



CAROB VS CACAO... AND THE WINNER IS...!

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Is cacao the super food of ancient cultures, the 'food of the gods', the 'perfect food for mind, body and spirit', countering fatigue, building resistance, protecting from heart disease and lowering blood pressure, as claimed in the present day?

by Mark Abriel

After an early morning beach run, I stop in at the local organic food shop, for some supplies. Browsing the aisles, I grab some unrefined coconut sugar, organic flour and some fresh cream, and blueberries, for some breakfast pancakes. Making my way to the checkout I unload my shopping in front of trays of tempting cookies, tarts, and layered cream cakes.

"These look great! All organic sugar, and ingredients?" I ask the girl behind the counter. "Everything here is organic!", the girl smiles. "Great!", I say, "I'll have the lemon cream tart."

"Sure!" She takes out a pair of tongs, and carefully extracts the creamy tart, and starts placing it in a cardboard tray. I have a closer look and notice that there are lines of dark brown throughout the lemon cream...

"That's not...chocolate, is it...?"

"Oh, yeah, it's chocolate... made from organic raw cacao!". She really wraps her tongue around it, kaacooow!

"I see... Look, ah, I'll have the cookie instead."

"Sure, no problem!" She carefully manipulates the tart back into its row, and then moves the tongs towards the cookie. As she lifts it up, I notice dark brown flecks embedded in its textured face. I look up. The checkout girl's eyes meet mine.

"Those flecks wouldn't be... chocolate, would they?"

"Oh, yeah! from 100 percent raw, organic...!"

"I know, organic kaacooow!... Look, do you have any desserts that don't have chocolate? Like a baked cheesecake, maybe?"

"Well, all our desserts are raw, first of all - and there's no dairy in them. Let's see: we've got the minty choc, the triple choc, the goji choc, choc lemon cream tart... Wait a second... blueberry cheesecake!"

My eyes light up...

"Oh, actually, that's choc blueberry cheesecake... and our cheesecake isn't dairy...."

I walk over to the organic fruit section, pick up two apples, and place them on the counter, with the blueberries, organic cream, and the other items.

"That'll do me, thanks. Have a good day!" I walk out to my car, shielding my eyes from the bright sunshine, biting into an apple.

My mind goes back in time... to a natural food co-op, in the little beach town I grew up in, just down from the space shuttle launch site, on the east coast of Florida, USA. Sounds of music fill the air, Dylan, sitar, reggae. I see shoulder-length hair, flowing beards, suntans, tie-dyed shirts, and I'm sitting at the juice bar counter, ordering mango smoothies and carrot juice, discussing a new book release, "Survival into the 21st Century", and the merits of homeopathy vs juice fasts vs the new twin-fin surfboard. This was alternative lifestyle central, and everything from Dr. Bronner's soaps to sesame oil, to toothpaste was a supposedly healthy, natural, alternative to the chemicalised, refined,

and toxic food and other products that were found in mainstream shops and supermarkets. Our favourite after-surf treat was a spectacular creation, the 'nectar pie': wheel shaped, carob dipped organic vanilla ice cream filled cookies! The rich, sweet carob covered the top and sides, sealing in the whole packet, and it was most definitely carob; not cacao! One would have had as much chance of finding chocolate or anything made from the cacao tree in a 20th Century health food shop, as finding a bottle of alcohol or pack of cigarettes!

In the flowering alternative lifestyle movement of the 20th Century, the brown powder, made from the carob bean, was universally manufactured into cookies, ice cream, custards, tarts and confectioneries, as the healthy lifestyle alternative to cocoa powder based chocolate products. Certainly, the refined sugar, hydrogenated fats, artificial chemicals and other ingredients that went and still go into conventional chocolates, in the 20th Century as well as in the present day, are not health producing. The health writers of the 20th Century wrote about the adverse health effects of the brown powder (cocoa powder) from the seeds from the pods of the cacao tree itself, declaring it to be toxic and addictive. (Cocoa powder and cacao powder are both the same substance from the pod seeds of the cacao tree, with different processing.)

