

COLORS AND FLAVORS REVOLUTION

Why Big Food Is Finally Catching On



FOODREV

One day soon, you'll be able to dive into a bowl of Lucky Charms for breakfast, stop for a mid-morning croissant at Panera, eat lunch at Noodles & Co., beat the afternoon slump with a Butterfinger, let the gooey comfort of Kraft Mac 'n Cheese ease away your stress and end your day with sweet Kisses from Hershey's and never consume an artificial color or flavor.

Just a few years ago, this scenario would seem as likely as the Lucky Charms leprechaun popping out of your cabinet and magically lowering your blood sugar level. Today, however, Big Food companies are racing to dump artificial flavors and colors from even the most iconic brands.

Natural products companies have been feeding Americans without Red Dye #40 and Yellow #5 for 40 years. Why is Big Food changing their ingredients now?

In this guide, we'll explore the forces behind the shift and the challenges that can come with using natural ingredients.

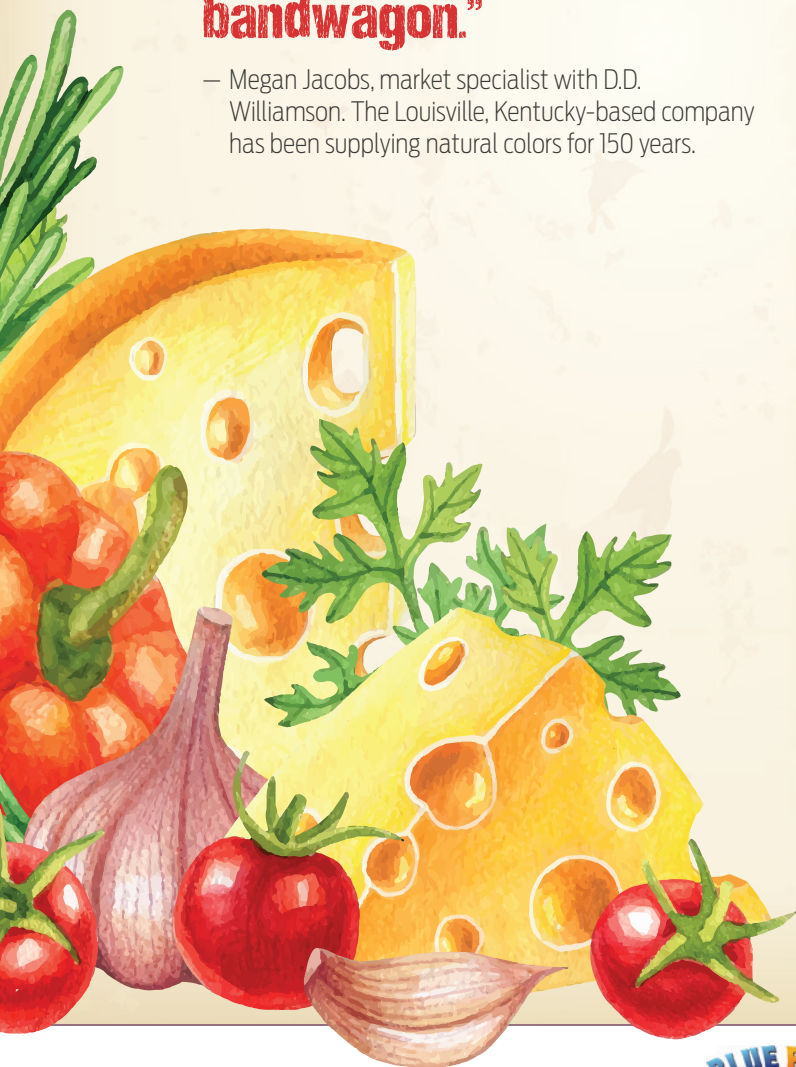
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THE DOMINO EFFECT

“What we’re seeing now is a domino effect. No one wants to be the last company to jump on the natural products bandwagon.”

— Megan Jacobs, market specialist with D.D. Williamson. The Louisville, Kentucky-based company has been supplying natural colors for 150 years.



