

# Sodium Reduction in the U.S. Food Supply: Chef and Restaurant Industry Perspectives

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**The U.S. foodservice industry is struggling to respond to increasing public health and regulatory pressure to reduce sodium in menu items. The vast majority of sodium (77 percent) in the U.S. diet comes from processed and restaurant foods. The average daily sodium intake in the U.S. exceeds 3,400 milligrams, surpassing the upper limit of 2,300 milligrams set by the 2005 Dietary Guidelines Advisory Committee Report for Americans. The 2010 Dietary Guidelines Advisory Committee Report recommends reducing the upper limit from 2,300 milligrams to 1,500 milligrams. Nutrition information from chain restaurants across the country shows that many menu items exceed this maximum in a single serving.**

**Right now the only good news for the U.S. foodservice industry is that the 2010 Dietary Guidelines Committee Report and the Institute of Medicine's (IOM) Strategies to Reduce Sodium Intake in the United States Report both recommend a gradual reduction in sodium—versus fast, dramatic reductions that would have negative effects on flavor and consumer acceptance.**

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## “Manufacturing” Solutions

The vast majority of foods served in U.S. restaurants have been manufactured in facilities located far from the restaurants serving the food. Very few menu items are made from scratch in chain restaurants and other volume foodservice operations. As regulatory pressure increases, more and more chain restaurants are working with their suppliers and manufacturing partners to find ways to reduce sodium in existing products, and to create new menu concepts that offer appealing flavors and less sodium. Reformulation is challenging and expensive; there is much more optimism in the industry related to new product development, and consumers tend to react negatively to changes in their favorite products.

Everyone involved in this process is faced with the challenge of how far they can reduce sodium before flavor and functionality are affected, and consumer acceptance wanes. Operators are also struggling with the operational and financial issues related to gradual reductions in sodium. Reformulating every year is costly, but it may be

the only way to maintain consumer acceptance of existing products. In high-sodium products, reductions of up to 25 percent can be made before consumers perceive a difference in flavor. Further reductions are best done in smaller increments.

One of the many culinary challenges with sodium reduction is that every food and food system must be evaluated differently. Reducing salt in mashed potatoes might be achieved by using a different, more flavorful variety of potatoes, while sodium reduction in soup may be achieved by using sea salt or other more expensive alternatives.



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## The Aggregation of High-Sodium Ingredients

Yeast breads, processed meat products and cheese contribute significant amounts of sodium to the average American diet. These ingredients are often combined to form popular menu items like cheeseburgers and pizza. Chefs and foodservice operators are struggling to find ways to reduce the sodium content of menu items that aggregate high-sodium ingredients, and they are faced with the reality that many of these foods depend on sodium for functional properties as well as flavor. In yeast breads, sodium aids in gluten development. In processed meat products, sodium provides the structural integrity that allows meats to hold their shape after slicing, and in cheese, sodium contributes to the melting properties of processed cheese products. As chefs and menu developers are thinking about sodium reduction strategies, they are looking at ways to combine very low sodium ingredients like fresh fruits and vegetables with higher-sodium ingredients to create menu items with better nutrient profiles, but they are concerned about consumer acceptance. “Better-for-you” menu items have a long history of failure. Foodservice experts recommend selling on flavor attributes versus nutritional attributes, a strategy often referred to as “stealth health” marketing.

## Needs More Salt!

When chefs are asked about the biggest mistake home cooks make, they say home cooks don't add enough salt to food during the cooking process. Chefs appreciate the powerful culinary properties of salt, and they are trained to use salt to maximize the flavor of foods and beverages. Chefs know that adding salt to something sweet intensifies and rounds out the sweetness. (Think about salting a piece of sweet, ripe melon.) And chefs know that salt added to foods is perceived differently from salt added on top of foods. A spoonful of mashed potatoes can have twice the amount of sodium that a potato chip has, but people

perceive the potato chip to be saltier due to the direct interaction of taste buds with the salt on the surface of the chip.

## Seduced by Sea Salt

A January 2010 Health Focus International Study revealed that consumers believe sea salt is the most healthy. Of five choices (sea salt, kosher salt, table salt, sodium and MSG), sea salt was rated the most “healthy” by 78 percent of respondents, followed by kosher salt with 13 percent of the votes. If the same study were done with chefs, the results would likely be quite similar. Due to cost considerations, most restaurant chefs cook with kosher salt and finish dishes with more expensive sea salt.



## Over-Salting in Restaurant Kitchens

One of the biggest challenges in restaurants is over-salting food as the day progresses, which occurs among line cooks who “salt to taste” when cooking and who tend to add more and more salt as the day progresses. As the line cooks get more and more exhausted and dehydrated from working in hot kitchens, they suffer palate fatigue and add more and more salt to foods as their shifts progress.

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## MSG: Great Taste, Less Sodium, Unlimited Controversy

In light of the 2010 Dietary Guidelines for Americans and the call to reduce sodium in the diet, MSG can be used to replace table salt and enhance natural flavors of savory foods such as meat, poultry, seafood, soups, stews and snacks, while lowering the sodium content by as much as 40%. While some in the restaurant and foodservice business have historically avoided MSG, they might be persuaded by new research supporting the safety of the ingredient, as well as consumer demand for enhanced flavor experiences. And some individuals in the culinary research community recognize that MSG holds promise for creating flavorful menu items with less sodium.

MSG is the most studied flavor ingredient and is classified by the World Health Organization (WHO) as one of the safest ingredients. Efforts are underway to educate chefs and foodservice professionals about MSG as a viable option for flavor enhancement and the connection between MSG and umami, the “fifth taste,” which is gaining in popularity.

## Increasing Interest in Umami

Of all the culinary trends today, nothing has broader appeal than umami. According to the Umami Information Center:

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**Umami is a pleasant savory taste imparted by glutamate, a type of amino acid, and ribonucleotides, including inosinate and guanylate, which occur naturally in many foods including meat, fish, vegetables and dairy products. As the taste of umami itself is subtle and blends well with other tastes to expand and round out flavors, most people don't recognize umami when they encounter it, but it plays an important role in making food taste delicious.**

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Chefs are exploring ways to use very low sodium, umami-rich products, like tomatoes and mushrooms, to create appealing flavors in foods. One of the most interesting findings in umami research is that adding ingredients with umami properties heightens the perception of saltiness in a dish, making umami an area of intense culinary interest for culinary professionals interested in sodium reduction.

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## References

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