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Nutrients in Organic Food

I've read a couple of articles in leading health magazines recently including one forwarded to me by a long-time friend. In one article, the headline said that research showed that organic milk has 60% more omega-3 fatty acids than conventional milk. In the other, the commentary included a statement that said researchers found that organic strawberries had higher antioxidant ability, more vitamin C, and more phytonutrients than conventionally raised strawberries.

On the surface, these both seem like very good reasons to eat organic because they addressed the nutrient content of the food. Organic produce and animal products have fewer pesticides, herbicides, and other chemicals than typical plant and animal products may have; that's a given. But the nutrient content hasn't been shown to be much better in organic foods. Let's take a look at what the researchers found.

The Milk Study

Researchers obtained 292 samples of milk from the 48 contiguous states (1). The types of milk were a consumer supply of pasteurized, homogenized milk of three milk types: conventionally produced milk with no specialty labeling, milk labeled recombinant bST (rbST)-free, and milk labeled organically produced.

Examining the data presented, the fatty acid content of the organic milk did have more omega-3 fatty acids than the other two types although the magazine article calculated the percentage incorrectly. It should have been 40% more, not 60%. What I found interesting was the organic milk was 10% lower in trans-fats. Yes, trans-fats are naturally found in nature, but their chemical structure hasn't been found to be harmful as manufactured trans-fats are. The organic milk also had an increased amount of saturated fat (5%) over the other two, but that small percentage is not enough to worry about because the amount of sat fat is so low. Organic milk also had a higher conjugated-linoleic acid content (CLA), which has been shown to be beneficial in weight loss and reducing the risk of breast cancer.

The Strawberry Study

Researchers compared 13 pairs of farms in California (2); the magazine article mentioned that 90% of all strawberries are grown in California so that makes it important. They looked at many factors such as soil quality and taste, but I'm focusing on the nutrients alone. Comparing the total vitamin C content, there was 9% more vitamin C in the organically grown strawberries. The total amount of phenolics, a type of phytonutrient, was 10% higher in the organically grown fruit.

A Closer Look

On the surface, the data from the research seems to support the claims that were made in the magazine. But as you might expect, not everything is what it seems.

We've talked about percentages before and how they can be misleading without looking at the actual amount. You might be excited to learn you have 20% more money than I do. However if I have a quarter and you have \$.30, you've still got your 20% more—but neither of us can buy a cup of coffee.

While there were more omega-3 fatty acids in the organic milk, it was only 0.82% of the total amount of fat in the milk. In whole milk, there are about 8 grams of fat or 8,000 mgs per cup, although it varies by time of year and where the cows are in their lactation cycle. That means there would be about 66 mg of omega-3s in the organic milk and 40 mg in the conventional milk. To put it in perspective, 3 oz. of wild salmon has over 2 grams (2,000 mg) in a 3-oz. serving. It's not practical to drink whole milk to get omega-3s, organic or not.

Looking at the strawberries, the vitamin C increase in organic over conventionally grown would be 0.06 mg per gram of strawberries. In a one cup serving of sliced strawberries, the difference in vitamin C would be 103 mg for organically raised strawberries versus 94 mg for the conventionally raised. There's a difference, but it isn't significant in the real world. And because vitamin C decreases quickly after produce is picked, a day or two extra on the shelf for the organic could more than even the score between the two types of strawberries.

The Bottom Line

Let me be clear that I think purchasing and eating organic foods is healthy because you virtually eliminate the exposure to potentially harmful chemicals. You just have to understand that the nutritional content might not be that much different from conventionally grown foods; eating organic may still leave you with gaps in your nutritional intake regardless of misleading magazine headlines.

Here's what I think is reasonable: eat as well as you can, including organic foods when feasible, and buy some nutrition insurance by taking quality supplements to fill in the gaps. That includes organically grown plant concentrates in multivitamins and purified seafood oils for omega-3 fatty acids.

What are you prepared to do today?

Dr. Chet

References:

1. J Dairy Science. 2010; 93(5):1918-1925.
2. PLoS ONE 5(9): e12346. doi:10.1371/journal.pone.0012346.

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