

SUPER FRUIT

Squeezing cold cash out of three "hot" juices

BY DAVID SCHARDT

Can drinking fruit juice boost your energy and physical performance? Make your cancer disappear? Help you cheat death?

Hundreds of thousands of people would like you to believe that... so you'll pay \$35 or \$40 a bottle for the noni or mangosteen juice they sell over the Internet or to their friends. And claims on the Web and in magazine ads have fueled the sale of pomegranate juice in supermarkets and health food stores across the country.

Are these three juices "super," or just a super opportunity for a lot of people to make a lot of money?



Mangosteen

For hundreds of years, people in Singapore, Malaysia, India, and China have been using the fruit and the bark of the mangosteen tree to treat diarrhea and eczema. These days, mangosteen juice is as likely to turn up in New York or Los Angeles as in Kuala Lumpur.

Why all the interest in an obscure tropical fruit? You can thank (or blame) a group of marketers who had already successfully helped flog the juice of another little known tropical fruit, noni, to American consumers (see p. 10).

Mangosteen is sold through an aggressive worldwide multi-level marketing network in which 350,000 sellers—who put up a Web site or talk up the juice to their friends and family—recruit other sellers and collect commissions from them.

At the top of the pyramid is a Utah company called XanGo, which started marketing mangosteen juice mixed with nine other fruit juices in 2002. At \$35 for a 25-ounce bottle, it's easy to see why sales have soared from \$40 million in 2002 to \$200 million in 2005.

Why Drink It?

Mangosteens contain xanthones, which are antioxidants "that may help maintain intestinal health, strengthen the immune system, neutralize free radicals, help support cartilage and joint function, and promote a healthy seasonal respiratory system," according to XanGo. (All are "structure or function" claims. Since they



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don't mention a disease, they're legal even though there may be no evidence.)

Local mangosteen juice sellers, further down the commission chain, aren't as modest. For example, according to lovemangosteen.net and mangosteeneffect.com—Web sites created by XanGo dealers in Nebraska and Colorado—"Nature's Amazing Medicine Chest" helps cure cancer, diabetes, Alzheimer's, migraine headaches, depression, and a host of other diseases.

"I used to get three to four severe migraines a month," Brett T. writes on lovemangosteen.net. "I have grown up watching my mother suffer from these same migraines... Two months ago I was told about a product called Mangosteen Juice. Ever since then [neither] I NOR my mother have had a single episode."

"Why use a medicine if a food can do the same thing?" lovemangosteen.net asks visitors.

The Evidence

"This fruit has more science to back up its health claims than many

pharmaceutical drugs on the market!" says jack.gomangosteen.net.

The company that "jack" is distributing for is a bit more cautious.

"There's emerging evidence that mangosteen has anti-inflammatory, anti-oxidant, and anti-microbial properties," says David Morton, a University of Utah anatomist who is scientific advisor to XanGo. (Two of Morton's brothers helped start the company.)

Mangosteen, like most plants, has evolved an arsenal of chemicals to protect itself against predators and environmental stresses.

"But most of the stuff from plants that shows early promise in the lab doesn't pan out in humans," cautions University of Hawaii ethnobotanist Will McClatchey.

"All of the science on mangosteen is still very early," Morton admits. He can point to only one study in humans. "It was done in a Singapore hospital in 1932 to treat dysentery," he says. Mangosteen mixed with a drug was slightly more effective than the drug alone.

"I don't think there are plans to study mangosteen in humans in the near future," adds Morton, because "there's much too much that still needs to be studied in the lab."

So much for "more science than many pharmaceutical drugs."



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Noni

Noni

Noni (pronounced NO-knee) is a lime-green fruit the size of a small potato that grows in tropical Asia and on islands in the Pacific, including Hawaii.

It was virtually unknown in the United States until 1996, when a Utah company, Morinda, Inc. (now called Tahitian Noni International), started selling it as a dietary supplement.

Noni's taste—and price—take some getting used to.

People say it's like consuming rotten cheese or old prune juice and that it smells like vomit or dirty feet. To make noni juice more palatable, manufacturers mix it with grape and blueberry juices.

