

Chocolate is good for you

The sweet truth about chocolate

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Fundamental R&D, Barry Callebaut

Thanks to its stunning taste, chocolate has become tremendously popular. All over the globe, it evokes strong emotions: enjoyment, indulgence and the pleasure of pure taste.

The conviction that something that tastes so good can't be good for you, has given way to a more balanced picture. Many of the myths and misperceptions about chocolate are crumbling under the weight of scientific facts. It is no longer a secret that chocolate and cocoa are healthy products and that regular, moderate consumption fits perfectly into the context of a varied and balanced diet and a healthy lifestyle that combines taste with health.

Recent scientific studies have reopened the debate on the health benefits: studies have shown that cocoa is twice as rich in polyphenols as red wine. Polyphenols are a strong antioxidant that may have potential positive effects on human cognitive functions and may play a positive role in the prevention and treatment of coronary diseases. ... A new, exciting dimension to the cocoa saga.

CHOCOLATE: A TRUE TREASURY

Cocoa and chocolate are important sources of energy. With their concentration of calories in a small volume, cocoa and chocolate are among the most concentrated vegetable energy suppliers. Chocolate contains a combination of sugars and fats that can make you feel good during and after consumption.

Besides energy, cocoa and chocolate provide a true treasury of vitamins, minerals and other nutrients in the cocoa bean that have positive effects for body and mind. Magnesium stimulates the memory. Theobromine and caffeine have a positive effect on the central nervous system and respiration, while fatigue is reduced and concentration increases. The high dose of calcium and protein strengthens the bones of children and teenagers.

Milk chocolate and white chocolate can be regarded as important sources of calcium and proteins (1). Milk - one of the main sources of calcium in our diet - is declining in popularity among large numbers of growing children and adults. However, we need calcium to keep our teeth and bones strong. According to scientists, the use of chocolate and cocoa as natural flavourings for milk can play a role in countering this trend.

THE SECRET OF CHOCOLATE

Chocolate characteristics research within the Barry Callebaut R&D departments has recently generated interesting findings. It has been known for years that the French suffer less from health problems related to cardiovascular symptoms and thus live longer than other Europeans, although they appear to have similar diets. This is known as the "French Paradox" and is linked to the fact the French generally drink more red wine than other Europeans.

To be more precise: red wine is rich in polyphenols or antioxidants, which can protect the body against the negative effects of free radicals. Recent studies revealed that cocoa beans contain a considerably larger amount of polyphenols than red wine or other commonly known sources of antioxidants, such as green tea, grapes, etc.

Moreover, research also indicated that the antioxidants from cocoa beans are significantly more active than the antioxidants, which are normally used, such as vitamin E. No wonder, chocolate was used as a medicine by early Central American societies. The challenge was to develop a method to preserve them during the chocolate production.

POLYPHENOLS, THE ACTIVE SUBSTANCE OF CHOCOLATE

Polyphenols are natural components found in several plants (fruits, vegetables, cocoa). They protect the body against illnesses and all kinds of infections. The polyphenols found in cocoa belong to the category of the flavonoids, in particular the flavanols. In cocoa they are present in abundance, even more than in red wine, tea, and specific kinds of vegetables or fruit.

In addition, cocoa contains more complex flavonols, the so-called procyanidins. These are powerful antioxidants protecting body cells against the effect of free radicals. According to recent research, free radicals accelerate the ageing process and they are responsible for the degeneration of certain body functions (the ability to see, the nervous system). In addition, flavonoids would have positive cardiovascular effects, strengthen the immune system, lead to lower cholesterol/blood pressure and increase the function of blood vessels. It is therefore logical that dieticians recommend diets rich in polyphenols.

The first research results of Fundamental R&D and Cocoa R&D within the Barry Callebaut group confirm the health benefits of polyphenols

and enhance the hypothesis that polyphenols have a preventive effect against cancer (for instance prostate cancer). The positive effect on cognitive functions (memory, learning,...) and cardiovascular health is still being further researched.

ACTICOA™, A NATURAL FORTIFICATION PROCESS

"During the past ten years many medical and scientific studies have linked consumption of dietary polyphenols to increased health and wellbeing. Cocoa, red wine and cranberries are all rich sources of polyphenols that improve blood vessel function. Better manufacturing procedures have increased the quantity and quality of polyphenols in chocolate so that the latest products are now the richest source of these dietary polyphenols." underlines Roger Corder (of Experimental Therapeutics William Harvey Research Institute at the Queen Mary's School of Medicine & Dentistry London, UK).

Dirk Poelman, Barry Callebaut chief operations officer, says: "Through extensive research of the complete process from cocoa tree to chocolate, Barry Callebaut succeeded in developing a new production method. The ACTICOA™ process retains the original high levels of active polyphenols in cocoa, which are often lost during normal cocoa and chocolate processing. Thus, the ACTICOA™ process preserves the health promoting effects of the cocoa polyphenols, and moreover, keeps the excellent chocolate taste. These positive health effects have been scientifically proven in collaboration with universities and hospitals."

The full ACTICOA™ process passes through several stages: from harvesting and processing of the cocoa bean to the production of chocolate. During normal chocolate production processing and especially during fermentation of the beans, the amount of polyphenols in chocolate is reduced. The ACTICOA™ process was therefore especially developed to preserve the original level of polyphenols during production. This takes place due to a careful selection and handling of the cocoa beans, and in strict process control. As a result the positive effects on the body and the authentic taste of the chocolate are preserved.

ACTICOA™ CHOCOLATE, WITH POLYPHENOLS

With the innovative ACTICOA™ process, Barry Callebaut is able to produce chocolate products richer in polyphenol than was ever possible. And thus are the positive effects on the body and the authentic taste of the chocolate preserved.

The power of dark chocolate

Barry Callebaut launches dark chocolate with the ACTICOA™ process. These chocolates vary from 50 percent to more than 70 percent cocoa solids having a higher polyphenol value than other similar chocolates on the market. They fully meet the taste expectations of the consumer, who wants to eat natural and healthy, but considers chocolate mainly as a 'feel good' product, a delicacy.

Milk chocolate plus

Beside dark chocolates, Barry Callebaut produces milk chocolate with polyphenols as well. Milk chocolate is anyhow a source of calcium and proteins (100 grams of milk chocolate contain 20 to 40 percent of the daily recommended amount of calcium). According to scientists it will even play a prominent role in flavoring milk products in the future, because of the decrease of milk consumption by youth. The high level of poly phenols can only have a positive effect here.

REFERENCES AND NOTES

1. Barry Callebaut's milk and white chocolates contain around 14-30 percent milk solids. This equates to 4-8g of protein per 100g of chocolate, or 15-25 percent of the RDA.

Barry Callebaut is the world's leading producer of high quality cocoa and chocolate products

Barry Callebaut is the world's major producer of high quality cocoa, chocolate and chocolate related products. Over more than 155 years we have gained extensive expertise in all fields of chocolate: from locating the best varieties of cocoa, developing processing methods to preserve the flavor and the aroma of chocolate, to the creation of innovative ranges, and anticipating new market trends. This unique vertical integration, together with the unmatched variation and the excellent service we offer, have yielded a worldwide loyal customer base. From small scale artisans to large scale industrial producers.

ACTICOA™ chocolate: the only chocolate in the world that combines good taste with a guaranteed minimum polyphenol-content:

- ACTICOA™ Dark chocolate contains min. 3.2 percent cocoa polyphenols. This is 3 times more than red wine and 6 times more than green tea.
- ACTICOA™ Milk chocolate contains min. 1.1 percent cocoa polyphenols. This is 2 times more than normal milk chocolate.

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