THE FUTURE OF FOOD

By Joel Schettler

CONSUMERS ARE CHANGING THE WAY WE EAT, AND HOW WE GROW AND PRODUCE FOOD.

Dramatic shifts in consumer preferences are reshaping the food production chain. As millions of millennials enter the middle class, they will bring with them consumer preferences that will turn the way we have traditionally thought about food on its head.

Out are processed foods by recognized brands whose mass-market appeal was convenience. In are concepts such as fresh, local and sustainable.

Millennials, who analysts say will be even more dominant in the marketplace than baby boomers, are writing a new script. And one of the biggest demands atop their list is transparency.

This once-in-a-generation seismic shift in food preferences will undoubtedly cause short-term confusion, yet may also uncover an emerging market, presenting a growth opportunity for food producers, processors and manufacturers.

Enlightened Eating

When you think about the history of technological change and food over the past 20 or even 100 years, little has changed, says Lynn Dornblaser, director of insight and innovation for Mintel, a food market research company. We eat a lot of the same sorts of foods our grandparents ate.

It's true that technology around food has changed — with food canning going as far back as Napoleon and more recent development of microwave cooking, she says. "Those are some significant technological >

Scientists at the CHS Innovation and Technology Center in Eagan, Minn., test the properties of soy isolates, which are used in food products. From left are Erica Flynn, director of global research and development; Joseph Harvey, lab assistant; and Eileen Mead, sensory program manager.

The organic industry has shown steady growth, with 10.8 percent growth in 2015, well above the overall food market gain of 3.3 percent.

> changes, but they aren't large in number. And it isn't like they profoundly changed what we eat."

What has changed is the focus on what's actually in food. Dornblaser suggests what's old is new again, as we have returned to a preference for how past generations ate: real whole foods in moderation.

"The biggest thing about the future of food is going to be about transparency," says Dornblaser, "in terms of where foods come from and how they are processed, what happens to the food from the time the ingredients are grown or manufactured to the time you take it out of a package."

This generational shift in concern about health and food safety is largely driven by millennials, a demographic consumer juggernaut of more than 75 million young people born in the 1980s and '90s.

Millennials' food preferences and habits were shaped by a series of well-publicized food scares during their youth, says Dornblaser. They also grew up learning how to read a food label, coming of age after the Nutrition Labeling and Education Act (NLEA) of 1990 required all packaged foods to contain nutrition labeling and all health claims. Definitions for "low fat" and "light" were created during that time.

"They were taught they couldn't bring snacks to school that had peanuts in them, because they could kill somebody," says Dornblaser. "They have grown up being taught to be more afraid of food and what's in it."

Dave Sheluga labels this trend "enlightened eating," a movement food manufacturers started to see as early as 2009, when consumers began a marked shift away from processed foods toward "natural" products.

"These are products with short ingredient lists that reflect purity in food, free from artificial colors, flavors or science-y sounding ingredients," says Sheluga, who monitors eating trends as director of consumer insights for Ardent Mills, a CHS joint venture with Cargill and ConAgra.

The movement's impact hit the consumer packaged goods industry hard in 2013, he says. "The wheels came off and sales fell apart for major manufacturers." Between 2009 and 2015, the top 25 U.S. food and beverage companies lost $18 billion in market share, according to Credit Suisse analysts in a recent *Fortune* magazine special report.

In recent years, sales for products related to the enlightened eating movement have shown double-digit growth, says Sheluga. By contrast, grocery products making traditional nutrition claims such as low-fat, low-carb, low-calorie, low-sodium and whole-grain are "just trundling along," remaining flat over the past five years.

In 2015 and 2016, consumer packaged goods companies responded in a powerful way, Sheluga says, evident in "all of the announcements ranging from cage-free eggs and hormone-free meats to no artificial colors, flavors or preservatives. Today, retailers and food manufacturers are scrambling to have shorter, cleaner ingredient lists."

Telling a Story

Mass market consumption has changed. Consumers now judge a product not only on its merits, but also on what its purchase says about them and the world.

