

Coffee

There are many different coffee species, but two main ones are grown today commercially for coffee production:

Coffea arabica, known as Arabica coffee, and *Coffea canephora*, known as Robusta coffee.



Robusta



Arabica



It is estimated that 80% of Americans consume caffeine-containing products every day and about 75% of daily caffeine comes from coffee consumption.

Dried ripe seeds of a coffee plant are a source of caffeine and are used as a stimulant, nerve tonic and diuretic. Caffeine acts on the central nervous system, kidneys, heart, and the muscles. Today, coffee and caffeine can be found in many products other than beverages. Caffeine is also available as an isolate in capsules or tablets. Overconsumption can lead to diarrhea, rapid heart beat and sleeplessness.

Recent research has revealed that coffee has many chemicals and antioxidants that are thought to have implications on human health; including caffeine, micronutrients, LDL cholesterol and chlorogenic acid.

The antioxidants in coffee may offer protection against cardiovascular disease and inflammatory diseases in post-menopausal women by reducing inflammation.



Caffeine is the world's most frequently consumed drug and one of the earliest ergogenic aids (something that improves muscular work).

The best known compound in coffee is caffeine.

Caffeine binds to a chemical in the central nervous system that has a suppressive effect. Therefore, the system is stimulated due to lack of the suppressive chemical. The following are typical changes seen in individuals after drinking coffee: increased blood pressure, metabolic rate, heart rate and alertness.



Heart Disease

According to early studies on the relationship between coffee and heart disease, coffee drinking was associated with an increased risk of cardiovascular events. However, several recent large studies have found that coffee drinking has a protective effect against cardiovascular disease.

Occasional coffee drinkers are at a greater risk for myocardial infarction after consuming coffee than regular coffee drinkers. Coffee exerts a short term increase in blood pressure and overall metabolism. These effects are more pronounced in those that do not regularly consume coffee. Regular consumption of coffee results in increased homocysteine levels. Caffeine can cause stiffness in the aorta which may result in increased blood pressure. Coffee drinking also raises blood cholesterol levels. However, coffee is not a trigger for cardiovascular events even with heavy coffee drinkers. Coffee increases fat oxidation throughout the body and decreases fat storage. Those who are regular coffee consumers tend to have lower body mass index and waist circumference.



Physical activity

Caffeine ingestion has been found to increase the utilization of intramuscular and/or extramuscular fat while sparing carbohydrate use, thereby increasing exercise time.

Many studies have assessed the exercise responses of well-trained endurance athletes, well-trained weight trained athletes and non-athletes to various doses of caffeine. Caffeine has been found to have an ergogenic effect under most conditions, whether increasing duration or distance, or ability to increase muscle strength.

Body Weight

Studies have shown that long-term consumption of caffeine, caffeinated cola and caffeinated tea decreases body weight in laboratory animals. Some studies have also found decreases in fat tissue and the number of fat cells, sometimes without a decrease in daily caloric intake. Researchers have found that adding cola to the diet of laboratory animals increased total caloric intake by 50% and decreased the rate of body weight gain in rats.



Diabetes

Some components in coffee may delay glucose absorption in the intestinal track and therefore blunt the blood glucose levels after a meal. Other components may also improve insulin sensitivity. Coffee is also high in certain minerals such as magnesium that may improve insulin sensitivity.

Many studies have shown that coffee drinking has a protective effect against diabetes development. Decaffeinated coffee seems to offer the same protection as caffeinated coffee. This suggests that components other than caffeine provides the protective effect. Coffee has many antioxidants which offer protection against chronic diseases as well as other components that may influence glucose metabolism.

Despite the apparent negative results seen due to sudden caffeine intakes and cardiovascular events, research studies seem to indicate that caffeine actually has a protective effect against diabetes development. Seventeen of 20 identified published epidemiologic studies of the association between regular coffee consumption and diabetes risk, healthy glucose metabolism, or both found a protective effect from drinking coffee to diabetes development. Seven found the protective effect to be dose related. Four studies that tested decaffeinated coffee found it to have a protective effect as well. Four studies concluded that the protective effect may be due to constituents other than caffeine.

Coffee History

Recent botanical evidence suggests that the coffee plants were discovered in Ethiopia at elevations of above 1300 meters. From there, the plants migrated north east to Yemen, where the coffee plants have been cultivated since the 6th century.

Upon introduction of the first coffee houses in Egypt and Saudi Arabia, coffee quickly became a passion, rather than just a stimulant.



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Pennington Nutrition Series No 50, 2008

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Edited: October 2009

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