



Sharon Gerdes

# Building a Better School Milk

## What are the latest school guidelines for flavored milk?

In 2005 Congress passed the Child Nutrition Reauthorization Act, which required all U.S. schools to develop local wellness policies that included goals to improve nutrition in schools. Since then, numerous nutrition standards for foods and beverages served in schools have been proposed at the national, state and local levels. Low-fat and fat-free flavored milks have had a prominent position in most of the proposals. And while there is currently no consensus on a national school nutrition standard for flavored milk or other foods and beverages. Congress is expected to address this in 2009, when it will debate and renew the act.

Let's explore some of the approaches that have been suggested to date. The Alliance for a Healthier Generation currently recommends that low-fat and fat-free flavored milks contain no more than 180 calories per 8-ounce serving, but next month that recommendation changes to 150 calories per 8-ounce. In April 2007 the Institute of Medicine (IOM) recommended a standard of no more than 22g of total sugar per 8 ounce serving, and also suggested a restriction on the use of nonnutritive sweeteners in beverages (other than those sold after school in high schools). The School Nutrition Association recommends selecting flavored milk that contains no more than 28g of sugar per 8-ounce serving. Some proposed standards also address levels of sugar that can be added to yogurt.

It's important for milk processors to take a leadership role by ensuring that their flavored milk offerings are both palatable and lower in sugar and calories. To assist in that effort, the dairy checkoff has conducted a series of taste and sensory tests evaluating chocolate, strawberry and other flavored milks with varying levels of sugars and calories, and with various sweeteners or sweetener combinations. Since January

2006, Dairy Management Inc. (DMI) has completed six phases of testing involving approximately 40 processors, more than 150 samples of flavored milk and nearly 3,000 kids, ages 8 to 17. One important finding is that it is much more difficult to develop lower-sugar and lower-calorie chocolate milks than it is to develop other flavors. This stands to reason because more sweetener is required to achieve an acceptable flavor that offsets the natural bitterness of cocoa. The key drivers of "overall liking" include taste, flavor, sweetness, aftertaste and mouthfeel. The attributes of light versus dark color, appearance and aroma were less important.

Currently, a sensory database exists against which products can be tested and benchmarked. Dairy processors that want to participate in future testing should contact their state or regional dairy association. DMI also has worked in collaboration with flavor suppliers to develop prototype formulas with 150 to 170 total calories and with sugar levels ranging from 21 to 27 g. Seven chocolate milk prototype formulations that received a "very good" or "excellent" rating are posted on the [www.innovatewithdairy.com](http://www.innovatewithdairy.com) website, along with some formulation tips. Work is ongoing at the Dairy Products Technology Center at California Polytechnic State University on other innovative flavor prototypes.

MilkPEP has offered a series of workshops on the topic, and has already reached processors contributing to more than 60% of milk volume in the United States. All participating processors indicated a commitment to reformulate flavors to reach the target calorie levels. Many now have tasty, lower-calories products in the wings or already in production.

A recent study published in the Journal of the American Dietetic Association found that drinking flavored or plain milk is positively associated with nutrient intakes of vitamin A, calcium, phosphorus, magnesium and potassium, and is not associated with adverse effects on body mass index (BMI) in U.S. children and adolescents.<sup>1</sup>



Photo courtesy of PRNewsFoto/The California Milk Processor Board

The good news is that the dairy industry now has an opportunity to work with the public health community to protect and promote the role of dairy foods in childhood nutrition. If the dietary recommendations of the IOM were adopted, only water, low-fat and fat-free milk and 100% juice would be sold in schools during the school day. Dairy processors who develop great-tasting products that meet these guidelines are in an excellent position to keep kids in the milk franchise and to fill the vending machine slots that are left vacant if soft drinks are no longer acceptable. ■

<sup>1</sup> Murphy MM, Douglass JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in U.S. children and adolescents. Journal of the American Dietetic Association 2008;108:631-639.