



# WellnessOne Newsletter

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## The Shocking Truth About Freshly Squeezed Orange Juice

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If you buy orange juice at the store, you may lean towards the kind that advertises itself as “100 percent juice” and “not made from concentrate”. But have you ever wondered why every glass of it tastes exactly the same? That’s because the flavor of store-bought orange juice has more to do with chemistry than nature.

For industrially-produced orange juice, after the oranges are squeezed, the juice is stored in giant holding tanks and the oxygen is removed from them, which allows the liquid to keep for up to a year without spoiling. It also makes the juice completely flavorless. So the industry uses “flavor packs” to re-flavor the juice.

According to Food Renegade:

*“Juice companies therefore hire flavor and fragrance companies ... to engineer flavor packs to add back to the juice to make it taste fresh. Flavor packs aren’t listed as an ingredient on the label because technically they are derived from orange essence and oil. Yet those in the industry will tell you that the flavor packs, whether made for reconstituted or pasteurized orange juice, resemble nothing found in nature.”*

### Sources:

» [Food Renegade July 28, 2011](#)

### Dr. Mercola’s Comments:

It may come as a surprise to learn that what you find in a carton of 100% pure, not from concentrate orange juice is nothing like what you’d get if you squeezed an orange into a glass in your own kitchen. Instead, many popular orange juice brands use a chemical process to create juice that tastes and smells like oranges!

Alissa Hamilton J.D, PhD, a Food and Society Policy Fellow with the Institute for Agriculture and Trade Policy (IATP), explains the ins and outs of mass-produced juice in her book,



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[Squeezed: What You Don't Know About Orange Juice](#). It's a potent reminder of just how important it is to really understand how your food is manufactured and processed because the label tells neither the whole story nor the whole truth...

If you think about it, if the orange juice was *really* freshly squeezed and packaged as is, the flavor would vary from batch to batch, because not every orange tastes exactly the same. Some are sweeter; others more sour. Also, each juice brand has a particular flavor that is uniquely 'theirs,' and the reason for this may throw you for a loop.

### 'Not from Concentrate' Doesn't Mean Less Processed

Generally speaking, whenever you buy a beverage that consistently tastes the same, you can be sure it's made using a patented recipe. And that recipe includes added flavors that may or may not fit the definition of natural.

[In a previous article, Alissa Hamilton explains](#) how your orange juice is really made:

*"The technology of choice at the moment is aseptic storage, which involves stripping the juice of oxygen, a process known as "deaeration," so it doesn't oxidize in the million gallon tanks in which it can be kept for upwards of a year.*

***When the juice is stripped of oxygen it is also stripped of flavor-providing chemicals.*** Juice companies therefore hire flavor and fragrance companies, the same ones that formulate perfumes for Dior and Calvin Klein, to engineer flavor packs to add back to the juice to make it taste fresh."



The reason you don't see any mention on the label about added flavors is because these flavors are derived from orange essences and oils. However, the appearance of being natural doesn't necessarily mean it is. As Hamilton states:

*"[T]hose in the industry will tell you that the flavor packs, whether made for reconstituted or pasteurized orange juice, resemble nothing found in nature."*

The juice is also typically designed to appeal to the taste preferences of the market, and will therefore contain different flavor packs or chemicals depending on where it will eventually end up. According to Hamilton, the juice created for the North American market tends to contain high amounts of ethyl butyrate, which is one of the most commonly used chemicals in both flavors and fragrances. Aside from being versatile in creating a number of different flavors, including orange, cherry, pineapple, mango, guava, and bubblegum, just to name a few, it's also one of the least expensive.

Other markets, such as the Mexican and Brazilian, tends to contain different chemicals, such as various decanals or terpene compounds.

## What's the Answer to Non-Transparency in Food Production?

If this makes you feel a bit dejected, you're probably not alone. However, I hope it will also make you think more about *how* your food is created, and perhaps nudge you into using a bit more discretion and critical thinking before you fall for the next glossy advertisement.

