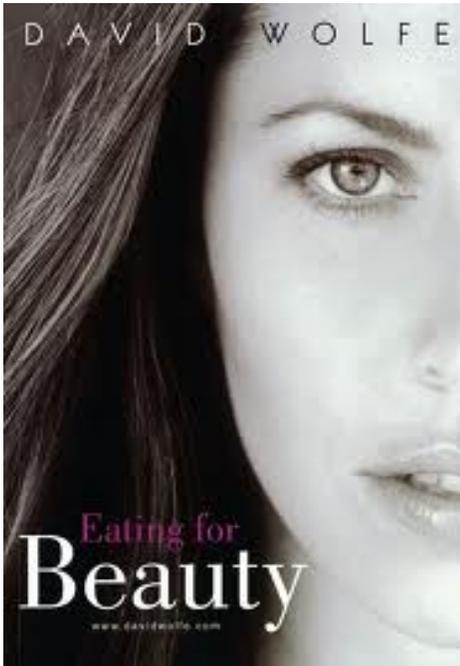
Conventional:

Terms:

sodium metabisulphate

COCONUTS AND COCONUT OIL

Source: *Eating for Beauty* by David Wolfe



"Moreover, there was a great number of elephants in the island...and the fruits having a hard rind, affording drinks...All these things they received from the Earth, and they employed themselves in constructing their temples, palaces, harbors, and docks."

--Plato, describing coconuts on the lost continent of Atlantis

Coconut palms are prehistoric plants that are distantly related to grasses. In Sanskrit, the coconut palm is known as "kalpa vriksha" meaning "the tree that supplies all that is needed to live."

Exactly where coconut palms originated is unknown. Coconuts can survive many months floating at sea. As described by Plato, coconuts existed in ancient Atlantis. They were carried by ancient mariners throughout the world.

Elaborate computer simulations of ocean currents and drifts show that humans had to carry coconuts to America. They were on the southwest coast of Mexico when the Spanish arrived there, and coconut palms were cultivated in all Mayan lands.

Coconuts Can Save Your Life

Coconuts are one of the greatest gifts on this planet. No matter where you are, what you have done, how much you have mistreated your body, fresh young coconuts and coconut oil can save your life.

The coconut is a natural water filter that takes almost 9 months to filter each liter of water into the shell. To get in there, the water travels through many fibers which purify it before it ends up in the sterile nut. This clear coconut water is one of the highest sources of electrolytes found in nature.

Just Like Human Blood Plasma

Young coconut water is identical to human blood plasma, making it the universal donor. Plasma makes up 55% of human blood. The remaining 45% of our blood consists of hemoglobin—which is essentially transformed plant blood (chlorophyll). When we consume a drink consisting of 55% fresh coconut water and 45% fresh green-leaf juice we give ourselves an instant blood transfusion.

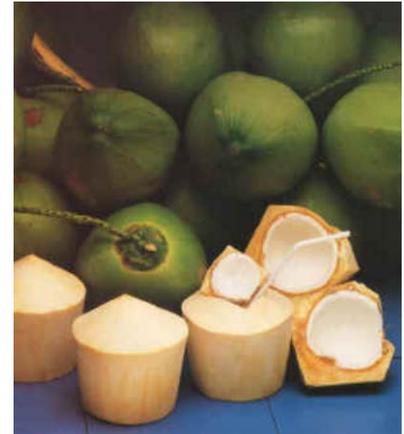
Coconuts in their young stage of growth are the most health enhancing. In their youth, they contain a soft "spoon meat." This meat consists mostly of a pure, raw saturated fat. This soft "spoon meat" has the most remarkable ability to **restore oxidative tissue damage, and restore male sexual fluids.**

Whenever we are in tropical countries, we should drink and eat at least three or four young coconuts each day. In North America and Europe, young Thai coconuts are available in Asian markets. These

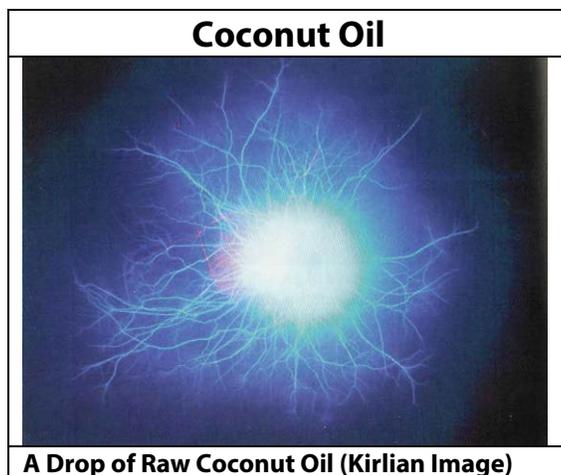
are not as green as the wild tropical coconuts (e.g. growing in Hawaii and Mexico), but are still quite good and work especially well as a base for smoothies.