Is cacao the super food of ancient cultures, the 'food of the gods', the 'perfect food for mind, body and spirit', countering fatigue, building resistance, protecting from heart disease and lowering blood pressure, as claimed in the present day?

Or was the 20th Century correct about using carob as a healthful cocoa/cacao substitute, placing chocolate in the sin bin, along with the Great White shark and nuclear energy?

To answer the former, historical studies show that cacao was not used as a food source in ancient times, but was added to psychedelic mixtures in ceremonial rituals. When it was used, it was in very small quantities – nothing like the frequency or amount consumed in today's raw food movement.

Cacao nutrients vs toxicity

The 21st Century raw food movement chocolateers maintain that raw cacao powder is a super food because of its high levels of nutrients such as magnesium, the amino acid, tryptophane, and antioxidants, some of which are lessened in cocoa powder, which is its heated and processed form.

Many fruits such as blueberries are also high in antioxidants, and leafy greens, nuts and dairy contain magnesium. Tryptophane is found in all complete protein sources such as dairy, nuts, legumes, and fish. Chocolate consumption leads to increased endorphin release from the brain, such as serotonin, which is pleasurable and beneficial, but the same serotonin release happens from complex carbohydrate consumption from cereals, and unrefined complex sugars, like Thai palm sugar, coconut sugar, Indian jaggery, and pure maple syrup. Are the modern-day claims of high nutrient content of cacao, which can easily be found in similar quantities in many other plants, covering up the dangerous chemical components of this powder that has found so much favour in the modern-day raw food/vegan movement?

Cacao stimulants: caffeine and theobromine

Cacao contains caffeine, which is a stimulant and which is addictive. This impacts on liver and adrenal gland function, leading to anxiety, rapid heart rate, and insomnia, similar to the effects of coffee, and, in the longer term, adrenal depletion and exhaustion. Cacao, and chocolate products derived from cocoa powder made from the pod seeds of the tree also contain the bitter alkaloid, theobromine, which is similar chemically to caffeine. Two to ten percent of cacao powder is made up of theobromine.

Theobromine has a greater stimulating effect on the heart than caffeine. It is thought to be the main addictive agent in chocolate. Effects are similar to caffeine: sleeplessness, tremors, restlessness, anxiety, and increased production of urine. Additional side effects of theobromine include loss of appetite, nausea, vomiting and withdrawal headaches. 1990s

research by the International Agency for Research on Cancer demonstrated that theobromine causes gene mutations in mammalian cells. It's listed as safe for human consumption, at this time, because the proof that it causes cancer is considered inadequate.

How significant a health threat is theobromine, as found in cacao-based chocolate products? For animals, who don't metabolise theobromine as quickly as we humans, very serious indeed, even fatal. Dogs, can succumb to theobromine poisoning from as little as 50 grams of milk chocolate, for a smaller dog, and 400 grams, or around nine small milk chocolate bars, for an average-sized dog.

Cacao toxicity higher in raw form

Conventional chocolate is made from the roasted powder from the cacao seeds. The harmful effects of cacao are strongest in the raw form.

Kevin Gianni is a health researcher who has a YouTube site, (www.renegadehealth.com). Kevin consumed a tablespoon or two of raw cacao powder in smoothies for a year and half, as it was recommended to him as a nutrient-rich superfood. He developed a rash on his stomach, found that his energy levels were plummeting, and he developed candida symptoms. Tests done by his medical doctor showed that his liver and kidneys were extremely stressed. His urine was getting very dark, almost brown, and hair analysis showed severely depleted minerals, including magnesium. His system had become highly acidic. At the time of experiencing these symptoms, he didn't know what the cause was, as he was on a totally natural diet. Through a process of trialling elimination of certain foods from his diet, he finally eliminated the cacao powder. He found that, after cutting out the cacao, his symptoms disappeared. His urine regained a normal lighter colour, his rash cleared up, he felt well again. In a YouTube video clip, he states that he is certain that the raw cacao powder was the cause of his adrenal stress, magnesium depletion (even though cacao powder is high in magnesium) and health breakdown.

