

Juicing the Truth (from Spiked-Online.com) UPDATED!

By ACSH Staff — September 12, 2005

A new ad by US orange juice promoters tries to scare consumers away from "chemical-packed" rivals

By [Elizabeth M. Whelan, Sc.D., M.P.H.](#) ^[1]

Posted: Monday, September 12, 2005

This article first appeared ^[2] on [Spiked-Online](#) ^[3] on September 12, 2005:

A recent ad by U.S. orange juice promoters the Florida Department of Citrus -- referred to on its website as "The Laboratory" -- shamelessly plays on consumer fears of "chemicals" lurking in competing beverages. Particularly chemicals you cannot pronounce.

Why the scare tactic by orange juice flacks?

Orange juice sales are down -- way down. What with families on the run skipping breakfast, and obsessive adherence to low-carb regimens, there are fewer and fewer cartons, jugs, and bottles of orange juice in the shopping cart.

So it is no surprise that the Florida Department of Citrus has upped its advertising to get people to drink up. One of the ads is just plain silly and a bit revolting: it features a guy popping raw fish, rutabaga, liver, and brussel sprouts into a blender to make a "healthy drink," then suggesting that downing a glass of Florida orange juice was a more palatable route to good health.

The ad's orange juice hero sprints through a lab filled with foaming test tubes, pointing to cauldrons of high fructose corn syrup, inositol, pyridoxine hydrochloride, stumbling while trying to pronounce these ingredients and suggesting that people who drink processed juices and soft drinks are exposing themselves to scary "chemicals." The alternative? Drink Florida orange juice because it is "simple" and "natural" - and, of course, 'natural' has come to mean free of chemicals and thus, it is implied, safer and healthier than other drinks.

But what exactly is orange juice? It is the juice from *Citrus sinensis* (the botanical name), and all natural oranges contain a spectrum of chemicals, some with volatile properties, including: phenylethyl alcohols; acetone; formic acid; acetaldehyde; esters of formic, acetic, and caprylic acids; geraniol; and terpineol.

The juice also contains B-sitosteryl-D glucoside and B-sitosterol. In the process of juicing, orange juice inevitably picks up bits of the orange peel, which has d-limonene, citral, citranellal, and methyl ester of anthranilic acid, with a chaser of caprylic acid esters and decylic-aldehyde. Some of these chemicals -- like acetaldehyde and d-limonene -- even cause cancer when fed to rodents at

high dose.

I wonder if our hero dashing through the lab could pronounce all the chemicals in the orange juice he is promoting?

Advertisements of this sort are just plain misleading -- and completely unnecessary. Orange juice is a perfectly wholesome drink and a delicious way to pick up some ascorbic acid (vitamin C), folic acid, potassium, and more. Why use scare tactics to frighten consumers about drinking (harmless) "chemicals" in other drinks -- just to promote sales of the 100 per cent natural chemicals that comprise orange juice?

Dr. Elizabeth M. Whelan is president of the American Council on Science and Health (ACSH.org [4], HealthFactsAndFears.com [5]).

UPDATE:

Dr. Joe Schwarcz forwarded this column he wrote for the Montreal Gazette making a similar point:

Orange Juice and Red Bull By Joe Schwarcz

"Pyridoxine!" "Glucuronolactone!" The words spew out with something close to contempt from the speaker's mouth as he ambles through a lab filled with brightly colored liquids where technicians are seen to be using these ingredients to formulate some sort of beverage. Not the sort of chemicals we want to be defiling our body with, he implies, as he walks over and picks up a glass of orange juice. "Ingredients: fresh air, rain, and sunshine," he declares, "healthy, pure and simple." And with these words of wisdom the television ad for Florida orange juice comes to an end.

Before going any further, let me state that I think orange juice is a great beverage, and just the thing with which to start the day. But that "pure and simple" beverage is composed of hundreds of different compounds, including some with tongue-twisting names like beta-cryptoxanthin, hesperitin-7-rhamnoglucoside, and L-3-ketothreohexuronic acid lactone. Would it be comforting to learn that the last one is just the chemical term for vitamin C? And that the first one is a "carotenoid" and the second a "polyphenol," both of which are antioxidants linked to good health? The point of course is that the benefits or risks of a food or beverage are determined by the specific properties of its components, not by the number of syllables in their names. True, orange juice does not contain glucuronolactone, but that is not why it is a healthier beverage than Red Bull.