At The Market

Thai coconuts, like most imported coconuts, have been shaved down from their original size and shape. In Asian markets, these plastic-wrapped young white coconuts are easy to recognize because they are flat on one side, cylindrical around the edges, and conical on top. When purchasing these, seek out the newest coconuts that have come into the market. Any mold or moisture underneath the plastic indicates that the nut is spoiled.



The brown, hairy coconuts most people are familiar with are mature coconuts. They contain a good quality water, yet the flesh is hard and fibrous, unlike the soft meat of the youthful stage. The fibrous meat is less tasty and not as digestible, even though within the fiber and protein is one of the most healing fat substances yet known. Select brown hairy coconuts by looking at the three holes on one side of the coconut. If there is mold on any of the three holes, select another one.



The challenge with mature coconuts is that they contain a high quantity of coarse protein and fiber (3 times as much fiber as vegetables). This is solved by cold-pressing the healing fat/oil out of the fiber, thus concentrating its essence into a butter.

Coconut oil (sometimes called coconut butter) **is derived from mature coconuts containing hardened white flesh.** The white flesh is shredded and collected. In a cold-pressing process, the shredded coconut is pressed at 90-100 degrees Fahrenheit. The oil is melted, pressed out, and collected to create a concentrated essence of coconut called coconut oil.

For clarity, there is no difference between a fat and an oil; the terms are used interchangeably. A fat specifies a solid at room temperature, while an oil remains a liquid at room temperature. Coconut oil and coconut butter are actually the same thing. **Creamy white coconut oil becomes a clear oil when it is warmed above 78 degrees Fahrenheit** (26 degrees Celsius). When a liquid, it is called coconut oil.

Coconut oil has been used as a food and a medicine since the dawn of history. Ayurveda (the medicine of India) has long advocated its therapeutic and cosmetic properties.

Unlike the high-calorie, cholesterol-soaked, long-chain saturated animal fats found in meat and dairy products, coconut oil is a raw saturated fat containing mostly medium-chain fatty acids (MCFA's) which the body can metabolize efficiently and convert to energy quickly. By weight, coconut oil has less calories than any other fat source.

Medium Chain Fatty Acids (MCFA's)

Fats are chains of carbon atoms (of varying lengths) surrounded by quantities of hydrogen. The arrangement of hydrogen around a carbon chain determines its saturation. The more hydrogen, the more saturation, and the more stable the molecule.

The length of the carbon chain in fat determines many of its properties. **Coconut butter is a saturated fat, but it consists primarily of medium chain fatty acids (MCFA's) of 8-12 carbon atoms in length.** Some saturated fatty acids in meats, for example, range in length from 14 to 24 carbon atoms while some of those in urine, butter, and vinegar range in length from 2 to 6 carbon atoms in length.

The MCFA's in coconut oil possess incredible properties.

Easy on the Liver/Gallbladder

The shorter MCFA chains require less energy and fewer enzymes to digest. **Coconut oil can be emulsified in digestion without burdening the liver or gallbladder.** Thus, coconut oil provides more energy, more quickly. Anyone who suffers from poor digestion—and especially liver or gallbladder trouble—would benefit from eating coconut oil.

MCFA Anti-Fungal Properties

Coconut oil contains the following MCFA's:

Caprylic Acid (C-8)	Yeast-fighting
Capric Acid (C-10)	
Lauric Acid (C-12)	Anti-viral
Myristic Acid (C-14)	

All these demonstrate anti-viral, anti-microbial, and anti-fungal properties. Lauric acid has the greatest anti-viral activity. Caprylic acid is the most potent yeast-fighting substance.

****MCFA's disrupt the lipid membranes of viruses, bacteria, yeast, and fungus.**** Lipid coated viruses and bacteria contain lipids in their membranes that are similar to those in MCFA's. MCFA's confuse microbes and viruses because they can no longer calibrate the location of their membranes in the presence of coconut oil. **This causes them to spill their genetic contents and become easy prey for white blood cells to consume.**

Those who suffer from **candida** or other fungal conditions benefit from coconut oil. Some forms of **psoriasis** are actually skin infections caused by fungus. They can be helped by using coconut oil topically.

