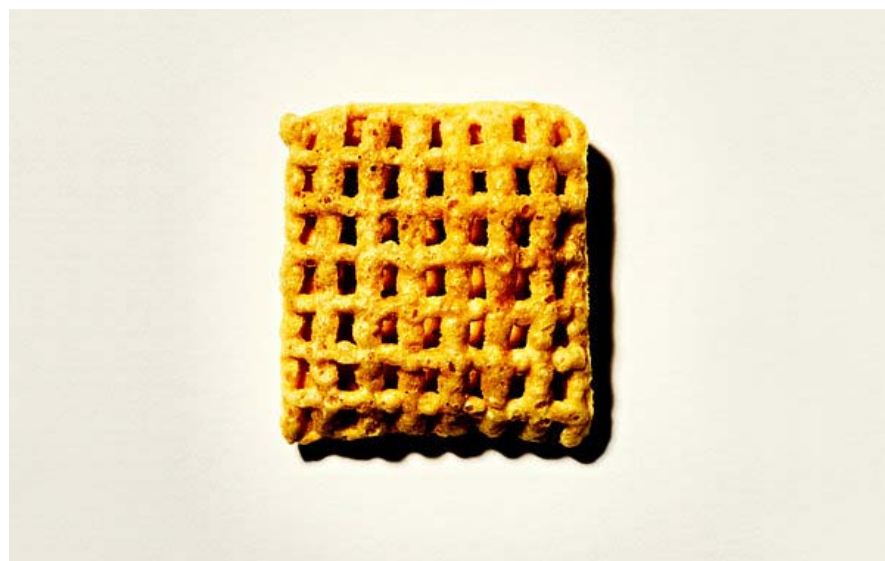


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Should We All Go Gluten-Free?



Kenji Aoki for The New York Times

By KEITH O'BRIEN
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The singer was a no-show. The [Gluten Free Expo](#) in Sandy, Utah — one of the nation's largest events dedicated to foods untainted by wheat — was going to have to start without the national anthem. But Debbie Deaver, the expo's founder, didn't have time to worry about that. The song, to be honest, was the least of her problems.

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Mark Peterson for The New York Times
Dom Alcocer of General Mills at a gluten-free expo.

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Deaver had slept four hours in the last three days. The 34-year-old woman — who has celiac disease and therefore must avoid eating gluten, a key protein in wheat — was running on prayer and Diet Dr Pepper. She needed sleep, and syrup.

A day earlier, a shipment of maple syrup failed to arrive, forcing her to scramble to find a topping suitable for the expo's enormous gluten-free pancake breakfast. A last-minute donation of 35 cases of marionberry syrup would have to do. And then there was the issue of actual attendees. With the sky spitting rain outside and temperatures hovering around 40 degrees on a dark October morning, Deaver was becoming convinced that no one was coming to her expo in suburban Salt Lake City. "I'm getting nervous," she admitted as she scanned the empty concourse of the sprawling, glass-walled South Towne Exposition Center just 30 minutes before the show started. "People aren't showing up."

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But seemingly all at once, they did. When Deaver opened the front doors at 9 a.m., she was stunned by the huge crowd waiting to get inside. At the sight of these people — her people — Deaver stopped cold in her Puma sneakers and began to cry.

"I'm just so excited about those gluten-free pancakes," she announced to the crowd. "Is everybody ready to eat some pancakes?"

Four hundred people surged into the expo hall in the first 10 minutes, 1,200 in the first hour and nearly 6,000 by the end of the single-day event. They came from as far away as Arizona and Nebraska, like pilgrims to a sort of gluten-free Mecca. Once inside, many were soon listening to one man: Dom Alcocer, a 33-year-old marketing manager, who stood on a chair in an expo booth, barking at the attendees and throwing gluten-free granola bars into the crowd.

"Ohhhhh! Dropped pass!" Alcocer shouted to one person. And then, to another: "Nice catch!"

