In recent months, several major food producers have announced that they are phasing out the use of artificial color agents and replacing them with colors from natural sources. Earlier this month, Kellogg, the largest producer of cereals in the world, announced that it will completely eliminate artificial colors from its line of cereals and snack bars by the end of 2018.[1] The announcement comes on the heels of similar claims by cereal giant General Mills earlier this year. Cereals and snacks, however, are not the only food products being affected by the move toward natural ingredients; Kraft, Nestle, Hershey, Pizza Hut, Taco Bell, and Panera have all recently made commitments to remove artificial colorants from all or part of their product lines.[2] As companies develop new formulas and recipes for beloved products, spectrophotometry can play a critical role in the creation of new color blends and ease the transition toward naturally-sourced dyes.

The Effects of Artificial Food Coloring

The change in food production standards is a response to the general surge of public interest regarding nutrition and health. However, it also addresses some very specific concerns regarding the effects of artificial colors on children, specifically links between artificial coloring agents and Attention Deficit Hyperactivity Disorder (ADHD) and other behavioral changes. Recent studies showing increased hyperactive behavior in young children following consumption of certain synthetic food dyes have spurred the European Union to require foods containing the dyes to display labels stating that the product "may have an adverse effect on activity and attention in children."[3] The FDA, however, did not follow suit, much to the frustration of researchers in the US. Dr. Joel Nigg, a professor at Oregon Health & Science University, whose own studies have found evidence of hyperactive responses to color additives, says: "The literature here is so sparse that on the one hand you can sympathize with those who want to take a wait-and-see attitude. But on the other hand, when we do look at the literature we have, it's surprising that we do see effects that seem to be real. Do you want to take a chance that these initial studies are wrong and put kids at risk or do you want to take a chance that they're right? We have to work on the data we have."

Color Sources Affect Purchasing Decisions

While the FDA does not feel the evidence is conclusive enough to warrant special labeling, many parents are already avoiding synthetic food color additives. A recent study by Kalsec, a food color and flavor company, revealed that 80% of American and British parents with children between the ages of 3 and 12 report that they "are concerned about the use of synthetic colors in food and beverages for children," and that red dyes are of particular concern due to its potential link to ADHD.[4] Eighty-three percent of parents said that they would be more likely to purchase food containing naturally-derived colors and 70% said that they would be willing to pay more for those foods.

The Natural Way Forward with Spectrophotometry

As artificial food coloring is phased out, food manufacturers will need to refine their recipes using naturally-sourced additives to match the appearance of their current product lines as closely as possible to meet customer expectations. This can be challenging, as natural dyes tend to be less vibrant and require more material to produce the same color intensity, thus increasing costs. Spectrophotometry offers highly-detailed color measurement capabilities to aid in the creation of new color blends and allow food producers to precisely recreate their existing color palettes. Spectrophotometry is also vital to the development of new color standards; once a recipe has been perfected, ongoing color measurement ensures that products maintain consistent visual appearance to maximize appeal. The continuous in-line monitoring offered by today's sophisticated spectrophotometric instruments minimizes waste and optimizes the efficiency of production lines, helping to keep costs in check. The integrated height measurement capabilities of spectrophotometric instruments such as the SpectraTrend HT make them ideal for measuring textured food products. By choosing the right tools, the food industry can handle the move towards natural color with ease.

Full article with photos available here:

https://www.hunterlab.com/blog/color-food-industry/naturally-delicious-spectrophotometry-can-help-food-manufacturers-make-the-move-away-from-artificial-colors/