Cholesterol

Most pieces of information relating to saturated fat and cholesterol circulating in the mass media are inaccurate. Saturated fats have been the target of a host of propaganda. This propaganda claims that saturated fats lead to clogging of the arteries, when in reality, **arterial plaque is nearly 75% cooked unsaturated fat and foreign cholesterol** (derived from eating animal products).

Coconut oil contains no cholesterol, and actually helps to lower cholesterol levels.

It outperforms cold-pressed olive oil in this regard. Coconut-eating cultures in the tropics have consistently lower cholesterol levels than people in the U.S.

The cholesterol-lowering properties of coconut oil are a direct result of its ability to stimulate thyroid function. In the presence of adequate thyroid hormone (T4), cholesterol (specifically LDL cholesterol) is converted by enzymatic processes to necessary anti-aging steroids, **progesterone**, **DHEA**, and **pregnenolone**. These substances are required to help prevent heart disease, senility, obesity, cancer, and other diseases associated with ageing and degeneration.

In his books, **Dr. Raymond Peat** details that coconut oil, when added regularly to a balanced diet, lowers cholesterol to normal by promoting its conversion into pregnenolone. Pregnenolone is also the precursor to many hormones including progesterone. Dr. Peat recommends increasing one's pregnenolone levels for women with hormone imbalances.

Pregnenolone is a major factor that gives coconut oil its beautifying qualities. Pregnenolone improves circulation in the skin and gives the face a lift, restores sagging skin, and reduces bags under the eyes by promoting the contractions of muscle-like cells. Pregnenolone counters fatigue, enhances the memory, protects the nerves from stress, and has anti-anxiety properties.

Antioxidants

As a derivative of coconut oil, **pregnenolone is an antioxidant**. Dr. Peat (a leading researcher in the field of hormones) theorizes that coconut oil itself may also have antioxidant properties, since the oil is highly stable and since it reduces our need for vitamin E, whereas unsaturated oils deplete vitamin E.

Coconut oil also seems to lower the body's need for antioxidant omega-3 fatty acids.

Blood Sugar

For those of us who use coconut oil consistently, one of the most noticeable changes is the ability to go for several hours without eating, and to feel hungry without having symptoms of **hypoglycemia** and erratic blood-sugar levels. Erratic blood-sugar swings stress the system calling in the use of the adrenal glands (low blood sugar is a signal for the release of adrenal hormones).

Shifting to coconut oil as a fat source normalizes blood sugar levels, increases energy, decreases the stress on our system, thus reducing the need for the adrenal hormones. Removing the effects of adrenal stress alleviates dark circles from around the eyes.

The Thyroid Gland and Weight Loss

Dr. Peat describes that in the 1940s, **farmers attempted to use coconut oil to fatten their animals**. Yet they found that it made the animals lean and active. This was not the effect they were looking for. They wanted to fatten their animals for slaughter and thus, within ten years, chose to give their animals corn and soy feed. **Soy and corn feed slow the thyroid**, causing animals to get fat without eating much food.

Cooked unsaturated oils (derived from seeds) suppress the metabolism contributing to hypothyroidism. This occurs because cooked unsaturated oils not only suppress our tissue's response to the thyroid hormone, but also suppress the transport of the hormone on the thyroid-transport protein.

Consuming coconut oil regularly restores thyroid function, relieving hypothyroidism, and actually increases the metabolic rate leading to weight loss.

Those who are taking artificial thyroid medication must be cautious coming off that drug. Thyroid medication strongly influences metabolism. Please consult with your holistic physician if you undergo a program to wean yourself from thyroid medication.

Skin

After a bottle of unsaturated oil (corn oil, safflower oil, canola oil, margarine, etc.) has been opened several times a few drops typically dribble onto the outside of the bottle. **These drops become very sticky, and difficult to wash off. Once inside the body this characteristic of rancid oil leads to wrinkles, liver spots, in the skin, and lesions in the brain, heart, blood vessels, eyes, etc.** As cooked unsaturated oil increases in the diet, the rate of oxidative damage increases, leading to aged, damaged skin.

Repairing and nourishing the skin with coconut oil should be approached both by eating coconut oil and massaging it into the skin.

Coconut oil reverses the tissue-damage process by displacing cooked oil from the tissues and providing fat-soluble vitamins, minerals, and supernutrition factors (i.e. pregnenolone) directly to the damaged tissue.

