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The Case For Fortification

How Manufacturers Can Recognize the Value of Added Nutrients

Though consumers may not be familiar with the fortification process, families across the globe have benefitted from it for decades. During food fortification, food manufacturers add vitamins and nutrients to a product that does not naturally contain them, or contains low levels, which can make the food a good or excellent source of those nutrients.

Attempting to reach all of the recommended intake levels of nutrients through a combination of food alone is extraordinarily difficult, according to Alice Wilkinson, vice president of nutritional innovation at Watson, Inc., a premier supplier of nutritional premixes and products for nutritionally beneficial ingredients for food products. Someone would have to eat 11 bananas per day just to equal the U.S. Daily Value for potassium determined by the National Institute of Medicine and the Food and Drug Administration (FDA); therefore, fortification can be an opportunity for nutrition-minded consumers.

"It's almost impossible to get the nutrients you need from diet alone," Wilkinson says. "People may not realize that what they believe to be a healthy diet can be deficient in nutrients."

Food fortification began as an effort to eradicate vitamin and mineral deficiencies to prevent particular medical maladies. Now, food fortification advocates worry that interest in "clean label" ingredient listings may lead manufacturers to de-fortify their foods.

"Vitamins need to be recognized as healthy and not harmful," Wilkinson says. "And they need to be seen as required and not niceties."

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Alice Wilkinson, vice president of nutritional innovation at Watson, Inc.

Food Fortification Through the Years

- **IODINE:** In 1920, scientists David Marine and O. P. Kimball found that iodine deficiencies could account for high incidences of goiter in certain regions of the country, according to a report on food fortification's history. Salt companies agreed to fortify iodine in table salt to boost national iodine intake. In Michigan, the rate of children with goiter decreased from 35% to 2.6% between 1924 and 1935. Iodized salt became more popular and is still available today.

- **VITAMIN D:** Dairy products were fortified with vitamin D to lessen incidences of rickets in children. The deficiency can lead to weakened bones, causing pain and delayed bone growth. Though vitamin D fortification was never federally mandated, it became popular among consumers and led to decreases in vitamin D deficiencies and lower rates of rickets (however, there are signs that rickets is on the rise, in part because parents now buy less dairy products for children).

- **FOLIC ACID:** Incidences of neural tube defects (NTBs) such as spina bifida dropped dramatically after folic acid fortification in cereal grain products was mandated in 1998. Fortification was especially helpful to pregnant women by addressing the deficiency before they were aware of their pregnancy. The rate of NTDs subsequently fell by 36% between 1996 and 2006.

How is the Nutrient Intake of Americans Changing?

It's important to note that if consumers take in fewer vitamins through fortified foods, they may lose out on the nutrients they need. In addition to the rise in rickets, there are concerns that current trends to consume sea salt and other non-iodine fortified salts could have adverse consequences, according to Dr. Catherine Adams Hutt, chief science and regulatory officer for Sloan Trends, Inc.

"Iodized salt reversed goiter, but now incidence of goiter is increasing," Hutt says. "When we take out iodine from salt, we are going to see nutritional deficiencies with undesirable health effects we haven't talked about for decades coming back."

The Dietary Guidelines for Americans specify **"nutrients of public health concern,"** finding that Americans under-consume nutrients including calcium, potassium, dietary fiber, and vitamin D.

But why are Americans consuming fewer nutrients?

Dietary habits excluding some foods may be one explanation, and lifestyles that are routinely hectic and time-crunched may be another. Additionally, workplaces are increasingly sedentary, requiring people to sit for long periods of time at desks while performing "light activity" (unlike previous generations who often performed jobs requiring high energy output). Light activity requires fewer calories, which could lead to someone eating less, and therefore getting fewer nutrients.

Calls For 'De-fortification' May Not Allay Consumer Concerns

Some consumers may express an interest in "clean labels," but how they define the term is sometimes unclear. A 2016 survey by Canadean found that 36% of respondents felt "clean label" meant a product was "free from artificial ingredients," and 34% said the product was "natural" or "organic." In the U.S., nearly half of consumers did not understand the meaning of the term. Hutt and Dr. Elizabeth Sloan, Sloan Trend's president, stress that the talk of clean labels should not spur manufacturers to de-fortify, as it would not address the concerns by consumers that is driving clean label.

"We're going to see clean label put in perspective," Hutt said. "It's not just young millennials, it's the elderly and aging who want to maintain a healthy lifestyle as they age. They're learning that nutrition, exercise and lifestyle contribute to that."

Wilkinson acknowledges that clean label consumer interest could lead some manufacturers to consider de-fortification, but the assumption would be based on misguided logic.