The crest on Alcocer's golf shirt said Gluten Freely, as did the sign above the booth promoting a Web site of the same name. But Alcocer wasn't here representing some Internet start-up. He was from [General Mills](#), the Minnesota-based food-manufacturing giant, which perhaps more than any other mainstream corporation has begun focusing on gluten-free consumers. In the last three years, General Mills — best known for Cheerios, Betty Crocker and that wheat-filled Pillsbury Doughboy — has put gluten-free labels on more than 300 products already made without gluten, reformulated the recipes of five Chex cereals, introduced gluten-free dessert and pancake mixes and, most recently, asked Alcocer to make [GlutenFreely.com](#) America's go-to Web site for the gluten-free life.

"So General Mills funds you?" Annika Lovell, the mother of a 6-year-old with celiac disease, asked. "You're part of them?"

"Yes," Alcocer replied. "We are from Minneapolis. We are General Mills. And we are Gluten Freely — here to bring everything together in a one-stop shop for you guys."

"That's awesome," Lovell replied. "I'm so excited."

Alcocer was excited, too, as usual. The Cornell University graduate was once a captain in the Air Force, where he worked on decoys to confuse enemy missiles and became a Global Positioning System expert who negotiated international treaties on behalf of American interests — heady, scientific stuff. But this job, he said, is just as important as his former military duties. He's in charge of selling products to a large and once-unknown consumer population: gluten-free America.

"We've got food everywhere," Alcocer said from atop his chair at the expo. "It's coming out of everywhere. You can't slow it down. We won't slow it down." He paused and smiled. "It's like I'm selling cars up here," he chuckled. "How do I get you into a Nature Valley bar today?"

Food companies are always trying to take advantage of the latest dietary trend or health craze. (Low carb, anyone?) But the story of how we got to a place where celiac disease is suddenly mainstream, prevalence rates are rising, perfectly healthy people are opting to eat gluten-free and General Mills is coveting these customers is an especially unlikely business narrative.

I should know. It's a story I've been following for years, ever since I was told I had celiac disease in 1999. I was 26 and until that point healthy. But then I started shedding weight like a sailor lost at sea, and became increasingly gaunt and anemic. So pale, so tired. My doctors told me to prepare for the worst. Cancer, probably. But a biopsy of my small intestine found no tumors in my gut, just withered and destroyed villi. I had celiac disease, a genetic autoimmune disorder. And though it was serious — the disease, when undiagnosed, has been associated with an increased risk of death — I would live. My



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villi, the tiny, fingerlike protrusions in the small intestine that help the body absorb nutrients, would recover as long as I stayed off gluten, found in wheat, and similar proteins in barley, rye and malt.

But I wouldn't *eat* — not really. Gluten-free packaged foods — in which wheat has been replaced by alternative ingredients like rice, sorghum and tapioca flours, among others — were almost impossible to find in the 1990s. Most of what did exist was dreadful: think cardboard. It was also hard to find people who understood the disease itself. Doctors believed it wasn't much of a problem in this country.

"Nobody really was ready to accept the 1 percent prevalence of celiac disease," says Dr. Stefano Guandalini, founder and medical director of the [University of Chicago Celiac Disease Center](#), who came to the U.S. from Italy in 1996 and found very little awareness of celiac disease. Even experts ignored it, Guandalini says, noting that a prominent medical textbook published as recently as 1999 questioned how widespread it was. "The chapter on celiac disease," Guandalini says, "quotes a prevalence of 1 in 10,000 in the U.S. and adds that this is mostly a European condition — and the prevalence is decreasing. This is the formal, official teaching in '99."