Coconut oil has been used as a skin moisturizer for thousands of years. It is ideal for rough, dry, and wrinkled skin. Because it consists mostly of MCFA's, it is easily absorbed into the skin. **It prevents stretch marks** and lightens existing ones. It is an excellent lip balm. Its antiseptic elements keep the skin young and healthy, and relatively free from infections. All these factors make coconut oil ideal for massage.

Commercial Lotions

Rancid fats and oils found in everyday commercial lotions and creams are absorbed through the skin and negatively affect the connective tissues. They provide temporary relief from dry skin, but eventually weaken the skin over time. Generally, the more standard commercial lotions and creams that one uses, the worse the skin becomes.

In his book, *The Healing Miracles of Coconut Oil*, Bruce Fife, N.D. details, "Studies show that dry skin contains a higher content of unsaturated fatty acids (60%) compared to normal skin (49%). The best oil to use is one that doesn't create free radicals. Saturated fats fit that requirement."

In my personal use, Nature's First Law Organic Coconut Oil is an essential lotion. I use this coconut oil as a lotion after sunbathing, to help create and hold a beautiful tan. I always bring a bottle with me when I do large seminars and lectures. Before going on stage, I rub some into my hands, face, and neck. It has a pleasant odor and provides a certain radiance to the skin.

Nature's First Law Coconut Oil

NFL's coconut oil is raw and cold-pressed by a fourth generation coconut plantation owner who lives on the pristine Fijian Islands in the South Pacific. All coconuts used to make this butter are wild Fijian coconuts. They grow in areas where pesticides and commercial farming are completely unknown. The taste and smell of this butter clearly indicate the superior quality of this product.

As with all oils, **all coconut butter/oil that you use should be cold-pressed and packaged in dark bottles.** All butters and oils are light-sensitive. Nature's First Law Coconut Oil is sealed in dark amber glass containers to keep damaging spectrums of light from reaching the oil.

NFL's Organic Coconut Oil is very stable and can be kept in a cupboard at room temperature. It can be refrigerated after opening, but this is not required to ensure freshness. It can remain stable for over 2 years. In his book, *The Healing Miracles of Coconut Oil*, Bruce Fife, N.D. tells us: "According to Leigh Broadhurst, Ph.D., a scientist at the USDA Human Nutrition Research Center in Beltsville, Maryland, **saturated fatty acids are 300 or more times more resistant to oxidation than alpha-linoleic acid (flaxseed oil).** In other words, coconut oil will remain fresh 300 times longer than flaxseed oil. For instance, to equal the amount of oxidative damage that occurs in flaxseed oil in just 30 minutes of processing, coconut oil would have to be subjected to the same conditions for 150 continuous hours—that's over six days."

How to Eat Coconut Oil

Coconut oil can be used as a food. It can be eaten straight, blended into a salad dressing, or mixed into a smoothie. The recommended daily intake is one to four tablespoons (a therapeutic dose consists of at least three tablespoons daily).

Coconut Oil As An Erotic Oil

Coconut oil is a great erotic oil. The smell and taste of this oil enhance sexual intercourse. Its anti-viral, anti-microbial properties also provide some (although not complete) protection from sexually transmitted diseases (STD's). For long-term monogamous relationships, coconut oil is a great choice. For new relationships, condoms and other protection from STD's should be used. **Coconut oil should not be used with latex condoms**, because fats and oils dissolve latex.

Cooking

I promote a 100% raw-food diet; at the same time, there must be ample opportunity to transition and to offer friends and family, who are momentarily lacking interest in raw foods, healthy alternatives. One of the greatest pieces of information one could derive from this book is to only and exclusively use coconut oil for all cooking needs. **Coconut butter/oil is the most stable (of any known butter/oil) at high temperatures (up to 170 degrees Fahrenheit).** Therefore, if one is going to heat or cook any food, coconut butter/oil should be the only butter/oil ever used. This means using coconut oil for cooking in place of margarine, butter, olive oil, canola oil, corn oil, safflower oil, etc. **Unlike all these fats/oils, coconut oil does not form dangerous trans-fatty acids because it is a completely saturated fat.**

OTHER RESOURCES:

[*The Healing Miracles of Coconut Oil*](#), by Bruce Fife, N.D. Piccadilly Books, Ltd, [Healthwise Publications](#), Colorado Springs, CO, 2000, ISBN 0-941599-51-5.