Nutrition Facts

6 servings per container
Serving size **1 bar**

Amount per serving
Calories **140**

	% Daily Value*
Total Fat 3.5g	4%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 65mg	3%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	4%
Insoluble Fiber 0g	
Total Sugars 3g	
Includes 3g Added Sugars	6%
Protein 15g	

Vitamin D 2mcg 10%	•	Calcium 300mg 25%
Iron 4mg 20%	•	Potassium 129mg 2%
Vitamin A 1502mcg 170%	•	Vitamin C 60mg 70%
Vitamin E 14mg 90%	•	Thiamin 0.3mg 25%
Riboflavin 0.3mg 25%	•	Niacin 4mg 25%
Vitamin B_6 0.4mg 25%	•	Folate 133mcg DFE 35%
Vitamin B_{12} 1.2mcg 50%	•	Biotin 60mcg 200%
Pantothenic Acid 2mg 40%	•	Phosphorus 581mg 45%
Magnesium 120mg 30%	•	Zinc 3mg 25%
Choline 80mg 15%		

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

INGREDIENTS: Whole Grain Oats, Whey Protein Isolate, Soybean Oil, Sugar Cane, Wheat Fiber, Soluble Corn Fiber, Sea Salt, Dicalcium Phosphate, Dimagnesium Phosphate, Vitamin C (Ascorbic Acid), Vitamin E (d,l-alpha Tocopheryl Acetate), Beta Carotene, Ferrous Sulfate, Vitamin B1 (Niacinamide), Zinc Oxide, Biotin, Vitamin B5 (d-Calcium Pantothenate), Vitamin B6 (Pyridoxine Hydrochloride), Vitamin B2 (Riboflavin), Vitamin B1 (Thiamin Mononitrate), Choline Bitartrate, Vitamin B9 (Folic Acid), Cholecalciferol, Vitamin B12 (Cyanocobalamin). Contains Wheat.

"With clean label, consumers are looking for healthy, short labels with ingredients they can pronounce," she said. "There is not good consumer awareness of nutrients. Fortification is in line with 'healthy' but will extend labels with long chemical names."

Food manufacturers can tout the benefits of fortification and the vitamins added on food labels, enticing more consumers to purchase the product (and consumers have been shown to be willing to pay more for healthier options):

- **Structure/function claims on labels do not require FDA pre-approval;** they can describe how a nutrient positively affects body functions, how it helps "maintain" a bodily structure or function.

- **Manufacturers can also put common terms for nutrients in parentheses;** consumers might want vitamin C but may not know that the vitamin is also known as ascorbic acid. Including the common name in parentheses could better inform consumers.

Hutt says fortified nutrients can attract more consumers, claiming two-thirds of customers are actually seeking out more nutrients and vitamins even at the expense of a clean label. She believes calls for de-fortification are "misinformation" that food manufacturers should disregard.

"There's great consumer demand for nutrients, and we can't afford media to push this de-fortification storyline because it's not valid," she says. "The industry needs to know the facts, and they need to know the consequences of walking away from something that doesn't need to be walked away from."

Wilkinson agrees that consumers are attracted to the benefits provided by fortification, though they might not be aware of the process itself. Like Hutt, she cautions manufacturers not to de-fortify in pursuit of a nebulous consumer interest in clean label products; manufacturers and customers alike could benefit from greater education on the importance of fortification.

"Big food manufacturers need to understand they have a huge role to play in the public's health," she says. "If we as an industry don't have an awareness of the role fortification plays in health, how can we expect our customers to have an awareness of it?"

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Dr. Catherine Adams Hutt, chief science and regulatory officer for Sloan Trends, Inc.

A Bright Future For Fortification?

Hutt and Sloan believe the country's demographic shifts will increase the interest in vitamins and nutrients that can be found in fortified foods. The number of Americans over the age of 65 is expected to double in the next three decades, and millennials are increasingly starting families. These two groups mean more consumers will be taking more healthy actions and intently scrutinizing nutrients in the foods they eat.

The new nutrition labeling regulations are also mandating changes on food labels. Some vitamins, including A and C, no longer have to be listed, while others, including potassium and vitamin D, are now required. Some DV totals have also changed; and a DV was set for choline for the first time, which is under-consumed by about 90% of consumers.

"Choline is not talked about very much, and we know it has a tremendous role in the cognitive development of neonates and young children; in adults it can prevent and reverse fatty liver disease," Hutt says. "The FDA has opened the door for consumers to be much more aware of the need for choline and where to get it."

However, some DVs, including some B vitamins, have been reduced, which raised concerns that manufacturers may lessen the total amount of those nutrients in a given product, according to a report in The Journal of Nutrition. Wilkinson says she has seen indications that some manufacturers were de-fortifying Vitamin A now that it is not mandatory. Additionally, the federal government could not draw connections between vitamin A's inclusion on labels and manufacturers' decision to fortify foods with it as the FDA did not track how many companies fortified with Vitamin A. (The FDA says it now will endeavor to track all fortification efforts.)

"(Fortification) is not easy and it comes at a price," Wilkinson says. "A lot of good things we do are not easy or cheap; fortification can be one of them. Food manufacturers should recognize the benefits of fortification and take that into consideration before removing nutrients from products."

The ethical responsibility when considering the health benefits of fortification should not be lost on manufacturers, Wilkinson stresses, as consumers may learn to trust a particular product and food manufacturer without realizing that there have been changes in the amount of vitamins included in the particular product.