As [Hamilton said in an interview last year](#):

*"My intent was not to get people to stop drinking orange juice but [for them] to realize what it is they're drinking. People have a right to know how industrialized the process has become, so they can make decisions that are consistent with their values. Many who drink orange juice also have concerns about the environment and agriculture, but don't draw a connection. They might envision oranges growing in a Garden-of-Eden-like orchard in Florida, but I think if people took a trip to Bradenton, [the home of Tropicana, a product of PepsiCo] and went to the processing plants, then yeah, they might make different choices."*



While it's certainly worth fighting for more transparency in the food industry and more truthful labeling, don't hold your breath. However, there *is* an obvious alternative by which you can circumvent many of these hidden issues, and that is to return to fresh whole organic foods.

When it comes to orange juice, squeezing your own at home would be about the only way to get the real thing. (You know you are buying a heavily processed juice if the "Best Before" date is 60 or more days in the future, because real fresh-squeezed orange juice will only last for a few days.)

That said, drinking orange juice, whether fresh-squeezed or not, is actually NOT as healthy as it sounds. In fact, orange juice is one of the [top five "health" foods I recommend avoiding](#), especially if you're overweight, or have:

Insulin resistance or diabetes	High blood pressure (hypertension)	High cholesterol
Gout	Heart disease	Cancer

## Why I Don't Recommend Fruit Juices

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While oranges and fresh squeezed orange juice can be a good source of vitamins and other nutrients, it's also very high in *fructose*. In fact, one eight-ounce glass of orange juice has about eight full teaspoons of sugar and at least 50 percent of that sugar is fructose. That's almost as much as a can of soda, which contains approximately 10 teaspoons of sugar.

So one eight-ounce glass of orange juice will wallop your system with 25 grams of fructose, which is more than you should have the entire day. Since fructose is loaded into just about every processed food, it would be very difficult to avoid exceeding your daily fructose limit of 25 grams per day. Additionally fruit juice is far worse than the whole fruit, especially if it is not freshly juiced and is stored in containers, as the methanol in the juice will dissociate from the pectin and actually [increase your risk of M.S.](#)

Fructose has been identified as one of the primary culprits in the meteoric rise of obesity and related health problems, and while the majority of the problem is caused by the large quantities of high fructose corn syrup (HFCS) added to so many processed foods and beverages, naturally-occurring fructose in fruit is also best avoided if you're struggling with stubborn weight issues or any of the diseases I just listed.

When the sugar is combined in its natural form in the *whole fruit* it causes far less of a problem, as the fiber tends to slow its absorption and prevents over consumption. But once you remove the fiber, you end up with a different product. Additionally, a lot of the antioxidants are also lost in the process—especially if it has been pasteurized, which most store bought juices are.



Therefore, as a general recommendation, I suggest avoiding fruit juices as much as possible, as they will spike your insulin to a far greater degree than a piece of whole fruit. As an illustration of the difference between whole fruits and fruit juices, one [2008 study concluded that](#):

*"Consumption of green leafy vegetables and fruit was associated with a lower hazard of diabetes, whereas consumption of fruit juices may be associated with an increased hazard..."*

As a standard recommendation for the average person, I advise keeping your total fructose consumption below 25 grams per day, with a maximum of 15 grams of fructose from whole fruit. However, if you're overweight or have any of the related health issues mentioned above, you'd be well served to cut that down to a total of 15 grams of fructose a day, *including* that from whole fruit. The following table can help you calculate your fructose from fruit consumption.

Fruit	Serving Size	Grams of Fructose	Fruit	Serving Size	Grams of Fructose
Limes	1 medium	0	Boysenberries	1 cup	4.6