Many people after eating raw cacao



IMAGE COURTESY OF MARK ABRIEL

Carob studies

In a study published in the 'Journal of Agricultural and Food Chemistry' in January 2002, the polyphenols extracted from carob pods exhibited a strong free radical scavenging inhibition against the discolouration of beta-carotene. This shows that consumption of carob pods can offer beneficial antioxidant activity and is suggested for substantial use for functional food and as food ingredient for animals and human use.

Carob fibres promote healthy cholesterol level

In a study published in 'European Journal of Nutrition' in October 2003, it is stated that the consumption of food products enriched with carob fibres has beneficial effects on blood lipid profile by reducing the LDL cholesterol level (bad cholesterol) and improving the LDL-to-HDL cholesterol ratio. This study suggests that consumption of carob fibres may be effective in preventing and treatment of hyper-cholesterolemia. Pure carob powder makes delicious chocolate-like confectioneries, and desserts, without any of the addictive, stimulant effects of the cacao tree.

The carob confectioneries so popular in the 20th Century did have a problem as they were made with hydrogenated palm oil. There was a US company that developed a manufacturing technique using fractionated palm kernel oil in their carob bars, which solved the problem of using harmful hydrogenated oil to achieve solidity. ■



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Carob – a bioactive-rich food ingredient

The use of carob dates back to the ancient Egyptians who fed the pods to livestock and are reputed to have used the gum as an adhesive in mummy binding. The Arabs used the carob seed as a unit of weight. They called the seed qirat or karat and the standard weight of the carob seed became the unit of weight for gold and precious stones.

Since the beginning, the fruit of carob tree has been used as a food, such as candy, mainly due to its high sugar content. In recent times, the food application of carob pods is limited to its seeds, which represent only about 10% of the weight of the pod. A white to creamy powder, known as locust bean gum or carob bean gum, is extracted from seed endosperm and is widely used as a natural food additive (E-410) in the food industry to function as a thickener, stabilizer, and flavorant.

The gum is also used in the cosmetic, pharmaceutical, textile, paint, oil drilling, and construction industries

Recent studies have demonstrated that carob powder is effective in the prevention of colon cancer, lowering cholesterol, and reducing the risk of type 2 diabetes.

More information (and references) can be found in the original paper, *Comprehensive Reviews in Food Science and Food Safety*, which also talks about carob's antioxidant properties, cholesterol-lowering effects, anti-carcinogenic properties and even anti-diabetic properties.

Because of new healthy attributes discovered with carob fibre, there are now a lot more reasons for consuming carob products to help improve your health. Further exciting news about carob's development in Australia will be brought to you in the not too distant future.

Thank you to www.carobsaustralia.com.au for their help with this data.

products experience pain in the stomach and liver areas, as well as jitteriness, and like Kevin Gianni have reported heightened liver enzymes on blood tests, after consumption for a period of time, a sign of liver stress or damage. The greater quantity of cacao consumed, the greater the negative effect, but it has been shown that, in sensitive people, even consuming a very small amount, will have deleterious effects.

Carob – the ancient health giver

Carob has been used as a wholesome, nutritious foods source since ancient times. Carob is also called St. John's bread, as John the Baptist was said to have used carob for sustenance.

Carob powder, from the carob pod, is caffeine- and theobromine-free.

Carob consumption is reported to have the following benefits: lowering harmful blood fats, combatting diarrhoea, protecting from cervical and lung cancers, protecting cells from oxidative stress, reducing pain, countering allergies, antibacterial, antiviral, preventing low iron levels, treating bronchial problems, and flu.

Being high in calcium and phosphorous, it's good for building strong bones and teeth, and recommended to assist in osteoporosis.



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