Next Steps

Manufacturers considering food fortification options should view the process as an opportunity. Health consciousness among consumers has increased and is likely to continue to do so, and the added nutrients and vitamins food fortification provides can be a premier selling point for manufacturers willing to invest in it. Consumers do not always know what they want when they ask for clean label foods, but assuming that added nutrients are not part of "clean label" because they are chemicals is a misguided assumption. A move away from food fortification can actually harm a child's development or an adult's everyday healthfulness, and elderly individuals seeking continued health and strength for mobility could also be affected.

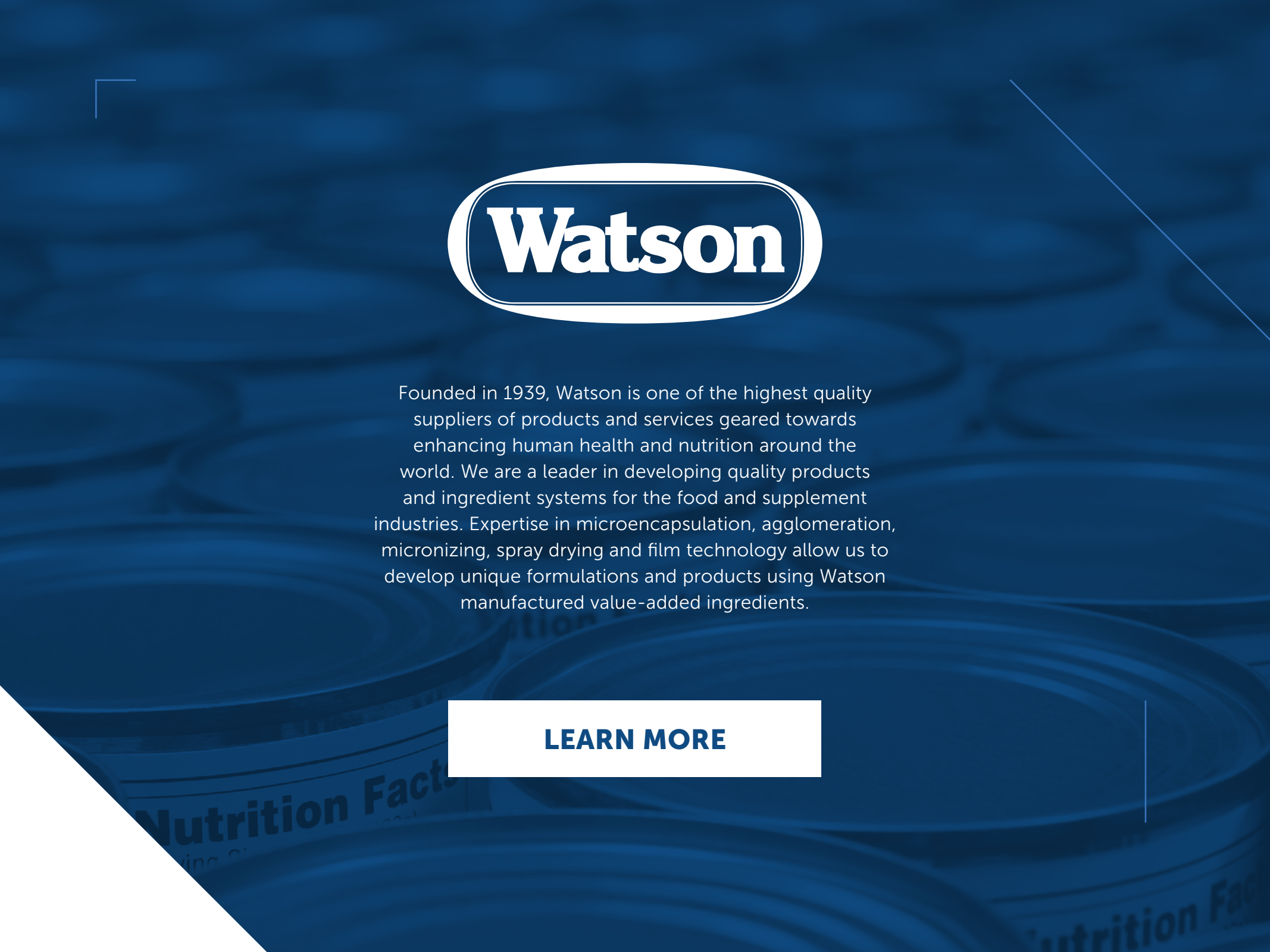
Manufacturers considering food fortification options should **view the process as an opportunity.**

Manufacturers should consider:

- **How can we better tout the nutrients and vitamins included in our products through fortification?** How do we inform consumers about the health benefits, including with different approaches to labeling or marketing?

- **What vitamins or nutrients can we consider adding under the most recent Dietary Guidelines?** The average consumer is likely to become more familiar with choline in years to come because a DV has been set for choline for the first time. Products containing added choline stand to benefit from the increased awareness.

- **What are some foods increasing in popularity that can be fortified?** Breakfast cereals were often a source of fortified vitamins and nutrients, but as cold cereal sales decline, manufacturers should consider investing in fortification of a more diverse array of products.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