

THE WALL STREET JOURNAL.

WSJ.com

By Laura Johannes

A highly caffeinated South American plant is increasingly being used to provide the pep in energy drinks, dietary supplements, food products and candy. Marketers say guarana-containing products boost energy, mood and cognitive function—and may even help with weight loss. Scientists say some science does back up those claims, but they warn guarana can overstimulate the heart in rare cases.

Guarana (pronounced gwa-rah-na) is a rain-forest vine with fruit that contains high levels of caffeine. Since 2008, nearly 500 products with guarana, including different sizes and flavors of the same product, have been introduced to U.S. stores, according to London market-research firm Datamonitor PLC. Products include energy drinks, beef jerky, chewing gum, mints and even lollipops.



Guarana products often claim to simply boost energy, and some say they enhance mental performance. Some are marketed as weight-loss aids. Several studies do link guarana to weight loss, but they tend to be small, short term and often involve products with other ingredients—overall, not yet conclusive, scientists say.

The claim that guarana improves energy and boosts mental function makes sense given that caffeine is known to do so, says Kevin A. Clauson, associate professor at Nova Southeastern University in Fort Lauderdale, Fla. A British study of 26 college students, published in the *Journal of Psychopharmacology* in 2007, found guarana tablets boosted scores on a battery of tests for

memory, alertness and mood compared with the same students' performance on a different day after taking a placebo.

While many experts attribute guarana's effects solely to its caffeine content, the British study found the effects on cognition were larger than would be expected with caffeine alone, says senior author Andrew B. Scholey, now co-director of the National Institute of Complementary Medicine's collaborative center for neurocognition in Melbourne, Australia. The reason for this is unknown, but Dr. Scholey suspects that saponins, a class of nutrients found in guarana, may be adding to its positive effect by enhancing blood flow to the brain.

Many products don't list either the amount of guarana or the total caffeine content, so you could consume a product with too little guarana to have a meaningful effect—or so much that it gives you an unwanted buzz, scientists say.

Consumers can often find the information by going to company Web sites. Performance Enhancing Meat Snacks Inc., of Englewood, Colo., which sells Perky Jerky, a beef snack marinated in guarana extract, discloses on its Web site that a two-ounce packet of the jerky contains 120 milligrams of caffeine. In an interview, the company said the level varies from 45 to 58 milligrams an ounce. VE2 Energy Gum LLC, which includes guarana and added caffeine, discloses on its Web site that each tiny piece of VE2 gum has 35 milligrams of caffeine. (By comparison, a 12-ounce can of soda typically has 30 to 50 mg.; a 12-ounce cup of [Starbucks](#)'s Pike Place Roast contains 260 milligrams.)

Dr. Clauson cautions that pregnant women should keep guarana consumption to a minimum, as high levels of caffeine may harm the fetus. Also, alcoholic drinks with guarana may fool people into thinking they are alert enough to drive, or engage in other dangerous activities, he says.

People with heart trouble should be cautious. Scientific literature links guarana to rare but severe heart-related side effects. According to a 2001 report in the *Medical Journal of Australia*, a woman with a heart condition called mitral valve prolapse died after ingesting most of a 55 milliliter guarana and ginseng energy drink. The caffeine levels of her blood were comparable to having had 15 to 20 cups of coffee, the report said. Whether or not they have an existing heart condition, people need to take into account their other sources of caffeine when taking

guarana products, says Mahtab Jafari, an assistant professor of pharmacy at the University of California in Irvine. In the Journal of Herbal Pharmacology, Dr. Jafari reported the case of a California woman who suffered tachycardia, an abnormally fast heartbeat, after taking energy pills containing guarana in addition to a cup of coffee and two glasses of Pepsi a day for more than a month. The woman had no previous known heart condition, but the combination of ordinary caffeinated drinks and guarana tablets "really exposed the heart to a lot of stimulation," says Dr. Jafari. The woman's tachycardia resolved after about a week after stopping the supplement, she adds.

The Food and Drug Administration is investigating the safety of caffeine, including caffeine from guarana, in alcoholic beverages. The Department of Agriculture says it allows a small amount of guarana in meat as a flavoring, not enough to create a stimulant effect. The agency says it is reviewing whether beef-jerky products with labels marketing a stimulant effect may violate this standard. The agency didn't specify which products are under review. Performance Enhancing Meat Snacks says it believes Perky Jerky complies with the law.

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