[*Know Your Fats: The Complete Primer for Understanding the Nutrition of Fats, Oils, and Cholesterol*](#) by Mary G. Enig, Ph.D. Bethesda Press, 2000, ISBN: 0967812607 -- Your best bet for comprehensive information on the whole coconut oil/fat issue.

[*Nourishing Traditions*](#), by Sally Fallon with Mary G. Enig, Ph.D. [NewTrends Publishing](#), revised edition October 1999, ISBN 0967089727 -- Loaded with interesting information on all aspects of nutrition. Actually a cookbook with nutritional information. A fun read.

[*The Cholesterol Myths: Exposing the Fallacy That Saturated Fat and Cholesterol Cause Heart Disease*](#). By Uffe Ravnskov, M.D., Ph.D. [NewTrends Publishing](#), 2000, ISBN 0-9670897-0-0.

[All Thumbs Book Reviews](#) is the Weston A. Price Foundation's list of recommended books about nutrition.

Purchasing Coconut Oil . . .

[Wilderness Family Naturals](#) sells a variety of coconut products, including unrefined Virgin coconut oil from various locales (this is what we have been using lately: delicious!). They also sell a number of other delicious coconut products. [Order directly online.](#)

[Nutiva](#) has what looks like an excellent virgin coconut oil.

[Mt. Banahaw Tropical Herbs](#) in the Philippines also has an unrefined Virgin coconut oil, that is excellent. You can order it directly online from [the Coconut-Info site.](#)

[Laureece](#) offers Virgin Coconut Oil from the Philippines. They also offer herbal soaps and moisturizers.

[Coconutoil-online dot com.](#) has a virgin, unrefined coconut oil obtained by centrifuge separation from fresh coconut milk.

If you live in the U.K. you can get good coconut oil from [Coconut Island](#) -- they offer a Virgin, organic coconut oil.

UK Importer of Fair Trade Certified Organic Virgin Coconut Oil. Purchase best quality oil - retail/wholesale - at [www.virgincoconutoil.co.uk](#)

Omega Nutrition Coconut Oil is made from 100% organic unrefined oil. Sold in 16 ounce (\$7.95) and 32 ounce (\$12.95) black containers. Visit their website at: [www.omeganutrition.com](#), or go directly to the [page on coconut oil.](#) You can order directly online or via phone at: 1-800-661-3529. There is a \$30.00 minimum order. Consider also ordering *The Healing Power of Coconut Oil* by Bruce Fife, N.D.

YOUNG COCONUTS:

WHY THEY MAY BE LESS THAN THE BEST FOOD EVER!

Source: <http://www.treeoflife.nu/news/cafenewsletter3.html>

Article composed by Khashayar Davtalab & Philip Madeley



At the Tree of Life cafe we serve 100% organic, vegan, live, low glycemic food and are moving towards greater sustainability. The garden is setting up to provide 90% of our produce needs by 2006. One product that we used to use everyday is Thai Young Coconuts. For some time now this practice did not quite feel so good. Therefore we have taken a cutting edge stance by eliminating thai coconuts from our 14 days menu. There is so many other food choices available to us that are much more sustainable than young coconuts. We still use coconut oil because we trust the organic fair trade source that we use and will continue to sell this in our [Awakened Living Shoppe](#). We know how healthy coconuts are and have enjoyed using them abundantly over the years and we feel it is time to raise the bar. If you have comments or more information that we may have missed then [please let us know](#). Here are 10 reasons why we have chosen not to purchase or consume young Thai coconuts.

- 1. NON-ORGANIC** Thai coconuts are not certified organic. Information that they are grown organically may not be true. From articles online it seems that fertilizer & pesticides are used in coconut farming. Therefore we would be supporting a non organic industry and ingesting non organic chemicals. Some companies claim to be organic, read a [recent email communication](#), since writing this article.
- 2. FUNGICIDE DIP.** Many coconuts are dipped for 5 minutes in a fungicide solution (such as formaldehyde or sodium metabisulphate) before exporting. This is to eliminate mold and bacteria during the "6-week" shipping process.
- 3. IRRADIATION** Many feel that they may be irradiated during shipping process.
- 4. HYBRIDIZATION** A thai coconut is actually not a true coconut. Someone crossed a coconut palm with a date palm through pollination. This makes them incredibly sweet.
- 5. SUSTAINABILITY** What is the real impact of importing coconuts from thailand? Fair trade labor, high food miles and chemical usage.
- 6. LABOR** Highly labor intensive when opening in a commercial setting. High labor in harvest, shaving, packaging, storage, distribution and shipping.
- 7. LOW QUALITY** Over 30% are usually rotten. This indicated by a purple colored pulp/water, black spots and pink on the outer husk.
- 8. AVAILABILTY** High reliance on them creates an over dominance in raw food diet. Variety is key!
- 9. EDUCATION** How many average people have access in their local environment to fresh ones?
- 10. COMPOSTING** Difficult to compost and process in a commercial/ home setting.