But Guandalini didn't buy it. And neither did Dr. Alessio Fasano, another Italian who was practicing at the University of Maryland. The genes were here, Fasano recalls thinking, courtesy of our European ancestors, and so was the gluten, a natural component of wheat that provides the elastic qualities that make for delicious baked goods. But the protein is also difficult to digest. And even a healthy intestine does not completely break gluten down. For those with celiac disease, the undigested gluten essentially causes the body's immune system to lash out at itself, leading to malabsorption, bloating and diarrhea — the classic gastrointestinal symptoms — but also, at times, joint pain, skin rashes and other problems. In Italy, Fasano routinely saw celiac disease. Surely it was in the U.S. too. Hence, in 1996 Fasano published a paper, asking, in the title, a simple question: "[Where Have All the American Celiacs Gone?](#)"

The same year that he published the paper, he founded the [University of Maryland Center for Celiac Research](#). He started small; Fasano had only one patient the first year. In a 1998 paper, however, he reported that he had randomly screened 2,000 blood samples for the antibodies that typically indicate a diagnosis of celiac disease and discovered that 1 in 250 tested positive.

Still, doubts lingered. So Fasano set out to do [a more comprehensive study](#) — or, as he called it, "the most insane, large epidemiological study" on celiac disease in the U.S. to date. More than 13,000 subjects in 32 states were screened for the antibodies. Those who tested positive underwent further blood tests and, when possible, a small-bowel biopsy to confirm the presence of celiac disease. The results, published in 2003, were stunning: 1 in every 133 people had celiac disease. And among those related to celiac patients, the rates were as high as 1 in 22. People were listening now — and everything about gluten-free living was about to change. "Believe it or not," he says, "the history of celiac disease as a public health problem in the United States started in 2003."

As awareness of the disease became more widespread, Fasano expected celiac diagnoses to increase. That, in fact, is what has happened. Since 2009, Quest Diagnostics, a leading testing company, has seen requests for celiac blood tests jump 25 percent. But Fasano didn't anticipate other developments. He now estimates that 18 million Americans have some degree of gluten sensitivity. And experts have been surprised, in general, by the rising prevalence of celiac disease overall. "It's not just that we're better at finding it," says Dr. Joseph A. Murray, a gastroenterologist at the Mayo Clinic in Rochester, Minn. "It truly has become more common."

Comparing blood samples from the 1950s to the 1990s, Murray found that young people today are nearly five times as likely to have celiac disease, for reasons he and others researchers cannot explain. And it's on the rise not only in the U.S. but also in other places where the disease was once considered rare, like Mexico and India. "We don't know where it's going to end," Murray says. "Celiac disease has public health

consequences.” And therefore, it has a market.

Gluten-free products aren't just selling these days; they appear to be recession-proof. According to a recent Nielsen report on consumer trends, the volume of gluten-free products sold in the past year is up 37 percent. Spins, a market-research-and-consulting firm for the natural-products industry, says the gluten-free market is a \$6.3 billion industry and growing, up 33 percent since 2009. Niche companies like Amy's Kitchen, Glutino, Enjoy Life, Bob's Red Mill and Udi's Gluten Free Foods are reporting incredible growth.

Major corporations have also been moving into the marketplace: Anheuser-Busch introduced Redbridge, a gluten-free beer, in 2006, and Kellogg rolled out gluten-free Rice Krispies this year. Other companies have begun adding labels that indicate when their products are gluten-free — that is, when they contain fewer than 20 parts per million gluten (the proposed federal standard). Both Frito-Lay and Post Foods have begun such labeling in the past year. It's the golden age of gluten-free.

Celiacs aren't the only ones who are grateful. Athletes, in particular, have taken to the diet. Some claim to have more energy when they cut out gluten, a belief that intrigues some experts and riles others. Guandalini dismisses the idea as “totally bogus.” Yet no one can argue with the success of the world's No. 1 men's tennis player, Novak Djokovic. Within months of revealing this year that he had a gluten allergy and had altered his diet accordingly, Djokovic posted a remarkable 64-2 record. By September, sportswriters barely let a moment pass without asking about, as one called it, his “off-court eating habits.” After his victory at the U.S. Open final, a reporter wanted to know what he ate for dinner the night before, for breakfast that morning and what he planned to eat that night. “I'll give you a simple answer,” Djokovic said with a smile. “Last night I didn't have any gluten, and tonight I will have a bunch of gluten.”

