



Research shows how to reduce sodium in cheese

Public health concerns over hypertension have cheesemakers looking to reduce sodium. Research has found that a little dairy in a DASH diet reduces the risk of high blood pressure.

By [Nigel Kirtley](#)
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Pressure from public health authorities to reduce sodium in the food supply continues to grow. There are many sides to the debate. Though dairy foods in total contribute only 11% of the sodium in the U.S. diet, the dairy industry has recognized the need to address these concerns and has been taking action. Being proactive helps the industry identify solutions that make sense for the food supply, the dairy business and consumers' health and taste preferences.

Within dairy, cheese contributes about 8% of the sodium in the U.S. diet, according to "Sources of Sodium in the Food Supply," a research paper by E. Hentges. The Innovation Center for U.S. Dairy Health and Wellness Committee (founded by dairy farmers through the dairy checkoff program and managed by Dairy Management Inc.) brought cheese industry members together to uncover solutions to the sodium challenge. A task force was formed, representing about 80% of the cheese volume nationally.

"It's about much more than just creating products with lower sodium," said Gregory Miller, Ph.D., president, Dairy Research Institute and executive vice president, National Dairy Council. "It's about finding technologies and innovations that address the issue without sacrificing taste, and also educating the public about the total nutrition and health value dairy foods contribute to the U.S. diet."

Cheesemakers identified a gap in data on actual sodium content of cheeses in the marketplace and collaborated with DRI, to conduct the largest retail analytic study of sodium in cheese. (DRI is also managed by DMI and was established under the leadership of America's dairy farmers.) The study, published in the *Journal of Dairy Science*, found a wide variability in the sodium content of products in the marketplace.

The analytical research and consumer insights helped identify three areas of pre-competitive work to address the sodium challenge that will benefit the entire industry:

1. Improve understanding to ensure food safety in lower sodium products.
2. Identify new technologies that enable controls in manufacturing to tighten sodium variability.
3. Educate about the necessary role of sodium in cheese and the positive contributions of cheese to the diet.

Nutrition and public health

Obesity and aging baby boomers are fueling attention to health care costs. Reducing blood pressure, in part by lowering sodium intake, is a key goal in public health.

Research indicates that dairy foods may play a role in healthy blood pressure. In the Dietary Approaches to Stop Hypertension (DASH) study, participants followed a reduced-fat meal plan rich in fruits, vegetables and predominantly low-fat dairy products (including an average of 1 ounce of regular cheese each day). This meal plan was found to lower blood pressure to a greater extent than one rich in fruits and vegetables, but devoid of dairy. (The study was published in the *New England Journal of Medicine*.) Other research also has associated dairy with a reduced risk of high blood pressure in adults, as acknowledged by the 2010 U.S. Dietary Guidelines.

“Science-based education coupled with common sense advice is key to minimizing consumer confusion,” said Jean Ragalie, a registered dietitian and president of the National Dairy Council. “From thought leaders to government agencies, industry-led education on the nutrition contribution of cheese and the role salt plays in the cheese making process is vital.”

Checking in with consumers

According to the International Food Information Council (<http://tinyurl.com/brsmyhg>), 59% of consumers are not concerned about their sodium consumption. However, awareness about sodium is gradually increasing. Since 2004, there has been a steady increase in the number of consumers who claim to read the sodium content on the nutrition facts panel, according to Dairy Management Inc.

The U.S. marketplace is evolving to meet this growing interest as food manufacturers, retailers and foodservice providers are taking action with step-wise reduction of current products and introductions of new products intrinsically lower in sodium as well as innovative lower sodium options to ensure taste is not compromised. Additionally, cheese often adds so much taste to a meal that there is less sodium overall.

Cheese companies and manufacturers continue to engage in dairy farmer-supported research, new technologies, cheese production for school meals and education. Their efforts include:

- Improve understanding to ensure food safety in lower-sodium products. As sodium content of cheese decreases, it is important not to compromise shelf stability and food safety, especially for process cheeses.
- Creating new technologies to control variability of sodium. As the current practice of inferring sodium from measurement of the chloride content becomes invalid with formulation changes (e.g., use of salt substitutes such as potassium chloride), technology to rapidly measure precise levels of sodium is needed.
- Making changes in schools. Dairy processors, working with the U.S.D.A., have reduced the maximum amount of sodium in mozzarella cheese distributed to schools by approximately 25%.
- Whey permeate offers a new opportunity. Current science indicates permeate's salt-enhancing characteristics make it ideal for replacing salt in many food applications (for example, dips, cheese sauces, ice cream, breads, pizza crust) while maintaining consumer-acceptable flavor.

Call to action

Sodium warrants ongoing attention by the industry. The dairy industry is committed to consumer health and wellness, as well as taste and food safety. It is gaining recognition as a leader that addresses challenges and solutions around sodium. The industry must continue to be proactive and educate to help reframe the dialogue to a holistic approach that includes consumer acceptance and acknowledges the sum of dairy foods' health and wellness benefits.

The Innovation Center for U.S. Dairy provides an online (www.USDairy.com) collection of resources.



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