A purchase decision today sends more information through a supply chain than simply demand. It may have just as much to do with how a product is made and what the brand stands for as it does with the product's utility. For a growing number of consumers, products made from environmentally friendly materials or services aligned with charitable activity have higher value.

The formula is simple: Consumers expect large companies to do the heavy lifting — use sustainable ingredients and recyclable packaging, be good to the environment and good to workers, says Dornblaser. "Consumers buy those products and feel they're doing some good."

The same forces have shaped the market for organics, the fastest growing section of the supermarket, says Todd Watson, director of sales and development, CHS Processing and Food Ingredients. "Is this driven by sustainability? Nutrition? I think it's all of those things, but what's really driving it is the fear factor: Consumers don't trust what's being put forward, but with organics, they believe the food has been raised in the most minimally intrusive manner."

Transparency on the part of manufacturers and producers is one reaction to this loss of trust felt by certain consumers and advocacy groups, says Sheluga. "All companies need to be on guard in order to be transparent ahead of the criticism, to not become the next target."

Organic sales have increased from $3.6 billion in 1997 to $43.3 billion in 2015.

The simplest way to convey that transparency, Sheluga suggests, is telling a story. "Whether that story talks about the heritage of a company or its innovation, it's important," he says. "Enlightened eating reflects the desire for local, family, farm-to-table stories that are authentic and compelling. All of those contribute to a sense of trustworthiness."

Product labels, issued by independent organizations, such as GMO Verified, offer clues to consumers about the efficacy of the product's supply chain. While 68 percent of consumers still say they're confused about what certain ethical icons mean, according to Mintel research, certification is still valuable to many food brands, including those of manufacturers who purchase ingredients from CHS.

Regardless of preferences around the GMO issue, CHS will continue to remain flexible to work with its manufacturing customers to meet market demand, says Watson. "What it means for CHS is having a closed production system with guardianship from the producer through to the elevator onward to the processing of the ingredient customers want to buy. That's a huge advantage for us."

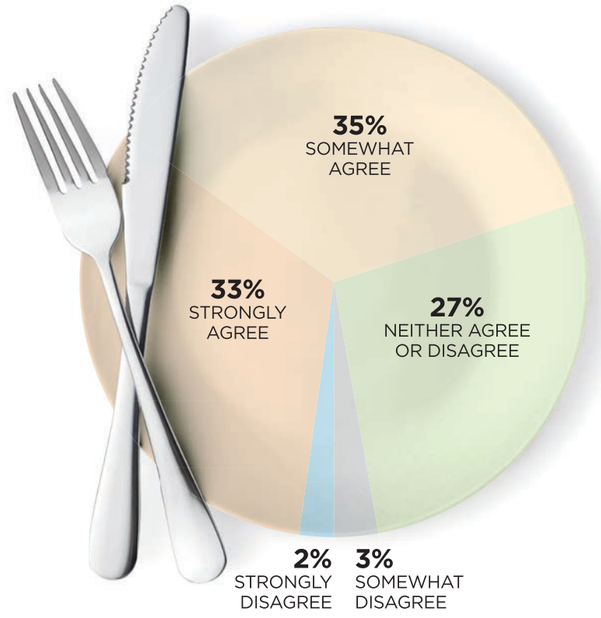
Consumers and CHS manufacturing customers "buy the why," says Watson. "The way we treat our employees, the way we deal with our producer- and co-op-owners in our business practices, the quality of products we put forth to other big-name companies — it all feeds into the question: Do I want to do business with this company or not?"

Enlightened eating will be a boon for food providers who rise to meet demand, says Dornblaser. Non-GMO soybeans, for example, will continue to have a growing share of the marketplace for the near future, offering producers a higher premium. Alternative protein sources have also become popular, she says, from meat replacements to alternative dairy beverages.