The reporters burst out laughing. Some even clapped. It was funny. But celiacs everywhere winced. Djokovic's answer didn't just trivialize the seriousness of their disease. The answer made it official: gluten-free was a full-blown fad. And while that meant more products on the shelves, it also signaled the possibility that this moment might not last.

Back at General Mills in Minnesota, however, Dom Alcocer insists that gluten-free is here to stay. What he sees, he told me, is a growing number of Americans who have no choice but to be gluten-free. Earlier this year, ConAgra Mills, a leading flour supplier, published a report characterizing gluten-free specialty products as a \$486 million industry. That's much smaller than the \$6.3 billion figure from Spins, but it doesn't include mass-market items like Chex cereals. What's more, David Sheluga, the director of consumer insights at ConAgra Mills, found something significant about who's buying gluten-free specialty products and why. More than 80 percent of the market, he estimated, is being driven by core consumers — people on the diet for medical reasons. In other words, Sheluga says, even if some occasional customers give up on gluten-free products, it will have little impact on sales. “That core,” Sheluga says, “is not going away.” These are the customers General Mills set out to reach four years ago when a few employees began floating a radical thought: What would happen if they made Rice Chex gluten-free?

General Mills has for generations boasted about the quality of its wheat flour (“Makes the Bread of Life”) and other wheat-laden products. “We love gluten,” Jodi Benson, a longtime General Mills employee, told me when I visited the company's headquarters outside Minneapolis last month. “We are,” she added, “the very best of gluten.”

Still, a senior food scientist named Dean Creighton was willing to try to take the gluten out of Rice Chex when the idea was first raised in late 2007. In nearly two decades at the company, Creighton had never tried to remove gluten from a product. But he had tinkered with cereal recipes. “That's my job,” he explained. And he was pretty sure that he could make Rice Chex gluten-free. He just needed to solve the problem of “brown notes.”

Chex is at its best when it has what experts call brown notes: a toasted flavor and brownish hue. And what contributed to the sweet brown notes was malt syrup, a glutenous ingredient that would end up being replaced by molasses. Just like that, Chex would have a new audience: millions of customers who previously didn't bother to go down the cereal aisle. "That's a huge opportunity," Liz Mascolo, the Chex marketing manager, told me.

As Rice Chex was being reformulated — it arrived on shelves in 2008 — the Betty Crocker team was experimenting with gluten-free mixes for cookies, brownies and cakes. "We were sticking our necks out, because we're General Mills, and we're used to doing things mass — big — appealing to everyone," says Dena Larson, a marketing manager in the baking division at the time. "And we knew that we were inherently going against that." There were other problems. The early cake recipes fell flat, literally. "Think of yellow cake," Benson says, "in a brownie height."

But a thousand batches later, General Mills got it right. Four different mixes, with large gluten-free labels, went on sale just as the cereal division was planning four more gluten-free Chex products: Honey Nut, Corn, Chocolate and Cinnamon. Gluten-free Bisquick pancake and baking mix was in the works, too. Then General Mills asked Dom Alcocer to rebrand the Web presence behind its gluten-free business strategy. Alcocer, in his four and a half years at General Mills, had previously marketed soup and cookies — he liked his gluten. But once tapped for the job, he lived gluten-free for 40 days and began building GlutenFreely.com.

General Mills reached out to the nation's top experts on the topic — Fasano and Guandalini — and asked them for medical advice and scientific guidance. The science, Alcocer said, needed to be front and center. Competitors needed to be acknowledged, too; Alcocer believed customers should be able to buy their products on the Web site. And finally, Alcocer and others at General Mills have pushed for greater transparency: detailed ingredient lists showing which products were gluten-free.

It's the sort of thing that worries corporations. When a company labels a product gluten-free, then it absolutely has to be, or the consequences can get ugly. "We call that the R-word — recall," says Brenda Jacob, General Mills' manager of product labeling and regulatory compliance. "We don't want to go there." But in the end, Jacob listened. General Mills published a list of gluten-free products two years ago and continues to add to it today under the stewardship of Alcocer, who believes the company, not the customer, should bear the "mantle of anxiety."