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Fruit	Serving Size	Grams of Fructose	Fruit	Serving Size	Grams of Fructose
Lemons	1 medium	0.6	Tangerine/ mandarin orange	1 medium	4.8
Cranberries	1 cup	0.7	Nectarine	1 medium	5.4
Passion Fruit	1 medium	0.9	Peach	1 medium	5.9
Prune	1 medium	1.2	Orange (navel)	1 medium	6.1
Apricot	1 medium	1.3	Papaya	1/2 medium	6.3
Guave	2 medium	2.2	Honeydew	1/8 of medium melon	6.7
Date (Deglet Noor style)	1 medium	2.6	Banana	1 medium	7.1
Cantaloupe	1/8 of med. melon	2.8	Blueberries	1 cup	7.4
Raspberries	1 cup	3.0	Date (Medjool)	1 medium	7.7
Clementine	1 medium	3.4	Apple (composite)	1 medium	9.5
Kiwifruit	1 medium	3.4	Persimmon	1 medium	10.6
Blackberries	1 cup	3.5	Watermelon	(1/16 med. melon)	11.3
Star Fruit	1 medium	3.6	Pear	1 medium	11.8
Cherries (Sweet)	10	3.8	Raisins	1/4 cup	12.3
Strawberries	1 cup	3.8	Grapes, seedless (green or red)	1 cup	12.4
Cherries (Sour)	1 cup	4.0	Mango	1/2 medium	16.2
Pineapple	1 slice (3.5" x .75")	4.0	Apricots, dried	1 cup	16.4
Grapefruit, pink or red	1/2 medium	4.3	Figs, dried	1 cup	23.0



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## Health Dangers of Excessive Fructose Consumption

Numerous [studies have linked high sugar/fructose consumption to a long list of health problems](#). Not only will fructose raise your insulin to chronically high levels over time, it also metabolizes differently from other sugars. Both of these facts significantly contribute to the creation of chronic diseases. Thanks to the excellent work of researchers like [Dr. Robert Lustig](#), and [Dr. Richard Johnson](#), we now know that fructose:

- Is readily metabolized into *fat*
- Tricks your body into gaining weight by fooling your metabolism, as it turns off your body's appetite-control system. Fructose does not appropriately stimulate insulin, which in turn does not suppress ghrelin (the "hunger hormone") and doesn't stimulate leptin (the "satiety hormone"), which together result in your eating more and developing insulin resistance.
- Rapidly leads to weight gain and abdominal obesity ("beer belly"), decreased HDL, increased LDL, elevated triglycerides, elevated blood sugar, and high blood pressure—i.e., classic metabolic syndrome. For example, in one study, eating fructose [raised triglyceride levels by 32 percent](#) in men.
- Over time leads to insulin resistance, which is not only an underlying factor of type 2 diabetes and heart disease, but also many cancers.
- Contributes to the development of gout by increasing the levels of uric acid in your body. In one [study, published last year](#), women who drank 12 ounces or more of orange juice a day doubled their risk of gout, and those who drank just six ounces of juice per day still increased their risk by 41 percent. A [similar study on men was published in 2008](#). In that study, men who drank two or more sugary soft drinks a day had an *85 percent* higher risk of gout than those who drank less than one a month. Fruit juice and fructose-rich fruits such as oranges and apples also increased the risk.



This is why I recommend paying equal attention to the fructose consumed in the form of fruit juices and even whole fruits, and not just that from soda and processed foods.

### The Smoking Gun that Confirms Fructose as Major Health Hazard

The last bullet in particular is worth expounding on a little bit more. I became fully aware of the dramatic and devastating impact fructose has on your uric acid levels when I [interviewed Dr. Richard Johnson on this topic](#), last year. As it turns out, elevated uric acid levels is a MAJOR component of several chronic diseases that have also been linked to fructose consumption, such diabetes and heart disease, just to name a couple. Lo and behold, recent research indicates that fructose is the ONLY type of sugar that will raise your uric acid levels, which

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*really* strengthens the theory that excessive fructose consumption is at the very heart of most, if not all, of these diseases.

In fact, it is the specific pathways used to metabolize fructose that generates the production of uric acid (fructose typically generates uric acid within *minutes* of ingestion). These pathways are entirely different from those used by glucose, and other sugars.

According to Dr. Johnson's research, uric acid appears to take on a lead role in creating health problems when it reaches levels in your body of 5.5 mg per dl or higher. At this level, uric acid is associated with an increased risk for developing high blood pressure, as well as diabetes, obesity and kidney disease. He believes the ideal range for uric acid lies between 3 to 5.5 mg per dl, so getting your uric acid levels tested can further help you determine just how strict you need to be with limiting your fructose consumption.



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