

The Cargill Master Series

Who are the people behind Cargill's innovative ingredients, beverages and food? Here's an inside look at the experts who work every day researching ingredients and developing recipes, beverages and foods that feed the world.



Q&A with Wade Schmelzer

Principal Scientist in the food applications team at Cargill



Wade Schmelzer, Principal Scientist at Cargill, has been focused on ingredient innovation and new product development in the health and wellness space for over 17 years. Most recently, he has been actively involved in the development of new stevia sweeteners for sugar reduction across the food and beverage industry. Schmelzer grew up in Madison, Wisconsin. He earned his bachelor's degrees in business and food science from the University of Minnesota, where he met his wife. Both of them headed back to Madison to complete their master's degrees in food science from the University of Wisconsin. They have two children – a 15-year-old daughter and a 12-year-old son. We had a chance to catch up with Wade recently about his life and work.

Did you grow up in a family that had a special interest in science or food?

Not at all. I grew up in a fairly large family, and was the oldest grandchild on both sides of my family. My father worked as a sheet metal worker, as did my grandfather and great-grandfather. It was fitting, since our last name, Schmelzer, is actually based on the word “smelter” for someone who works with metal.

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I actually had a few summer jobs at metal fabricating shops, but quickly realized that I was destined for a different career path. I always enjoyed being outdoors and had an interest in environmental science and conservation. My other grandfather was a forester in Wisconsin, so when I started at the University of Minnesota, my intention was to enter the forestry program.

How did you learn about food science?

After my freshman year, I actually transferred into the business school at Minnesota. I always had a knack for numbers and strategy. As I was working on my business degree, I had frequent discussions with a good friend and roommate from Singapore, who was majoring in food science. I had never even heard of food science before meeting him. The more we talked, the more intrigued I became. Those conversations about food science brought to life chemistry, engineering and microbiology in a very practical and applied way. I started taking food science related courses, in addition to business classes, and ended up with a double major.

What was it like when you first started at Cargill in the health and wellness space?

Health and wellness was still in its infancy. We had small cross-functional teams across R&D, supply chain, quality and finance that were actively exploring new opportunities ranging from proteins to fibers, to ingredients focused on heart or joint health. It was very entrepreneurial. Our project teams had a buffer zone to explore new ideas. Some worked and some didn't, but we had great teams that held each other accountable and really enjoyed working together. It was a great fit for me, where I could leverage both my technical and business backgrounds.

What's a typical day like for you now?

There is so much going on in the world of sugar reduction across the industry. Before, the goal was to develop great-tasting stevia sweeteners to deliver higher levels of sweetness intensity, but our recent innovations are really about closing the gap on sugar. We are also working on customer projects on a daily basis. For example, a customer may ask us to help them achieve a 50-percent sugar reduction in their chocolate milk. Our intent is to bring them from stage one to stage four in their product development cycle, through our understanding of formulating with stevia. It's always a balancing act between new product innovation, exploring sugar reduction in new categories as well as customer initiatives.

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Wade with his team.

What's it like, searching for these solutions?

I was thinking about this the other day. It's almost like cave exploration. You have on a headlamp and the light is shining out in front of you. You finally reach a point where you can pivot your body. Now that the light is shining in a slightly different direction, you discover an entirely new tunnel that you didn't see before. It could be a dead-end, or you could discover an immense cavern. There have been many times when I have thought, "Holy cow, look at this, I didn't expect to see this." Even though I've been working on stevia now for almost seven years, there are still times I'm amazed at our discoveries.

What's one of the coolest products you helped create?

I always enjoy the opportunity to creatively develop new applications to highlight the possibilities around sugar reduction for our customers. It is more of a big-picture exercise, "Here's what the world could look like. Here's an option of what you could do." Often times, we have this type of creative license for tradeshow, such as SupplySide West or IFT. A few years ago, we developed a craft-style spicy ginger beer carbonated beverage with reduced sugar, which you could drink by itself or use as a mixer with alcohol. Now, we're seeing all kinds of innovation in the craft beverage space.

What's an interesting problem you helped solve?

For a number of years, I supported our chicory root fiber business. We were always looking for unique ways to add more fiber into new applications, such as chewy granola bars. We started evaluating the possibility of delivering fiber through a fiber-fortified rice crisp. It ended up being a global effort, collaborating with extrusion experts in Europe. The crisps had a really great crispy texture with a clean taste. This was a completely new product for Cargill and an innovation driven by our technical team.

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A specific type of problem-solving is required in your work. Has this changed the way you think both inside and outside of work?

Yes. For a complex problem, it can be very easy to lose sight of the forest through the trees. There have been many times when we're working on a project and I'll say, "Pull up for a second. What are we trying to solve? Or what is the story?" It's really about continuing to look at the big picture and having the flexibility to course-correct and adjust. This is definitely applicable beyond work, and I try to help my kids think from this perspective as they approach problems.

Did your parents encourage innovative thinking when you were younger?

Not so much innovative thinking, but we were certainly given the space and freedom to be creative, inquisitive and self-motivated. My mother was a daycare provider, so we needed to be able to find ways to occupy ourselves. One day it may have been trying to build something, another creating a game or simply exploring the world on our bikes.

And now you bike to work at times?

I just started this past year and really enjoy riding to work when possible. I live close enough that it is an option if it fits with my work calendar. It has been a great way to start my day, as well as reset on the ride home.

What do you like to do when you are not at Cargill?

Golfing, biking, hiking, gardening ... anything outside! I am also an assistant scoutmaster for my son's Boy Scout troop, which went backpacking on the Superior Hiking Trail this past summer. It was a first for me and the arduous journey was well worth the spectacular views.

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