



## Dairy's protein: The satisfaction factor

By Karen Giles-Smith MS, RD  
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Many consumers are looking for food and beverages that enhance satiety, or a feeling of fullness, and they know that products high in protein fill the bill. In fact, calorie-for-calorie, protein is more satiating than carbohydrates or fat. What's more, research suggests that dairy proteins — both casein and whey — increase satiety.

- A study conducted by Dairy Management Inc. (Satiety and the Consumer, 2008) found that two-thirds of consumers believe it's extremely important or very important that a food or beverage make them feel full in order to feel satisfied and eat less.
- According to the International Food Information Council's 2012 Food & Health Survey, 60% of consumers agree that protein helps people feel full longer and 60% believe a high protein diet can help with weight loss.
- A recent research review (Nestle Nutrition Workshop Series: Pediatric Program, 2011) concluded that consumption of dairy products and their milk proteins increase satiety and reduce food intake and blood glucose response when consumed alone or with carbohydrate.

Although it's not clear how much of a protein-rich food is needed to optimize satiety, preliminary research provides some insight, according to Heather Leidy, PhD, assistant professor, Department of Nutrition & Exercise Physiology, University of Missouri, who's research focuses on the metabolic, hormonal, and neural regulation of appetite, food intake and body weight. Leidy recently led a study to assess the satiety effect of Greek yogurt as a snack in the amount of 160 calories and either 5, 14 or 24 grams of protein. "Twenty-four grams of protein elicited the most robust satiety response," she said. "We don't know what the optimal level is for a meal, but it appears to be between 20 and 30 grams of protein."

Both casein and whey proteins promote satiety; however the research is mixed as to whether one elicits a greater satiety effect than the other, said Leidy.

The mechanism of protein's effect on satiety is also unknown, however, Leidy's research suggests that the peripheral gut hormones that regulate hunger and satiety are key players. "Protein acts by blunting hunger and increasing satiety," she said. Additionally, Leidy's research indicates that consuming a protein-rich meal suppresses the regions in the brain responsible for food cravings and the motivational drive to eat. For example, one study found that a high-protein breakfast decreased nighttime snacking, especially the consumption of high-fat snacks.

Leidy hopes to see more high-protein dairy products (20-24 grams of protein per serving) on the market such as Greek yogurt and high-protein smoothies and shakes. "There aren't many other high-protein foods that people like to snack on besides dairy foods," said Leidy. "This is an optimal market for dairy."

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