Tahitian Noni sells the leading brand for \$42. That buys a 32-ounce bottle—enough to last a month if you drink one ounce a day (the label recommends one to three ounces). In 10 years, the company says that it has sold more than \$2 billion worth of noni juice through its multi-level marketing network.

"I love the taste of the noni now," one distributor told a training session for new salespeople. "To me, it tastes kind of just like money."

The session was caught on videotape by a CBS affiliate in Los Angeles.

Why Drink It?

"It addresses every ailment we know of," John Wadsworth, co-founder of Tahitian Noni, told *Forbes* magazine in 2004.

Wadsworth and the company brass have been vague about noni's benefits ever since 1998, when the company paid \$100,000 to settle a lawsuit filed by the states of California, Texas, New Jersey, and Arizona. Tahitian Noni agreed to stop making claims that noni could "prevent," "treat," or "cure" diabetes, depression, carpal tunnel syndrome, lupus, hemorrhoids, or other diseases.

"I haven't found that the noni plant is any more filled with potent chemicals than lots of other plants. If anything, it's less active."



Today, Tahitian Noni's Web site says merely that noni juice "boosts your immune system," "delivers superior antioxidants," and "increases energy and physical performance." (None of those "structure or function" claims require any evidence.)

But there are tens of thousands of independent noni distributors—people who have put up Web sites to sell the juice and who have recruited friends and neighbors to do the same—who are more than willing to say what the company executives can't in e-mails, online chatrooms, or face-to-face meetings with customers.

Last spring, for example, an undercover reporter for KCBS TV in Los Angeles taped two noni distributors telling prospective customers that noni juice "brought back" the eyesight of someone with macular degeneration, made lupus disappear "all of a sudden miraculously," and put early dementia "in reverse."

"We can't say it can cure anything," one of them added coyly, "but it does miracles."

The Evidence

"Noni is the most important plant in Polynesian medicine," says researcher Will McClatchey of the University of Hawaii. But the ripe fruit isn't typically used. "It's the roots, bark, and leaves that are employed for lots of different remedies," he says, "usually by applying them externally to the skin or to wounds."

McClatchey has run noni fruit through a series of preliminary laboratory tests similar to those that pharmaceutical companies use to see if potential drugs kill bacteria or interfere with the steps that lead to cancer.

"I haven't found that the noni plant is any more filled with potent chemicals than lots of other plants," he says. "If anything, it's less active."

Only one tiny pilot study has tested noni in people. In 2004, researchers at the University of Illinois College of Medicine at Rockford gave five women with osteoporosis and hearing loss four ounces a day of noni juice for three months.¹ But the study was too small and too short to draw any conclusions.

What's more, most people who drink noni juice are after bigger game: like cancer. And if you believe the testimonials floating around the Internet, noni is a miracle fruit.

Here's Bernadette on www.nonihealthinfo.com, after her Pap smear came back abnormal in December 2004: "I started taking three oz. of noni juice every day...I went back in August to take another Pap smear and to my surprise the test came back negative...I felt very blessed for being introduced to such an astonishing beverage that saved my life... Thanks to Noni..."

Is there any evidence in humans that noni deserves that thanks? No.

In several animal studies, noni juice has prevented the DNA damage that can lead to cancer in rats, arrested cancer of the connective tissue, and prolonged the survival of animals with lung cancer.²⁻⁴

But the only human cancer trial isn't testing whether noni works.

"I became interested in studying noni because some of my cancer patients said that it made them feel and function better," says oncologist Brian Issell of the University of Hawaii.

Since 2001, Issell has been giving noni pills (not juice) to men and women with cancers that have progressed to the point where there are no standard treatments.

His "Phase I" study is looking at how much noni people can tolerate without side effects or toxicity, not whether noni works.

"Based on this study," says Issell, "we cannot say whether noni relieves pain or otherwise benefits patients."

¹ *J. Altern. Complement. Med.* 10: 737, 2004.

² *Ann. N.Y. Acad. Sci.* 952: 161, 2001.

³ *Phytother. Res.* 17: 1158, 2003.

⁴ *Phytother. Res.* 13: 380, 1999.

Pomegranate

Pomegranate juice wasn't even on the radar screen in the United States until three years ago, when a successful Los Angeles business couple began applying their considerable marketing savvy to selling it as a chic, healthy drink.