Why bring up Red Bull? Because that's the drink that features glucuronolactone as an ingredient and has apparently cut into sales of orange juice. Glucuronolactone is an ominous-sounding synthetic compound, so it was a natural target for the orange juice TV campaign, especially given the ridiculous e-mail that circulates about it. This diatribe maintains that glucuronolactone was an artificial stimulant developed in the 1960s by the American government. Nonsense.

Glucuronolactone can be found in the body as a natural product of glucose metabolism and the amount found in a can of Red Bull is unlikely to have any negative effect. It is added to the drink with the insinuation that it increases energy, but that claim is unproven.

Red Bull is a curious beverage introduced to the Western world by Dietrich Mateschitz, an Austrian

entrepreneur who encountered an "energy" tonic in Thailand called "Red Water Buffalo." He thought that "bull" would sell better in the west and changed the name appropriately. Right on! Red Bull, inexplicably, now sells about 2 billion cans a year. The major ingredients were then, and are now, glucuronolactone, taurine (an amino acid), vitamins, sugar, and caffeine. There is little evidence that Red Bull, which to me tastes like carbonated cough medicine, has any stimulant effect other than what can be ascribed to the caffeine it contains. How much caffeine? Roughly equal to that found in a cup of coffee and twice the amount in a cola beverage. Compared with orange juice, "energy drinks" like Red Bull are nutritional paupers.

Sure, orange juice is high in sugar, which is why the low-carbohydrate diets like Atkins (happily on the wane) urge limited consumption. But if you cut out orange juice, you are also cutting out an excellent source of folate, potassium, flavonoids, and carotenoids, all of which have been linked with health benefits. High blood pressure is more likely in people who consume less potassium. Indeed, a study at the famed Cleveland Clinic showed a modest reduction in blood pressure with drinking two glasses of orange juice a day. Cholesterol measurements also respond to orange juice. Researchers at the University of Western Ontario found that three glasses of orange juice a day may help keep the doctor away. When they studied 25 patients with high levels of LDL, or "bad cholesterol," they found that drinking orange juice increased HDL, the "good cholesterol," by some 20%, and that the ratio of HDL to total cholesterol, a good measure of cardiovascular risk, decreased by 16%.

And now we have a study that suggests that orange juice, in doses as little as one glass a day, may even stave off arthritis. In this case, the beneficial compounds appear to be carotenoids, the orange-colored pigments found in a variety of fruits and vegetables that may reduce inflammation through their antioxidant effect. Researchers at the University of Manchester analyzed data from some 25,000 subjects who had filled out dietary questionnaires. They compared people who eventually developed arthritis with those who did not and found that the average daily intakes of two specific carotenoids, namely beta-cryptoxanthin and zeaxanthine, were lower in subjects who came down with arthritis.

Of course, excess of anything is not good either. Just ask the lady who ended up in hospital with an extremely high potassium level in her blood. Doctors could not figure out what was going on until she sheepishly admitted that she had been drinking about five liters of orange juice a day. Why? Because she had read about the silly Orange Juice Diet, which claimed that large doses can cleanse and rejuvenate the body. Well, instead of rejuvenating her, the huge dose of potassium almost killed her.

One last thing. A study at the University of Reading examined the effects of different kinds of breakfast on the IQ of children. Guess what. Drinking orange juice in the morning improved their IQ. So maybe if people drank their OJ in the morning they would be less likely to fall into the trap of all the silly diet crazes and would be more likely to realize that there are better reasons to limit drinks like Red Bull than the fact it contains glucuronolactone and pyridoxine. By the way, pyridoxine is just vitamin B6. Where can one get it besides Red Bull? Well, it's a natural component of orange juice!

Dr. Joe Schwarcz is Director of the McGill University Office for Science and Society.

COPYRIGHT © 1978-2016 BY THE AMERICAN COUNCIL ON SCIENCE AND HEALTH

Source URL: <https://www.acsh.org/news/2005/09/12/juicing-the-truth>

Links

[1] /web/20120204012930/http://www.acsh.org/about/staffID.1/staff_detail.asp

[2] /web/20120204012930/http://www.spiked-online.com/Articles/0000000CAD54.htm12

[3] /web/20120204012930/http://www.spiked-online.com/

[4] /web/20120204012930/http://acsh.org/

[5] /web/20120204012930/http://healthfactsandfears.com/