

## DAIRY'S ROLE IN A HEALTHY LIFESTYLE

The National Dairy Council supports USDA's efforts to reflect the latest nutrition science in the 2005 Dietary Guidelines for Americans. These new Guidelines, which recommend an increase in fat-free and low-fat milk and milk products to 3 servings a day, serve as an effective tool for educating people on how to make smart food choices based on nutrients that naturally occur in foods.

### Three to Four Servings of Dairy

- Research indicates that 3-4 daily servings of dairy foods, such as milk, cheese or yogurt, for people ages nine and older, are needed to ensure adequate calcium intakes. The study evaluated government data and found that those people who met U.S. calcium recommendations were those who consumed 1 daily serving more than the 2-3 recommended in the 1993 USDA Food Guide Pyramid.  
Fulgoni VL III, et al. Determination of the optimal number of dairy servings to ensure a low prevalence of inadequate calcium intake in Americans. *Journal of the American College of Nutrition*. 2004; 23:651-659.
- The Surgeon General released a report on osteoporosis and bone health, which suggests that the rise in bone disease among men and women of all ages and ethnicities is linked to the decline in the nutritional quality of American's diets. The report recommends lifestyle changes for all Americans – through regular physical activity and including 3 servings of calcium-rich foods, such as milk, cheese or yogurt, in their diet each day.  
U.S. Department of Health and Human Services. *Bone Health and Osteoporosis: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.
- A research review of over 90 studies suggests that increasing dairy intake to 3-4 servings each day as part of a healthy diet could lead to a significant reduction in chronic disease prevalence, including obesity, hypertension, type 2 diabetes and osteoporosis, resulting in healthcare savings of more than \$200 billion over five years.  
McCarron DA, Heaney RP. Estimated healthcare savings associated with adequate dairy food intake. *American Journal of Hypertension*. 2004; 17(1):88-97.
- Survey results show that on average, family physicians, dietitians and pediatricians recommend 3-4 servings of dairy a day for ages 1-18, and that on average, family physicians and dietitians recommend 3-4 servings for ages 19 and up.  
GFK Custom Research Inc. Health Professionals Dairy Nutrition Tracking Study, 2003 Benchmark. September 2003.

### Potassium:

- Based on CSFII and NHANES data, fluid milk is the number one source of potassium in the U.S. diet, providing 10.9 percent of the national intake. In total, dairy foods provide 18 percent compared to the 11.5 percent provided by all fruits and fruit juices. Increasing the number of dairy servings to 3-4 servings could more than double the percentage of Americans meeting potassium recommendations.  
AC Kurilich, VL Fulgoni, PJ Huth, DB DiRienzo, GD Miller. Dairy products are a major contributor of potassium in the diets of Americans. *FASEB J*. 2005, 19(5): A1343, 743.6

### Dairy's Unique Nutrient Package

- The Dietary Guidelines for Americans identified seven key nutrients that fall short in adult diets, and five nutrients that fall short in children's diets. Dairy foods, such as milk, cheese, and yogurt supply four of the seven nutrients of concern for adults: calcium, potassium, magnesium, vitamin A; and three of the five nutrients of concern for children: calcium, magnesium, potassium.
- Milk and dairy foods naturally provide essential nutrients including calcium, protein, phosphorus, potassium, riboflavin, vitamin A, vitamin B12, magnesium and niacin. Milk, cheese and yogurt provide a unique combination of nutrients that, studies show, improves the overall nutritional quality of the diet and reduces the risk of osteoporosis, hypertension and obesity.

- Dairy foods are the best – and most abundant – natural source of dietary calcium available to Americans. In fact, dairy foods provide nearly 72 percent of the calcium in our nation’s food supply.  
Gerrior SL, et al. Nutrient Content of the U.S. Food Supply, 1909-2000. Home Economics Research Report No. 56. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. November 2004.

### **The Health Benefits of Dairy**

Dairy’s role in bone health has long been established. Research indicates that dairy foods also play a role in lowering blood pressure and reducing the risk of obesity.

#### *Bone Health:*

- Several studies have shown that a combination of nutrients found in dairy foods, including calcium, vitamin D and phosphorus, are important for promoting bone health.  
Dawson-Hughes B, et al. Effect of calcium and vitamin D supplementation on bone density in men and women 65 years of age or older. *New England Journal of Medicine*. 1997; 337:670.  
Dawson-Hughes B, et al. Rates of bone loss in postmenopausal women randomly assigned to one or two dosages of vitamin D. *American Journal of Clinical Nutrition*. 1995; 61:1140.  
Heaney RP, et al. Calcium effects on phosphorus absorption: implications for the prevention and co-therapy of osteoporosis. *Journal of the American College of Nutrition*. 2002; 21:239-244.
- A research review of 138 studies exploring the relationship between calcium, dairy foods and bone health, many of which used dairy products as the calcium source, found overwhelming evidence that high calcium or dairy food intake throughout life is one of the most important factors for reducing the risk of osteoporotic fracture.  
Heaney RP. Calcium, dairy products and osteoporosis. *Journal of the American College of Nutrition*. 2000; 19:83S-99S.
- The American Academy of Pediatrics recommends 3-4 servings a day of milk, cheese, yogurt, or other calcium-rich foods for children’s daily diets to help reduce the future risk of osteoporosis, as well as decrease the more immediate risk of bone fractures during childhood and adolescence.  
American Academy of Pediatrics Policy Statement. Calcium Requirements of Infants, Children, and Adolescents, 1999.
- A glass of vitamin D fortified milk provides about 25 percent of the Daily Value (DV) for vitamin D. Vitamin D helps promote the absorption of calcium and enhances bone mineralization. Based on CSFII and NHANES data, fluid milk is the largest food source of vitamin D in the U.S. diet.  
Keast DR, et al. Contribution of milk, dairy products, and other foods to vitamin D intakes in the United States. Abstract presented at Experimental Biology, 2005.