Lynda and Stewart Resnick own Fiji Water, the second largest imported bottled water brand in the country; Teleflora, the largest floral wire service; the Franklin Mint, which sells collectibles; and Paramount Agribusiness, the world's largest farming operation of tree crops like oranges, pistachios, and almonds.

In the late 1980s, as part of a large real estate deal, the Resnicks happened to acquire a pomegranate orchard in central California.

In 2003, they introduced POM Wonderful pomegranate juice in 16-ounce designer bottles—at some \$5 a pop—and began promoting it to Hollywood celebrities. POM now accounts for an estimated 80 percent of pomegranate juice sales in the United States.

Why Drink It?

“Cheat Death...Eight ounces a day is all you need.” “This incredible juice has more naturally occurring antioxidants than any other drink.” “Antioxidants fight free radicals, those molecules that can cause heart disease, premature aging, Alzheimer's, even cancer. Drink eight ounces a day and you might even save a life. Yours!”

Those are some of the claims being made by POM Wonderful ads. They didn't sound so wonderful to the National Advertising Division of the Council of Better Business Bureaus last April.

The claims are misleading, concluded the NAD, because they don't “clearly disclose the limitations of the scientific findings about pomegranate juice.” (The NAD, an industry self-regulatory group, acted following a complaint by grape juice giant Welch's.)



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POM refused to change its ads. Consumers are able “to appreciate the humorous and ‘over the top’ context in which the claims are presented...” it argued.

(A word to the wise: if you drink pomegranate juice, keep in mind that an eight-ounce glass of POM will set you back 160 calories—50 calories more than a glass of orange juice and 70 calories more than a glass of cola.)

The Evidence

Unlike the manufacturers of noni and mangosteen juices, the Resnicks have invested a substantial amount of money—\$10 million so far, they say—into research by credible scientists at major universities. As a result, pomegranate juice is far ahead of mangosteen and noni juice in scientific evidence.

Prostate cancer. In a study published early this year by UCLA researchers, rising PSA levels slowed substantially in 38 of 46 men with prostate cancer who drank eight ounces of pomegranate juice every day for three years.¹ (PSA, or prostate specific antigen, is a protein produced by the prostate. Rising PSA levels can indicate a growing tumor.)

“The pomegranate juice seems to stabilize their cancer rather than kill it,” says lead researcher Allan Pantuck.

But the study didn't include a placebo group, so there's no way to know if the pomegranate juice was respon-

sible for slowing the rise in PSA levels. (Pantuck is conducting a larger study with a placebo group, but results won't be available for several years.)

Pantuck cautions men against relying on pomegranate juice.

“I'm not at the point where I would say that everyone who has prostate cancer or who is at risk for prostate cancer should be drinking pomegranate juice.”

Cardiovascular disease. “Preliminary data from test tube and animal studies and from a few small human trials suggest that pomegranate juice may be healthy for the cardiovascular system,” says Navindra Seeram. He's assistant director of the Center for Human Nutrition at UCLA and co-editor of *Pomegranates*, a book about pomegranate research.

In one of those studies, Dean Ornish and his colleagues at The Preventive Medicine Research Institute in Sausalito, California, gave 23 men with coronary heart disease a daily cup of pomegranate juice.

After three months, stress tests showed that blood flow through the juice-drinkers' arteries had improved, while it deteriorated in the 16 men who drank a similar-tasting placebo beverage that contained no pomegranate or other fruit juice.²

And after 10 Israeli men and women with atherosclerosis drank a cup of pomegranate juice every day for a year, their carotid arteries were less clogged and their systolic blood pressure (the upper number) dropped by an average of 21 percent. Meanwhile, the artery blockages worsened in nine similar men and women who drank a placebo juice.³

“It's clear that the pomegranate is one of the phytochemical-rich fruits like blueberries, cranberries, and strawberries,” says Seeram. “But we need to do additional carefully controlled studies in larger numbers of people to confirm its health benefits.”

¹ *Clin. Cancer Res.* 12: 4018, 2006.

² *Am. J. Cardiol.* 96: 810, 2005.

³ *Clin. Nutr.* 23: 423, 2004.