One of the key bricks that started the Berlin Wall of artificial Big Foods to crumble was royal blue. In April 2015, Kraft announced it would replace artificial colors with natural ones in the “blue box,” the company’s iconic Macaroni & Cheese Dinner. The gauntlet was thrown, and it was neon orange. Other companies followed suit. Pepsi decided aspartame was not the Choice of the New Generation, at least not in Diet Pepsi. Subway’s five-dollar foot-longs would no longer contain the foot-long ingredient azodicarbonamide (popular in yoga mats). Panera’s would toss 150 artificial ingredients on their “No No List” from all recipes. General Mills vowed to strip artificial ingredients from the 40 percent of its cereals that still had them, including the Technicolored Trix. Natural Froot Loops would follow, with Kellogg’s promise to toss artificial ingredients from its brands. Pizza Hut and Taco Bell are going natural. Even Micky D’s has announced plans to “simplify” its ingredient list.



The bandwagon is certainly rolling. In 2014, natural flavors actually overtook artificial flavors in the global flavors market, according to a report by Allied Market Research. According to AMR: “The natural flavors segment took over the lead to hold the majority of share in terms of value, with a strong demand for organic processed food and beverages driving growth in this segment. The growth outlook for natural flavors remains strong while synthetic flavors may witness negative growth.” AMR predicts the global flavors market to reach \$15.2 billion by 2020.

WHY CHANGE

The radioactive color of Kraft's Mac & Cheese Dinner is so embedded in the American kitchen there might as well be a glowing orange stripe added to Old Glory's red, white and blue. Why change it? Customer demand.

Sixty percent of Americans say having no artificial colors and flavors is important to their foods purchase decisions, according to Nielsen's 2014 Global Health & Wellness Survey. According to the 2015 edition of that survey, Americans are ready to pay more for healthy foods, including those without artificial colors and flavors.

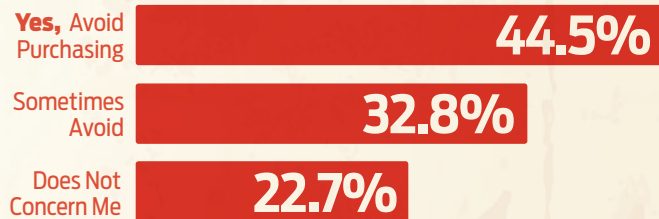
"Everything we do starts with the consumer and we know that consumers are increasingly interested in the ingredients used in their food," says Lauren Pradhan, senior marketing manager at General Mills. "According to a large Nielsen study we conducted, 49 percent of households are consciously reducing or avoiding artificial flavors and colors. The decision to remove artificial flavors and colors from our cereals is simply about listening to consumers and giving them what they want."

Increasingly, what they want is to eat fewer artificial ingredients. In 2014, 9,301 products with an "all-natural" proposition launched worldwide, according to Mintel's Global New Products Database. That's 13 percent more than in 2013 and a whopping 58.5 percent increase over 2012.

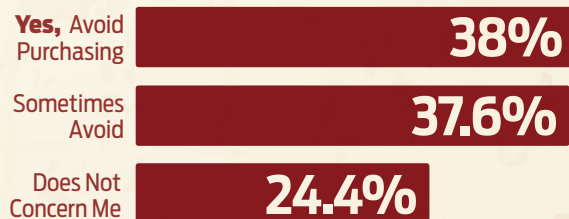
A Nutrition Business Journal survey of 393 respondents that consider themselves "natural products" consumers, 71% stated that they strongly avoid or avoid at all cost Artificial Colors.

A New Hope Natural Media Google survey of 500 in the general US population questioning attitudes about avoiding Artificial Flavors and Artificial Colors produced the following results:

Do You Try And Avoid Purchasing Products With Artificial Flavors?



Do You Try And Avoid Purchasing Products With Artificial Colors?



Results for respondents with demographics weighted by age and gender. (362 responses)



WHY NOW

Three powerful cultural shifts are pushing Big Food over the ingredient tipping point, according to Eric

Pierce, director, strategy and insights for New Hope Natural Media. The biggest is a growing consumer awakening.

"Consumers are becoming more aware of what's in their food, understanding it better and connecting with where it came from," he says.



Doing so is easier than ever before. A decade ago, you had to drive to Blockbuster and back to see a movie like Food Inc.

"And very few people were watching food documentaries," he says. "Today, with Netflix, they're just a click away."