It is possible to find wild organic young coconuts:

1. Eat them in the country of origin: Hawaii, Phillipines, Mexico, Yucatan, Figi, Florida, India, Sri Lanka, Bali, Indonesia - They are sooo much better, lower sugar, higher minerals.
2. Buy Florida coconuts from
3. Buy air shipped coconuts from
4. Find a way to bring them in from Mexico.

COCONUT

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Scientific Name and Introduction: Coconut (*Cocos nucifera* L.) is marketed at two stages of development. At an immature stage, the fruit (water coconut) contains mainly water and a little jelly-like meat instead of the hard white flesh (meat - endosperm) found in mature coconuts. In Thailand, and now marketed in the US, immature green nuts are trimmed and shaped, removing most of the husk. The final product has a flat bottom, round body with a pyramid top and the eyes showing. To prevent browning of the remaining husk, nuts are dipped in 1 to 3% sodium meta-bisulfite for 2 to 5 min and then wrapped in plastic film (Tongdee et al., 1991). Sometimes fungicide is included in the sulfite solution. Alternatively, the husk is removed before dipping in sulfite solution. Fruit are available year-round from most tropical countries (Seelig, 1970).

Quality Characteristics and Criteria: Maturity, size, freedom from blemishes, cracking, freedom from fiber of husked coconuts, and wet or moldy eyes are major quality characteristics. Check for a sloshing sound for presence of coconut water in the nut. Coconut milk is obtained by removing and grating the hard white flesh and squeezing out the milky juice. Immature, de-husked coconuts are about 10 cm (4 in) in diameter, weigh about 500 g (1.1 lb), have 100 g (3.5 oz) endosperm, 120 g (4.2 oz) shell and 250 g (8.8 oz) water.

Horticultural Maturity Indices: Young coconuts are harvested 6 to 9 mo after flowering, as the nut approaches full size and the skin is still green (Consignado et al., 1976; Srivichai, 1997) and the short stem (rachillae) on the top of individual coconuts that originally held the male flowers (in Thai called 'rat-tail') becomes half green and brown. In immature nuts, the skin surface around the calyx (cap) on the top of coconuts is creamy-white or a whitish-yellow. When the area surrounding the cap is green the coconut is regarded as mature and is 10 to 12 mo old. At maturity the skin begins to change from green to yellow then brown and the 'rat-tail' is entirely brown.

Grades, Sizes and Packaging: No specific grades, informal grades usually based on size and weight. Mature US de-husked coconuts are sold in 34 to 36 kg (75 to 80 lb) woven plastic or burlap sacks containing 40 to 50 coconuts, plastic mesh bags of 12 coconuts or cartons with 20 to 25 film wrapped coconuts, 17 to 18 kg (37 to 40 lbs). Immature coconuts (water coconut) After the husked immature coconuts are shaped, dipped in bisulphate, and film wrapped, they are sold in single piece cartons containing 10 to 16 nuts. For young coconuts, the entire husk is removed and they are then dipped in sodium bisulfite before packing.

Pre-cooling Conditions: Room-cooling is generally used for mature husked nuts. Forced-air and hydro-cooling are acceptable. A rapid temperature change of 8 °C (14.4 °F) can cause cracking.

Optimum Storage Conditions: Mature coconuts with husk can be kept at ambient conditions for 3 to 5 mo before the liquid endosperm has evaporated, the shell has cracked because of desiccation or sprouting has occurred. Storage at 0 to 1.5 °C (32 to 35 °F) and 75 to 85% RH is possible for up to 60 days for mature, dehusked coconuts (Maliyar and Marar, 1963) and 13 to 16 °C (55 to 60 °F) and 80 to 85% RH for 2 weeks or less. Low RH and high temperature should be avoided.

