SUGAR vs. Sugarless (Sugar-Free) Candies

By Analice Sowell

There are many wonderful and delicious types of treats made by candymakers. In fact, if you can think of a certain kind of chocolate candy or fruit-flavored candy, chances are that somebody, somewhere, probably makes it!

But what about candy for people who can't eat sugar? For example, diabetics (people who have the illness called diabetes) cannot safely digest sugar. Eating traditional candy made with granulated white sugar (sucrose) could be bad for diabetics … so, how do we help them satisfy their "sweet tooth?"

Candy companies have created "sugar-free" or "sugarless" choices for customers. These candies contain chemicals that are known as sugar substitutes. These chemicals provide a sweet taste like sucrose, but without the health problems that sucrose can cause for diabetics.

If you look on the label of sugar-free candy, you might see the words maltitol, xylitol, sorbitol, or mannitol. These sugar substitutes are known as sugar alcohols, and they make sugar-free candy taste sweet like regular candy. However, these substitutes are not completely absorbed by the body. This makes them a better choice for diabetics, because they do not affect the sugar levels in the blood as much as sucrose does. Diabetics still have to be careful, though, because sugar-free doesn't mean fat-free!

Other people may like sugarless candies because they are concerned about their weight, or they want to keep their teeth nice and healthy. However, eating too much sugarless candies can also be bad, because it could give you an upset stomach!

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The Adventures of Meg A. Mole, Future Chemist

Dr. Rich Hartel, Professor of Food Engineering

I went to Madison, Wisconsin to meet Dr. Rich Hartel. He's a professor of Food Engineering at the University of Wisconsin-Madison. Along with his student researchers, he studies the science of ice cream, chocolate, and candy. "As food scientists, we are always looking for ways to make these foods even better."

What does Dr. Hartel enjoy about his job? "First, I am learning something new all the time, from our own research, and what other researchers are doing. Second, as a teacher, I get to learn from my students. It's a great combination."

In the university, they work a lot in the lab, carefully running experiments to learn about the science behind foods. Dr. Hartel explained that, "We learn about what happens when we actually make foods. In our ice cream pilot plant, for example, we have nearly a dozen ice cream makers, and each puts its own spin on the ice cream it produces."

Growing up, Dr. Hartel was interested in science, and his teachers encouraged him. But his parents didn't always appreciate him "taking things apart to see how they worked!" He also knew he needed "many other skills to be successful as a scientist, such as writing and history."

Dr. Hartel wanted me to remember how important this work is. He explained, "Next time you are playing with your food, remember that you're studying Food Science." Next stop for Meg? I'm going to the ice cream shop to do my own research!