**Organic Milk Vs Regular Milk**

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Should you fill your glass with organic or regular milk? Credit: [Benjamin Horn](https://www.flickr.com/photos/beije/16418551428/) My husband and I were at the milk section of the super-market. I reached for “conventional” milk. He told me to put it back and that we were buying organic. The truth is we have always been buying organic. We met 5 years ago and I doubt we’ve ever bought non-organic milk.

But since I started this research about what we should really be eating, I’ve realized that organic is hype and I had to ditch it.

Organic Milk Vs Regular Milk I was always buying organic milk because I thought that regular milk:

* Had antibiotics (I was wrong)
* Had dangerous growth hormone (I was wrong)
* Was coming forms cows who were treated less humanely than the ones in organic farms (see below for details)
* May have higher nutritional value (I was wrong)

Let’s address these common concerns one by one.

Organic Milk Vs Regular Milk: Which one has the highest antibiotics residue?Organic Milk is produced without antibiotics. Regular Milk is safe from antibiotics as well!

Apparently every tank of raw milk is checked for antibiotics residue before the milk gets processed. If a tanker is found positive then the milk is rejected for human consumption.

In particular, here’s what the FDA states about the process of [testing for drug residues](http://www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/ComplianceEnforcement/ucm436375.htm):

“The PMO requires a milk sample to be collected every time raw milk is picked up at the farm (also known as a “universal sample”). A milk sample is also taken when a truckload or bulk tank of milk arrives at a Grade “A” dairy plant for processing. Each arriving truckload of milk at the plant must be tested for the presence of at least four of six specific Beta-lactam drugs (penicillin, ampicillin, amoxicillin, cloxacillin, cephapirin, and ceftiofur).

If this bulk milk sample shows concerning results, each farm that supplied milk for that truckload will undergo mandatory testing. Universal samples collected at the farm level are typically only tested if the bulk tank of milk that arrives at the processing plant tests positive for drug residues.”

Now every year the FDA produces a report with its finding on drug residues in milk. The most recent one is the one for the year 2014. Want to guess the percentage of drug residue in pasteurized milk and milk products?

0.000%

That’s right. Zero milk products were found with residues above the tolerance level.

But here’s the differentiation between organic and regular milk. Organic milk is produced from cows not treated with antibiotics. If a cow is treated with antibiotics, then her milk is not labeled as organic.

Regular milk may contain residue from antibiotics, it’s just that this residue is below the tolerance level.

So let’s get back to the article about natural vs. synthetic food. In this article we covered that it’s all about the dose! Any substance can be good in some doses, bad in some others. Even vitamin C is bad if taken in big quantities.

Same is true for antibiotics, and that’s exactly why there’s a tolerance level. And the news is superb – all 100% of pasteurized milk is safe!

**Where can I learn more about drug testing of milk?**

* [FDA milk regulation](http://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/milk/default.htm)
* [FDA drug testing process](http://www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/ComplianceEnforcement/ucm436375.htm)
* [The most recent FDA report on milk](http://www.fda.gov/downloads/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Milk/UCM434757.pdf)

**Organic Milk Vs Regular Milk Antibiotics Verdict**

Both milks are equally safe. It’s a tie!

Organic Milk Vs Regular Milk: Which one contains growth hormones?If you’ve ever watched TV, then you might have learned about the “evil” growth hormones. These are hormones injected in cows in order to make them grow faster and produce more milk. I say “evil” not because they’re evil, but because they are presented as evil.

First, what is a growth hormone? According to the [FDA](http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm055435.htm) “Growth hormone is a protein hormone produced in the pituitary gland of animals, including humans, and is essential for normal growth, development, and health maintenance.” We’re talking about estrogenic growth hormones that have the potential to increase milk supply usually 10-15%.

First, let’s start with how “dangerous” these hormones really are.

I’ll take it directly from [Dr Jude Capper](https://twitter.com/Bovidiva%22%20%5Ct%20%22_blank), [an animal scientist](http://bovidiva.com/2013/02/13/putting-beef-hormones-into-context-aka-how-do-you-make-a-hormone/):

An 8-oz steak from a steer given a hormone implant contains more estrogen than a steak from a non-implanted animal. 42% more estrogen in fact. That’s undeniable. Yet the amount of estrogen in the steak from the implanted animal is minuscule: 5.1 nanograms. One nanogram (one-billionth of a gram or one-25-billionth of an ounce) is roughly equivalent to one blade of grass on a football field.

