Dear Vitamin C Aficionados:

This article isn't about whether you should be taking the stuff (1). Instead, it is about exactly what you are swallowing, should you be doing so, just like millions of other Americans.

If some of you find the following to be disquieting, I apologize in advance. But (A) it is all true; (B) it's information your vitamin shops don't want you to have; and (C) it will possibly screw with your head a little, in an ironic sort of way.

Did you ever wonder where your vitamin C comes from? Perhaps, on some level, you envision a bunch of flaxen-haired beauties with flowers in their hair, blithely frolicking through lush orange groves, lovingly selecting only the finest fruit, which will later be hand-squeezed to ensure that you will be getting nothing short of nature's miracle itself?
You may need to adjust your expectations somewhat. Here is where your vitamin C really comes from:
Ninety percent [1] of the vitamin C that is consumed in the U.S. is manufactured in China. And, it certainly doesn’t come from oranges. Rather, it is synthesized in a multi-step sequence starting with glucose as the raw material.

The synthetic route, which is called the Reichstein process, was invented in 1933.

Here are the chemical reagents that are used in each synthetic step:
1. Hydrogen gas and nickel under high pressure
2. Fermentation with oxygen and acetobacter bacteria
3. Acetone (petrochemical), sulfuric acid (will eat you face off)
4. Potassium permanganate (good for blowing stuff up)
5. Sulfuric acid (in case it missed some of you face the first time)

If the above materials doesn't meet your personal standards, there is good news. Or, maybe bad, depending on how you look at it. The Reichstein process is becoming obsolete, because of economic and environmental factors. The synthetic chemical reactions have been gradually replaced by biosynthetic fermentation reactions that are promoted micro-organisms.

At the forefront of this improvement is the use of yeast to carry out multiple transformations in one pot: Genetically modified yeast. [2]

So, there you go. If you've been taking vitamin C supplements, 90 percent of you have been swallowing synthetic stuff (2) that comes from a place as pastoral-looking as the New Jersey Turnpike near Exit 13A.

Or, you can swallow your pride, and embrace GM technology? What to do?

If all of a sudden, you find yourself facing a logical paradox, you are not the first. Gene Roddenberry beat you to it 49 years ago:

"Star Trek, Episode #37, November, 1967"
American Council advisor, Dr. David Seres, the director of nutritional medicine at Columbia Presbyterian Medical Center, has the following to say: "For most people, there is absolutely no role for a vitamin C supplementation. There is ample proof, from well designed studies, that vitamin C does not prevent even the common cold, let alone anything else."

As with any chemical, synthetic vitamin C is identical to that found in orange juice, or anywhere else. Flaxen-haired beauties, or a smoke-belching factory — makes no difference. Worry not.

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