General Mills won't disclose sales figures of its gluten-free products. But in statements to investors, the company has indicated that the strategy is working. Retail sales for Chex cereals, in the first quarter of the 2012 fiscal year alone, are up 29 percent. Meanwhile, Alcocer has been on the gluten-free-expo circuit, visiting half a dozen in recent months. He's not just a guy handing out samples, his colleague Alison Miller says. "He's a great face," she says, "of General Mills."

"Hey, everybody! Come on up and grab as many as you like. We've got Nature Valley bars. We've got Larabars. All flavors."

Alcocer was down off the chair now. But he was still working the crowd at the Gluten Free Expo in Utah, doing what he would later describe as "the circus-barking thing." It's an act. But not entirely. "We want to be what the brand is," Alcocer told me. "It's energetic, it's positive, it's happy — it's just living."

Toward the end of the day, he was embracing people. "Let's hug this out," he told one weepy woman, overjoyed by the products before her. Then Alcocer began to break down the booth, making sure to give away every last item, all the way down to the container of gluten-free chocolate frosting on the table for decoration.

The purpose of attending the expos is to connect with customers. But Alcocer has found a way to do the same thing back in Minnesota too. He often convenes a meeting of what

he calls the Gluten-Free Advisory Board — an official title for a very unofficial group of General Mills employees and on-site contractors who have celiac disease, have children with the disease or are gluten-free for other reasons. During the week of my visit to General Mills, eight women attended Alcocer's meeting. Lunch was served and questions were asked. Alcocer was interested in the holidays. What did they miss? What did they need? How could Gluten Freely make their lives easier?

The women talked about how hard it was to go to holiday parties and find nothing to eat for their children. They discussed the need for better pie crusts. Then one of them, Mary Podvin, raised a subject that resonated with everyone at the table: Casseroles. There was something, Podvin said, about gluten-free Progresso cream of mushroom soup that simply didn't work in the casseroles she loved to make. "It needs to be — "

"Gelatinous!" answered Dena Larson, from across the table.

"Glue," Podvin said with a nod. A gelatinous glue was exactly what cream of mushroom soup typically brought to a good casserole — and that's what they wanted now from their gluten-free recipes.

"Is that even possible, though?" Carol Bagnoli, whose 3-year-old son eats gluten-free, asked.

"Anything," Alcocer replied, "is possible."

The women at the table laughed. The notion that anything is possible isn't one that gluten-free folks hear very often. But Alcocer wasn't joking. It was, he told me after the lunch, "a holy-moly moment." He had no idea that casserole was a problem for his customers. There were, after all, recipes for casseroles on the Gluten Freely Web site. "But if it doesn't turn out," he said now, "it's no good to anybody. So we're going to go down to the kitchen, and we're going to say: 'We need help. These people need help.' How can we get that can to become *that* can?" In other words, how could they get a can of gluten-free Progresso soup to act like the can of condensed soup called for in the recipes that his customers loved? "There's got to be a way," Alcocer said, "to take this great product and make it work."

And it was this exchange, perhaps more than any other, that signified, to me, how much the cultural fault lines have shifted. For generations, major corporations have ignored people with food allergies. The goal was feeding the masses.

Now that is changing. Gluten-free foods — none of which taste like cardboard — fill my kitchen cabinets and those of millions of other Americans. A niche market is going mainstream. Long before General Mills unveiled its first official gluten-free product, consumers had made their needs known in phone call after phone call to Minnesota. The global trend data were there, laid out before the marketers, and so was the science — until, finally, it was clear: These customers needed to eat, too, and there was money to be made in feeding them. "It's millions of people," Alcocer told me, "with nowhere to turn, but us."

Keith O'Brien is a freelance writer and the author of a forthcoming book on high-school basketball.

Editor: [Dean Robinson](#)

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