So is information about what people are eating. "If consumers have any question about their food, answers can often be found with a few swipes," says Jean Shieh, marketing manager at Sensient Natural Ingredients, a Turlock-California-based flavor and fragrance supplier. Through outlets like social media, more and more consumers are gobbling up content about health and wellness trends. It's also much easier for consumers to tell companies what they want. Kraft claims their mac 'n cheese ingredient swaparoo wasn't a result of the 270,000 petition signatures a couple of bloggers delivered to their corporate HQ, but companies are finding it hard not to hear the public clamoring for cleaner ingredient lists.

The erosion of consumer trust of big organizations is the second shift. **"People are increasingly less trusting of the big organizations in our lives,"** says Pierce. "We see trust for our police force challenged in the media every week, trust for politicians is at an all-time low." A recent *New Hope/NBJ* Poll showed that 45 percent of people believe that big companies are driven primarily by greed.

With consumers learning more and trusting less it's an ideal time for people to stop and re-evaluate their purchasing habits. And their values are shifting. "Consumers are now saying that the brand on the front of the package is not as important as what's in the package," says Pierce.

"We know that consumers' relationship with food is changing and we are making changes to our products and ingredients that are responsive to what consumers want," says Hershey spokesman Jeff Beckman. That changing value equation is the third force pushing Big Food away from artificial ingredients. There's enough disruption in the conventional food and beverage industry that even the biggest players have gotten serious about reformulating their most traditional brands to meet consumer needs, according to Pierce.





It's clear that our world has changed and our consumers have changed, and our company has not changed enough."

— John Cahill, Chairman and CEO, New Kraft Foods Group

The disruption is so brutal that Fortune magazine recently called it the "War on Big Food" in an article that detailed how major packaged-food companies lost \$4 billion in market share just in 2014. For these companies, it may be change or die. New Kraft Foods Group Chairman and CEO John Cahill summed it up, as quoted by Crain's: "On the whole, I think you'd agree that 2014 for Kraft was both difficult and disappointing. It's clear that our world has changed and our consumers have changed, and our company has not changed enough." Upon his arrival, the company's CFO, chief marketing officer and the executive vice president of research, development, quality and innovation were sliced off the executive masthead as cleanly as Yellow Number 5 and Number 6 were sliced off the ingredient list.

"As sales have lagged year over year, many big companies faced two choices," says James Tonkin, president of Scottsdale, Arizona-based Healthy Brand Builders, who has spent 40 years in the CPG industry working with emerging natural brands and conventional big food brands. "They could ride it out until the brand dies, or make some effort to not lose these people [who are interested in fewer artificial ingredients] and meet them part way. "Very few companies have gone completely natural, removing preservatives in addition to artificial colors and flavors. "They take one step, then another half step... then they bang the gong loudly."


CHALLENGES: SUPPLY

Even the combined might of cereal super powers like General Mills and Kellogg's can't quickly and easily source enough natural ingredients for the country's breakfast bowls. Finding the supply to meet the demand for natural ingredients is one of the biggest challenges facing companies making the shift, says Kantha Shelke, PhD, food scientist/principal at Corvus Blue LCC, a Chicago-based food science and research firm. "It's not easy to turn a popular brand overnight into one with natural colors and flavors because there are simply not that much natural color and flavor ingredients in the world that can match certain specification, like synthetics can," says Shelke, who is also a spokesperson for the Institute of Food Technologists.

A sudden demand for more Blue #2 can be solved by pressing a few buttons. Filling a similar need for more annatto, the ingredient Nestle will use for Butterfinger's crispy center that comes from seeds from achiote trees, is not that simple. You can't reprogram Mother Nature. And, she doesn't always cooperate. For example, this year weather nearly squashed pumpkin ingredients, says DDW's Megan Jacobs: "There was a shortage of pumpkins in the U.S. due to all the rain. We mitigate risks here by sourcing globally, allowing us to have another approved supplier if something like this looks like it will have an impact on our supply."