Young coconuts are normally held at 3 to 6 °C (37 to 43 °F) with 90 to 95% RH, while wrapped shaped fruit can be held for 3 to 4 weeks. Shaped young coconuts treated with 0.5 to 1.0% sodium metabisulfite, can be held at ambient temperature for 2 days before browning occurred, while those **treated with 2% sodium meta-bisulfite** can be held at ambient temperature for 2 to 7 days (Tongdee et al., 1992). Young coconuts that have not been dehusked can be stored for a longer period than dehusked or shaped young coconut. In de-husked or shaped coconut, SSC declines and TA increases more rapidly than in non-dehusked coconut, subsequently the taste of dehusked or shaped coconuts sours earlier than non-dehusked during storage (Somboonsup, 1985). The husk acts as insulator and may increase the storage-life of young coconuts.

Controlled Atmospheres (CA) Consideration: No data are available on CA storage. Mature dehusked coconuts are waxed or film-wrapped to reduce water loss. Immature husked nuts can also be film-wrapped or waxed, however the outside color changes rapidly from white to brown unless dipped into sodium bisulfite (Tongdee et al., 1992).

Retail Outlet Display Considerations: Display at ambient temperature and do not mist. Non-wrapped or individually-wrapped shaped coconuts are displayed at ambient temperature or 10 °C (50 °F). Sometimes, 5 to 10 shaped coconuts are placed in perforated polyethylene bags and sold in Thai retail markets.

Chilling Sensitivity: When stored at 0 °C (32 °F), immature nuts have green skins that turn brown after 7 days; few other changes occur in other quality characteristics at this temperature (Consignado et al., 1976).

Ethylene Production and Sensitivity: Very low to near zero for mature husked coconut. There are no reports of sensitivity to ethylene.

Respiration Rates: Mature husked coconuts respire at 45 to 55 mg CO₂ kg⁻¹ h⁻¹ at 25 °C (77 °F).

This is equivalent to about 26 to 32 µL CO₂ kg⁻¹ h⁻¹. To calculate heat production, multiply mg CO₂ kg⁻¹ h⁻¹ by 220 to get BTU per ton per day or by 61 to get kcal per metric ton per day.

Physiological Disorders: Mechanical damage to immature coconut will cause the white coir to turn brown and can cause nut cracking. Younger nuts have a lower rupture force than mature nuts (Tongdee, 1991). A rapid temperature change of 8°C (15 °F) during storage of mature husked coconut can lead to cracking (Burton,1982), while freezing occurs at -3 °C (26.6 °F). Moisture loss causes a loss of water in the nut that can be reduced by RH control, film wrapping or waxing mature nuts.

Postharvest Pathology: Superficial mold growth does occur on wet coconuts.

Quarantine Issues: None, if mature, free of surface insects and soil, and the husk is dry. Some restrictions exist on the importation into certain tropical and subtropical areas from countries having diseases that may impact local palms.

Suitability as Fresh-cut Product: Meat from both immature (jelly-like) and mature (hard) is sold in trays with over-wrap or plastic bags for use in deserts. Immature coconut jelly-like meat and coconut water have to be held at 3 to 5 °C (37 to 41 °F) to avoid spoilage. Small plastic bags with the jelly like meat and water are frequently seen held on ice in South-East Asian Markets and at road-side stalls. For mature coconuts, non-shredded and shredded meat is packed in plastic bags for cooking and deserts.

Special Considerations: None.

References:

Burton, B.D. 1982. Prevention of postharvest studies cracks in husked coconuts during transit. J. Amer. Soc. Hort. Sci. 107:905-907.

Consignado, T.O., P.C. Tabora and R.P. Creencia. 1976. Physio-chemicals changes in stored young coconut. The Phillipine Agriculturist 60:256-270.

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COCONUT RESOURCES

Sources below

Websites

- [Coconut Research Center](#) -- An excellent site with many excellent information and links about coconut.
- <http://www.tropicaltraditions.com/index.html>
- [Coconut-Info website](#) -- loaded with great information. This is where you can order Virgin Coconut Oil.
- UK site offering information on coconut oil can be found at www.coconut-connections.com

- [Center for Research on Lauric Oils, Inc.](#) -- Contains information on the benefits of lauric acid and its healing effects. (Coconut oil is one of the lauric fats.)
 - includes a book chapter by Mary Enig on the [Lauric Oils as Antimicrobial Agents](#).