#### *Weight Management:*

- In a clinical trial, obese people who consumed 3-4 servings a day of milk, cheese or yogurt while on a balanced, reduced calorie diet, lost significantly more weight and fat than those who consumed similar amounts of calcium through supplements, or who consumed one or fewer servings of milk, yogurt or cheese per day. People on the high dairy diet (1200-1300 mg calcium) lost 70 percent more body weight and 64 percent more body fat than those on the low calcium diet.  
Zemel MB, et al. Dietary calcium and dairy products accelerate weight and fat loss during energy restriction in obese adults. *Obesity Research*. 2004; 12(4):582-590.
- Adolescent girls ages 9-14 who consumed more dairy weighed less and had less abdominal fat. The same study concluded that higher soda intake among these girls was associated with greater body weight. Researchers found just one extra serving of dairy a day was associated with lower body fat.  
Novotny R, et al. Dairy intake is associated with lower body fat and soda intake with greater weight in adolescent girls. *Journal of Nutrition*. 2004; 134(8):1905-1909.
- Studies show that dairy foods can improve the overall nutritional quality of the diet without significantly increasing total calorie or fat intake, blood lipids, body weight or percent body fat.  
Karanja N, et al. Impact of increasing calcium in the diet on nutrient consumption, plasma lipids, and lipoproteins in humans. *American Journal of Clinical Nutrition*. 1994; 59:900.  
Barr SI, et al. Effects of increased consumption of fluid milk on energy and nutrient intake, body weight, and cardiovascular risk factors in healthy older adults. *Journal of American Dietetic Association*. 2000; 100:810.

### *Hypertension:*

- The DASH (Dietary Approaches to Stop Hypertension) Eating Plan, rich in fat-free and low-fat dairy foods, grains, fruits and vegetables, is recommended in the 2005 Dietary Guidelines as a balanced eating pattern to follow in order to get adequate amount of nutrients while staying within energy needs.
- Potassium, a key nutrient in lowering blood pressure, is one of nine nutrients found in dairy foods. In fact, each 8-ounce serving of milk provides about 350-400 mg of potassium, or 11 percent of the Daily Value (DV) per serving.

Gerrior SL, et al. Nutrient Content of the U.S. Food Supply, 1909-2000. Home Economics Research Report No. 56. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. November 2004.

### **Best Value: Cost, Variety, Absorption**

- Milk is among the least expensive food sources of calcium, and unlike single-nutrient calcium supplements, milk and milk products naturally provide many other essential nutrients that work synergistically with calcium to promote health.

Keller JL, et al. The consumer cost of calcium from food and supplements. *Journal of the American Dietetic Association*. 2002; 102(11):1669-1671.

- Dairy products are available in many varieties – including lactose-free, fat-free, low-fat and flavored – and in convenient packaging, to suit many individual tastes and nutritional needs.
- Calcium may be poorly absorbed from foods rich in oxalic acid (spinach, sweet potatoes, rhubarb, and beans) or phytic acid (unleavened bread, seeds, nuts and grains, and soy isolates). In comparison to a single 8-ounce glass of milk, an average of seven half-cup servings of dried beans or 16 half-cup servings of spinach would need to be consumed to get the same amount of absorbable calcium. Calcium absorption from soy beverages containing tricalcium phosphate (the most common method of calcium fortification) is 25 percent less efficient than calcium absorption from milk.

Weaver CM, et al. Choices for achieving adequate dietary calcium with a vegetarian diet. *American Journal of Clinical Nutrition*. 1999; 70(3):543S-548S.

Heaney RP, et al. Bioavailability of the calcium in fortified soy imitation milk, with some observations on method. *American Journal of Clinical Nutrition*. 2000; 71:1166-1169.

### **MyPyramid**

- The USDA's newly revised Food Guidance System (MyPyramid) was released in April 2005 to motivate and educate consumers to make positive diet and lifestyle choices. It visually depicts the nutrient-dense super foods Americans should consume on a daily basis including 3 cups of fat-free and low-fat milk, cheese or yogurt.

U.S. Department of Agriculture. Steps to a Healthier You, 2005. <http://www.mypyramid.gov>

*Additional resources are available at [www.nationaldairycouncil.org](http://www.nationaldairycouncil.org).*

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