Part of the storytelling, once again, relies on the theme of what's old is new. "The days of carbohydrates being bad feel like they are mostly gone," says Dornblaser. "Instead, consumers are focused on a variety of grains. With so many grains offering a lot of protein, I don't see the interest stopping at all. For crop farmers, that is very good news."

At Ardent Mills, research is being conducted on ancient grains, particularly wheat. "Heirloom wheats, which may >

CONSUMERS SAY: "I want to see more transparency in food ingredients."



Source: Free From Food Trends, U.S., May 2015, Mintel

have been used in colonial times, can tell a story," says Sheluga. "They reflect a return to simpler times, when things were less affected by science — much more natural and untampered with."

From Farm to Fork

The FDA is beginning to take a more proactive response to protecting public health, rather than simply responding to problems as they occur.

In response to food scares of the early 2000s and growing concerns about security, the Food Safety Modernization Act (FSMA) was signed into law in 2011, giving the FDA a new set of tools to crack down on foodborne diseases, which affect one in six Americans each year. The tools include preventive controls for food facilities, mandatory produce safety standards and sanitary transportation measures, many of which are beginning to go into effect.

For CHS and other food processors, the past year has been spent fine-tuning fundamental practices of design and quality control, says Erica Flynn, director of global research and development, CHS Innovation and Technology Center in Eagan, Minn. "This work has been significant across the industry. You can see that there's a lot of focus on higher SQF [Safe Quality Food] certification," a quality standard recognized by the Global Food Safety Initiative.

The CHS soy processing plant at South Sioux City, Neb., recently achieved SQF level-three certification, says Flynn, as have CHS soy plants at Mankato, Minn., and Creston, Iowa, and the canola processing plant in Hallock, Minn.

At the innovation center, Flynn and her team work with CHS processing plants to ensure regulations are followed and food products are consistently and safely manufactured. The team also works with manufacturers of consumer food products to supply them with ingredients that meet taste and content specifications — non-GMO soybeans, for instance.

Recent FDA response to food scares reinforces the trend toward transparency, attracting even more consumer attention to the food production chain. In an effort to strengthen the notion of supply-chain integrity, one new FSMA requirement places greater requirement on processors.

"In the past, the burden of making sure what was being done with our products was safe was solely on our customer," says Flynn. "Now there is some responsibility on ingredient sellers to clearly communicate and understand how manufacturers are using ingredients and that what they are doing complies with the law. That's a big step."

From a manufacturing, food safety or consumer preference perspective, it's becoming increasingly important to track food ingredients from their source.

Something Different

For decades to come, millennials will dictate what's stocked on grocery shelves and perhaps what happens in fields. As a result, young producers may have an opportunity to meet changing demand by devoting effort and acres to something new.

Sara and Mark Hewitt raise corn and non-GMO soybeans near their Kilkenny, Minn., home. Like many young farmers, they plan to continue to work off the farm until they're able to make the leap to full-time farming. Raising their 18-month-old daughter, Harper, and home renovations fill any free time left in their busy schedules.

In addition to raising corn and soybeans near their home in Kilkenny, Minn., Sara and Mark Hewitt keep bees and sell honey. Like many young producers, the Hewitts are eager to test new ideas and engage with consumers about what life is really like on the farm.

While Sara, 26, and Mark, 28, grew up on farms and understand the economics of commercial agriculture, they're eager to test new ideas and connect with consumers, young and old, in new ways.

Sara works with other women producers at CommonGround (FindOurCommonGround.org), a website created by the National Corn Growers Association and United Soybean Board that informs consumers about where their food comes from to diffuse misunderstandings.

"People are two and three generations from the farm," she says. "They've never been to a farm; they don't know a farmer; they don't understand what we're doing every single day, or the thought and process that goes into it. That makes our job a lot harder."

