

# Food scientists strive for sodium reduction

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In the May issue of *Food Technology* magazine published by the Institute of Food Technologists (IFT), Associate Editor Karen Nachay writes about how food manufacturers are trying to overcome formulation challenges to develop better-tasting, low- and reduced-sodium products.

The Dietary Guidelines for Americans regarding sodium have evolved over the years from "avoid too much sodium" to "reduce daily sodium intake to less than 2,300 mg and further reduce intake to 1,500 mg among people who are 51 and older and those of any age who are African American or have hypertension, diabetes, or [chronic kidney disease](#)." (USDA/HHS, 1980; USDA/HHS, 2010) Over time, food scientists have developed a number of ingredients and techniques to improve foods made with low or reduced sodium.

Recent research demonstrates the following ways science can be applied to decrease sodium in foods by affecting consumers' taste perceptions:

- Changing the structure of salt such as forming a [microsphere](#) with [nanocrystals](#) of salt can influence how consumers perceive the intensity of the taste because the new structure has a greater surface area, which dissolves much faster, thereby boosting the perception of saltiness.
- Certain flavor/aroma compounds may enhance salt perception without significantly affecting the flavor profile of a product.
- Compounds from ingredients like yeasts and glutamates present in umami-rich foods like mushrooms, aged cheeses, soy sauce, kombu, and tomatoes may contribute to salt perception.

Even though new technologies and ingredients show promise in helping consumers reduce sodium, the high cost factor impacts the use of these technologies.

**More information:** Read the *Food Technology* article [here](#).

Provided by Institute of Food Technologists

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