Overview

- [Coconut: In Support of Good Health in the 21st Century](#) by Mary G. Enig, Ph.D., F.A.C.N. -- The most comprehensive article online: it was 21 pages on my printer, 9 pages of which were scientific references. If you read nothing else, read this!
- [Mary Enig Ph.D. On The Effects Of Coconut Oil On Serum Cholesterol Levels And Hdls](#) -- Excerpts from the longer article above with some added information.
- [Nutritional And Health Aspects Of Coconut Oil](#) by Jon J. Kabara, Ph.D

Summaries

- [Coconut Oil -- Why it is Good for you](#) -- by Lita Lee. An excellent summary.
- [Coconut Oil: A Good Fat](#) -- One page summary on the Omega Nutrition website.
- [Cholesterol and Coconut](#) -- An good summary article, found on the [Temple of Thai](#) online Thai grocery store.
- [For Thais, palm oil always has been a good thing](#) -- by Olivia Wu, in the *San Francisco Chronicle*. Includes information from Kasma and a picture of her.
- [Coconut Oil & Its Virtues](#) -- by Ray Peat, Ph.D
- [The Healthy Resurgence of Tropical Oils: Coconut Oil](#) -- Also on the Omega Nutrition website.

Fat: Information & Misinformation

- [Links on Fats and Oils](#) -- found on our [Healthlinks Page](#).

Other Pages of Coconut Links

- [Coconut-info Website](#)
- [Research on Health Benefits of Coconut Oil](#)
- [Coconut Resource Page by Oregon State University](#).
- [Coconutoil-online dot com](#).

Books

- [The Healing Miracles of Coconut Oil](#), by Bruce Fife, N.D. Piccadilly Books, Ltd, [Healthwise Publications](#), Colorado Springs, CO, 2000, ISBN 0-941599-51-5.
- [Know Your Fats: The Complete Primer for Understanding the Nutrition of Fats, Oils, and Cholesterol](#) by Mary G. Enig, Ph.D. Bethesda Press, 2000, ISBN: 0967812607 -- Your best bet for comprehensive information on the whole coconut oil/fat issue.
- [Nourishing Traditions](#), by Sally Fallon with Mary G. Enig, Ph.D. [NewTrends Publishing](#), revised edition October 1999, ISBN 0967089727 -- Loaded with interesting information on all aspects of nutrition. Actually a cookbook with nutritional information. A fun read.
- [The Cholesterol Myths: Exposing the Fallacy That Saturated Fat and Cholesterol Cause Heart Disease](#). By Uffe Ravnskov, M.D., Ph.D. [NewTrends Publishing](#), 2000, ISBN 0-9670897-0-0.
- [All Thumbs Book Reviews](#) is the Weston A. Price Foundation's list of recommended books about nutrition.

Purchasing Coconut Oil . . .

Coconut oil, sometimes labeled as coconut butter, is sometimes sold in health food stores. Your best bet is often to order online.

- [Wilderness Family Naturals](#) sells a variety of coconut products, including unrefined Virgin coconut oil from various locales (this is what we have been using lately: delicious!). They also sell a number of other delicious coconut products. [Order directly online.](#)
- [Nutiva](#) has what looks like an excellent virgin coconut oil.
- [Mt. Banahaw Tropical Herbs](#) in the Philippines also has an unrefined Virgin coconut oil, that is excellent. You can order it directly online from [the Coconut-Info site.](#)
- [Laureece](#) offers Virgin Coconut Oil from the Philippines. They also offer herbal soaps and moisturizers.
- [Coconutoil-online dot com.](#) has a virgin, unrefined coconut oil obtained by centrifuge separation from fresh coconut milk.
- If you live in the U.K. you can get good coconut oil from [Coconut Island](#) -- they offer a Virgin, organic coconut oil.
- UK Importer of Fair Trade Certified Organic Virgin Coconut Oil. Purchase best quality oil - retail/wholesale - at www.virgincoconutoil.co.uk
- Omega Nutrition Coconut Oil is made from 100% organic unrefined oil. Sold in 16 ounce (\$7.95) and 32 ounce (\$12.95) black containers. Visit their website at: www.omeganutrition.com, or go directly to the [page on coconut oil.](#) You can order directly online or via phone at: 1-800-661-3529. There is a \$30.00 minimum order. Consider also ordering *The Healing Power of Coconut Oil* by Bruce Fife, N.D.

Coconut oil is also available in Indian markets. I found a brand made in Fiji with no indication that it was organic (although there should be no reason to spray coconut trees) or how it was processed. This product had a ***much*** stronger coconut flavor -- almost soapy -- that it imparted to the food.