MILLENNIALS

Millennials, those young masters of social media, have been a major force behind Big Food's changing ingredient list. "Given their focus is on ingredient and labeling transparency for 'natural' and organic food and beverages, they wield significant weight in moving the conversation from the internet into the grocery aisle," says Donald Wilkes, CEO and President of Blue Pacific Flavors, based in City of Industry, California, who has spent 35 years in the industry. "Although they're still not buying the majority of natural foods, their influence is changing the way Big Food looks at their conventional food product formulations and the future challenges what will impact their respective market shares if the products are using ingredients like artificial flavors or colors."



Just because natural ingredients are available, doesn't mean they're easily slipped into the supply chains that will eventually lead to a Butterfingers bar. The differences in global regulations is another huge issue facing companies seeking to use natural ingredients. "There are significant and diverse regulatory and labeling challenges for multinational food and beverage companies and their respective supply-chain to navigate; whether its addressing the new GHS (United Nations Globally Harmonized System for Classification and Labeling of Chemicals) labeling regulations or understanding the difference in 'natural flavor and natural color' definitions and finished food labeling between the U.S. and the E.U.," says Blue Pacific's Wilkes. For example, EFSA has different risk policies on health claims than the U.S. FDA and the sometimes conflicting policies play out in the global market depending on the regional regulatory governing body. There's some hope that things may get simpler in the future, says Wilkes, with more countries moving toward accepting CODEX (standards from the Food and Agricultural Organization of the United Nations). That body's efforts "to establish usage limits for all additives will lead to fewer international regulatory barriers," he says.

NATURALLY CHALLENGING

Natural flavors and colors can be more difficult to work with than artificial ones. "They tend to be less stable in the face of everyday environmental and processing conditions such as UV light, pH and external temperatures," says Tammi Higgins, Head of Global Coloration Business Unit at Lycored, an international developer of natural value-added carotenoid ingredients. But companies have been developing solutions for years. Since Lycored pioneered the extraction of lycopene from their own specially-bred tomatoes, they've developed a portfolio of technologies, formats, delivery systems and synergistic colors that overcome stability issues, including the ability to customize particle size for each application.

Innovations in process and packaging are also helping companies overcome challenges inherent in natural ingredients. For example, they can switch when in the production process they add a certain ingredient, explains DDW's Jacobs. If a confection maker wants to use a heat-sensitive color like spirulina or beet, they can add the color after the sugar solution has boiled rather than adding it in the beginning as they might with synthetic colors. "This prevents the color from degrading and allows it to still have the bright, colorful look commonly associated with confections" she says.

Neon yellow, heat-stable turmeric is great for coloring beverage—except for the fact that it fades when exposed to light. "Manufacturers can change over to an opaque bottle or use a label that covers the entirety of a clear bottle, which will protect the color," says Jacobs. "These changes are simple, but effective."

While R&D departments continually improve natural color formulations, some colors remain tricky to replicate naturally in some formats. Creating natural Jolly Ranchers with reds and greens that are as vibrant as synthetic candies remains a challenge for Hershey, according to the company's website. Trix fans will have to deal with a world without blue and green crispies in the naturally-colored version of the cereal. "Marbits," the brightly-colored mini marshmallow in Lucky Charms continue to stymie cereal scientists.

Can Americans live with duller Marbits? Yes, says Stephen J. Lauro, of colorMaker, Inc., a custom natural color manufacturer based in Anaheim, Calif. "It appears the consumer is finally OK with the muted, softer, pastel visual appearance produced by some natural colors," he says. "We've found that resistance to less fluorescent products is often more a perception that manufacturers have than an actual consumer reaction," agrees Mike Cammarata, Research Scientist with Philadelphia-based FMC Health and Nutrition.



NATURAL IS DIFFERENT



Because of changing environmental conditions, this year's batch of habaneros may not pack quite the punch last year's did—which presents an issue for flavor suppliers seeking consistency. Americans have grown to believe that consistency is quality, says Shelke. It's difficult to get the consistency of color and flavor of synthetics from naturally occurring ingredients. "One batch is bound to be different from another and should products from two different batches show any subtle but noticeable differences in appearance or taste, then manufacturers have to explain to consumers (or retailers) that variation is normal and within acceptable ranges."

Some suppliers, like Sensient Natural Ingredients, work around the differences between batches, as they do with their chili pepper flavors. "To minimize the batch-to-batch variations, we offer a wide range of chili blends tailored to our customer's specification," says Sensient Marketing Manager Jean Shieh.