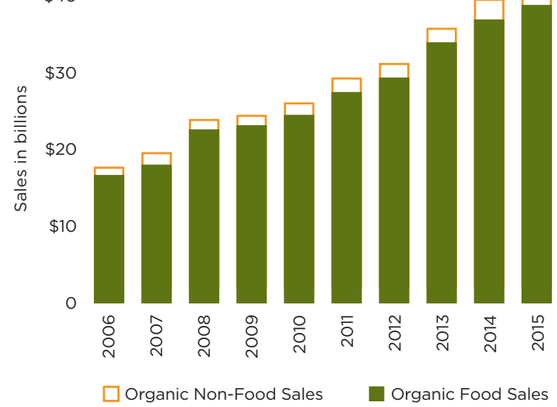
Beginning in 2014, the couple began keeping bees and selling honey (sweetcheekshoney.com). Last fall, they invested in a modern honey extractor to improve production time. The side venture not only offers an alternative income from their operation, but it also provides another way to speak with people about farming.

"When you are growing cash crops, you don't always get to talk directly with your customers," says Sara. "The honey was an opportunity to make that correlation and make that relationship. And it opens the door for a lot of questions, so it is an opportunity [for customers] to understand what we are doing."

As the market continues to grow for non-GMO soybeans with high protein content and other desirable traits, the Hewitts will continue to grow them, Sara says. The couple is already at work on other new ventures, reconfiguring their land and finding financing for a small cattle herd. And plans are underway to grow hops for the budding craft brewery industry that has reached rural Minnesota.

"When you want to try something new and different, that's risky," says Sara. "As a farmer, you have to adjust if you want to stay relevant, and if you want to make the extra dollar and have that added-value product. That is where the trends are going. It's easy to talk about the benefits of a product, but if people aren't demanding it, you're not going to stay in business. It's a hard thing to realize, and it's hard to adjust." ■

SEE MORE — Take a video tour of the CHS Processing and Food Ingredients soy processing plant in Creston, Iowa, at chsinc.com/c.



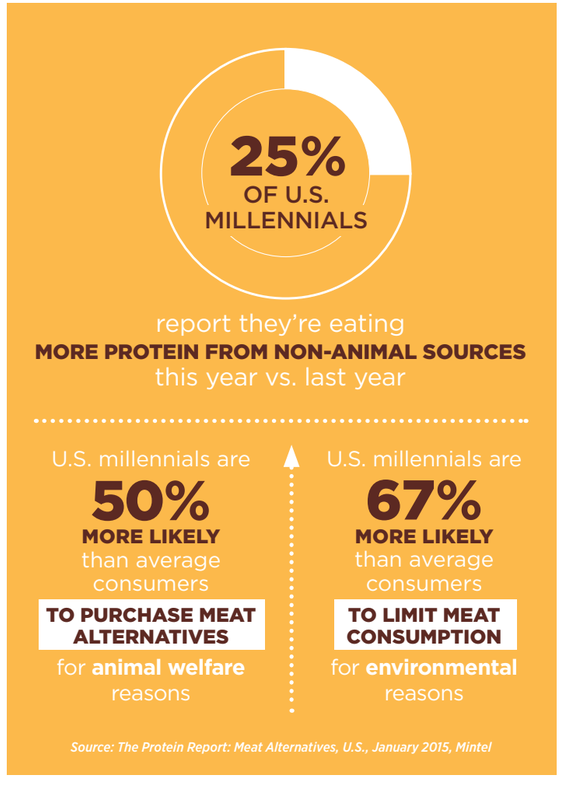
Source: Organic Trade Association

What Is Organic?

According to the National Organic Program of the USDA, to be called "organic," food must be produced without the use of conventional pesticides, petroleum-based fertilizers, sewage-sludge-based fertilizers, herbicides, genetic engineering (biotechnology), antibiotics, growth hormones or irradiation.

Land must have no prohibited substances applied to it for at least three years before harvesting an organic crop. Animals raised by an organic operation must meet animal health and welfare standards, be fed 100 percent organic feed without antibiotics or growth hormones and have access to the outdoors.

Source: Certified Organic Survey 2015 Summary



Source: The Protein Report: Meat Alternatives, U.S., January 2015, Mintel