By contrast, one birth-control pill, taken daily by over 100 million women worldwide, contains 35,000 nanograms of estrogen. That’s equivalent of eating 3,431 lbs of beef from a hormone-implanted animal, every single day. To put it another way, it’s the annual beef consumption of 59 adults. Doesn’t that put it into perspective?

If birth-control is a sensitive subject, let’s compare it to vegetables: one 8-oz serving of cabbage = 5,411 nanograms of estrogen, over 1,000 times more estrogen than the same serving size of steak from a steer given a hormone implant.

Apparently, cabbage has more hormones than beef! BAD cabbage! (just kidding, these quantities are extremely small, and yes, safe.)

Second, not every cow in every “regular milk” farm is treated with hormones. In 2007, only [17.2% of cows were treated with bST](http://www.fda.gov/downloads/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/UCM383073.pdf) (recombinant bovine growth hormone.) So yes, most cows producing conventional milk have never been treated with growth hormones anyway.

Third, pasteurization destroys most of the bST contained in milk.

Fourth, after ingestion, growth hormone as any other protein in milk “is digested into its constituent amino acids and di- and tripeptides. [There is no data to suggest that BST present in milk can survive digestion](http://scienceblogs.com/aetiology/2012/06/19/growth-hormones-in-milk-mythfact/) or produce unique peptide fragments that might have biological effects.”

So yes, even if there are traces left, they are destroyed. So you see, growth hormone poses literally no risk.

Finally, here’s the major reason growth hormone has become controversial: it is insulin growth factor-1 (IGF-1), as milk from rBGH-treated cows has higher levels of this hormone. This serum has been linked to cancer. So naturally, I researched [cancer.org for their take](http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/recombinant-bovine-growth-hormone):

“Some studies have shown that adults who drink milk have about 10% higher levels of IGF-1 in their blood than those who drink little or no milk. But this same finding has also been reported in people who drink soy milk. This suggests that the increase in IGF-1 may not be specific to cow’s milk, and may be caused by protein, minerals, or some other factors in milk unrelated to rBGH. There have been no direct comparisons of IGF-1 levels in people who drink ordinary cow’s milk vs. milk stimulated by rBGH.

At this time, it is not clear that drinking milk, produced with or without rBGH treatment, increases blood IGF-1 levels into a range that might be of concern regarding cancer risk or other health effects.”

The FDA has been asking these questions about IGF-1 since the 1990s and has concluded that there is [no appreciable risk for consumers](http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm130321.htm#IGF-I).

**Where can I learn more about growth hormones in milk?**

* [FDA on bST](http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm055435.htm)
* [FDA’s report on IGF-1](http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm130321.htm#IGF-I)

**Organic Milk Vs Regular Milk Growth Hormones Verdict**

I didn’t find any real risks from growth hormone in milk. Plus, most regular milk doesn’t have any traces anyway since cows are not treated with it. So I have to call it a tie.

Organic Milk Vs Regular Milk: Which one comes from “happier” cows?Originally I was under the impression that organic milk comes from really happy cows, you know the ones that roam freely in the fields, eating grass and sleeping under the sun.

However, organic certification doesn’t require either full-time pasture access, more space for the animals, or better animal practices. The only requirement is that farmers allow cows and other ruminants to graze for at least 120 days a year. That’s it.

A simple Google search on “organic milk animal cruelty” and [PETA’s site comes first](http://www.peta.org/issues/animals-used-for-food/free-range-organic-meat-myth/) calling out the organic myth: “Cattle have their horns cut off and their testicles cut out of their scrotums, and many are branded with sizzling-hot irons, resulting in third-degree burns.”

Apparently, both organic and non-organic cattle farms could do better.

As for conventional milk I couldn’t find any welfare-specific guidelines. I did read that especially in good climates they get a lot of pasture time, however I didn’t find any strict rules. If you do know of any, then please leave a comment below and let me know.