But there's work to do to help the public understand nature's variety. It's a difficult concept in a market where identical, perfect tomatoes line market bins. "Making natural colors or natural flavors the new normal means educating consumers on the inherent variance in nature," food scientist Shelke says.





Just because something has a scary-looking name and is hard to pronounce, does not necessarily mean the ingredient is harmful (or artificial).

— Megan Jacobs, market specialist with D.D. Williamson.

Customers also need more clarity about the difference between natural and synthetic.

Colors can be derived from natural sources and still be considered artificial because the color is not inherent to the products, explains Jacobs. For example, a company that makes strawberry yogurt can only claim “no artificial colors” if it gets its color from strawberries and nowhere else. If it gets its pink from natural beet color, it doesn’t qualify for the designation, even though the beets are natural. There are also nature-identical colors created in a lab. They’re chemically identical to natural colors, but since they’re produced in a lab, they’re considered synthetic.

Ingredient names can also confuse consumers, says Jacobs, pointing to people who don’t want to eat anything they can’t pronounce. “But just because something has a scary-looking name and is hard to pronounce, does not necessarily mean the ingredient is harmful (or artificial). For example, Diferuloylmethane — which even took us a few tries to pronounce — is another name for curcumin, a common, natural color found in turmeric.”

And, still, the word that’s easy to pronounce, yet apparently impossible to define, still muddles the issue. Agreement about what constitutes “natural” remains far out of reach. So far, lawsuits and the FDA have both failed to provide a definition, reports *Nutrition Business Journal* in its clean label issue. A *Consumer Reports* poll found the term so “misleading, confusing and deceptive” that the group launched a campaign to ban the word from food packaging.

MORE EXPENSIVE BY NATURE?

Are natural ingredients always more expensive than artificial ones?

Not necessarily, according to FMC's Cammarata. "Often, we're able to find a natural color alternative with acceptable hue vibrancy and stability at or below the cost-in-use expectation." When they don't, he explains, it's important to put the price into context for customers and explain the vibrancy and stability advantages that make the more expensive solution worth the fractional increase in cost.

Companies continue to develop innovative processes and formulas to keep the natural tab low. For example, DDW has created a class I super yellow caramel color that can be blended with either turmeric or beta-carotene to help manufacturers reduce the cost of some of the more expensive natural colors. Blending it with turmeric cuts the cost by 33 percent says Jacobs. Mixing it with beta-carotene slashes expenses by 28 percent

Big Food companies are able to absorb higher costs of natural ingredients and avoid passing the bill onto the consumer. "They shouldn't have to pay more for a product that doesn't have artificial flavors," Paul Bakus, head of corporate affairs with Nestle USA told *USA Today*.



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WHAT'S IT MEAN FOR NATURAL VETS?

Forty years after pioneers sprouted the seedlings that would grow into the natural products industry, Big Food is finally catching on. What does it mean for the companies that have been producing food without artificial flavors and colors all along?

Looking at the big picture, the change is good, says John Foraker, President of Annie's Homegrown, which is owned by General Mills. "Annie's has been a leader in the natural and organic food space for more than 25 years, providing cleaner alternatives to conventional foods consumers love," he says. "Food values in America have changed, and big food companies are cleaning up their products. We think this is a great thing, not only for consumers, but for the larger food system and the planet we all share."

Big Food's shift to more natural ingredients means it may become easier for the little guys to find those ingredients. "It means more markets for innovative and natural products for ingredient suppliers," says Timothy Moley, founder, president and CEO of Boulder, Colorado-based Chocolive. "It means ingredient

suppliers will likely be more ready to handle our new requests for clean, safe natural certified ingredients."

The tougher competition among companies targeting people seeking to eat healthier foods is also a positive factor, according to Foraker. "The competition from both existing and new food businesses is a good thing because it represents a shift that will positively impact the food industry," he says.

Industry strategist Eric Pierce agrees. "Whenever the center of an organization shifts, it gives the idealists the opportunity to go one step more, to push the envelope even further." Now that Big Food is reinforcing what natural companies have been doing all along, there's opportunity for those companies to do even more, and do it even better, with innovative flavors, higher quality and consumer education so that the public appreciates the distinctions. "Now that everyone wants to play in the natural space," says Pierce, "we simply need to do it better."



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