If you want to make sure the products you buy come from well-cared animals, look for labels like the [Animal Welfare Approved](http://animalwelfareapproved.org/). Such labels can be applied to both organic and non-organic milk: As long as the animals are treated according to their specifications and then they can get the label.

**Organic Milk Vs Regular Milk Animal Welfare Verdict**

The only relevant guideline for organic milk was grazing for a minimum of 120 days a year. I’m not sure what the length is for cows producing regular milk. Hence, I’ll have to give this win to organic milk.

Organic Milk Vs Regular Milk: Which one has highest nutritional value?Apparently they are the same. You’ll get equally nutritious milk regardless of whether you pick organic or conventional.

What you should know though is that the quality of the milk depends heavily on multiple factors, irrelevant to the organic vs regular farming practices. According to a [2015 review study in the Journal of Dairy Science](http://www.sciencedirect.com/science/article/pii/S0022030214008376):

“A main complication is that farming practices and their effects differ depending on country, region, year, and season between and within organic and conventional systems. Factors influencing milk composition (e.g., diet, breed, and stage of lactation) have been studied individually, whereas interactions between multiple factors have been largely ignored.”

Now let’s discuss a [2013 *PLoS ONE Journal* study](http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0082429) that found a difference in Fatty Acid profiles. According to the study, “organic milk contained 25% less omega-6 fatty acids and 62% more omega-3 fatty acids than conventional milk.”

Now we like omega 3 fats because they help protect against heart disease and may decrease the risk of depression, stroke, cancer and other diseases. So based on this knowledge we should conclude that organic milk is superior, right?

Wrong.

First, we used to think that omega 3 fatty acids are better than omega 6 fats, but that’s no longer supported. “While there is a theory that omega-3 fatty acids are better for our health than omega-6 fatty acids, this is not supported by the latest evidence,” says [Dr Frank Sacks, a professor in the Department of Nutrition at Harvard](http://www.hsph.harvard.edu/nutritionsource/omega-3/%22%20%5Ct%20%22_blank).

Second, these quantities are not meaningful. Just to put things in perspective: [You’d have to drink 5.5 gallons of full-fat organic milk to equal the omega-3 content of one eight-ounce piece of salmon.](http://www.washingtonpost.com/national/health-science/a-paper-touting-the-benefits-of-organic-milk-for-heart-health-may-be-overselling-the-drink/2014/01/27/d0090dae-7a06-11e3-b1c5-739e63e9c9a7_story.html)

**Organic Milk Vs Regular Milk Nutritional Value Verdict**

It’s a tie. There’s no evidence that one type of milk is better than the other.

Why After 5 Years of Religiously Buying Organic Milk, I’m Ditching it for ConventionalI honestly thought that organic was better. However, after doing my research I realized that organic *may* be better when it comes animal welfare, yet even that is highly questionable. Everything else is hype.

I used to be afraid of antibiotics, and hormones, I even thought that organic was more nutritious – all wrong.

I’m actually surprised at how wrong I was.

So back to the super-market, when my husband and I disagreed about what milk to buy.

“Why organic?” I asked. “I told you there’s no risk with antibiotics, or growth hormone and nutritional value is the same.”

He implied we could afford it, so why not.

Then we looked at the price again. At Trader Joe’s half a gallon of organic milk costs $3.99 while regular milk costs $1.99. So organic milk is $2 or 100% more expensive than regular milk.

Still we can afford it. But is this a good reason to buy something that offers no value? Just because you can?

We’re buying about 1 bottle per week, which would give us 52 bottles in a year. That’s $2×52 = $104 invested annually to organic milk.

With those $104, we could:

* Buy an annual Netflix subscription (and also save $8). Yay for movie nights and House of Cards!
* Donate to the United Nations Refugee Agency and buy 14 thermal blankets, or else 6 tarps for the families in Nepal. Let’s do some good.
* Pay a one- or two-month exercise class pack – and exercising for one or two months will definitely bring benefits (unlike organic milk!)

**So that’s why I’m ditching organic milk for good. Now let me turn this back to you. What milk are you buying? Why? Leave a comment and let me know.**

*This article is part of the*[*What Should We Really Be Eating?*](http://fitnessreloaded.com/nutrition/what-should-we-really-be-eating/)*series.*