



Navigating protein and satiety messages.

snack bar

+ WHEY PROTEIN

= satisfaction



U.S. Dairy
Export Council.
Ingredients | Products | Global Markets

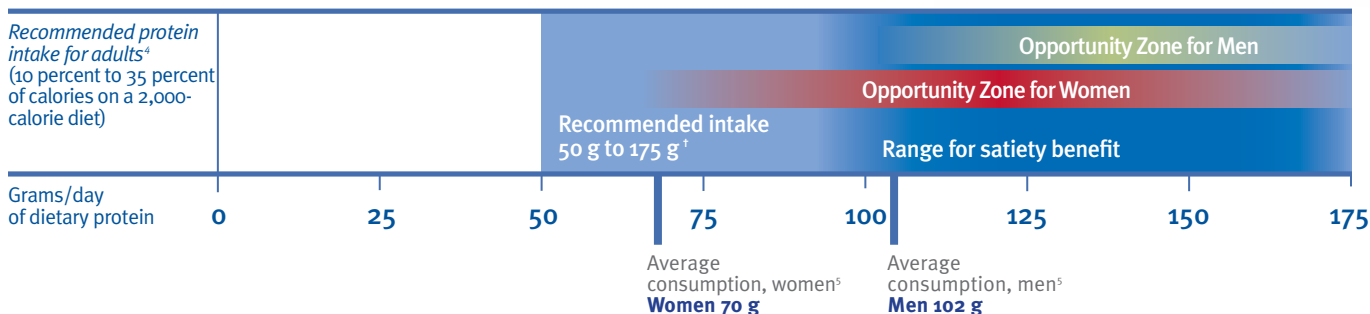
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Leverage consumers' interest in satiety benefits.

Significant scientific evidence tells about the benefits of higher protein diets and their effects on satiety, or a feeling of fullness.¹⁻³ The U.S. Ingredients program of the U.S. Dairy Export Council® (USDEC) can assist in developing marketing materials using structure/function claims.



Satiety benefits can be achieved by diets higher in protein.*



*Keep in mind that individuals respond differently. Therefore, the amount of protein needed to achieve a satiety benefit will vary depending on current protein intakes, age, weight, gender, activity level and overall health. ¹Based on the AMDR for a 2,000-calorie diet.

¹Westerterp-Plantenga MS, et al. Dietary protein, weight loss, and weight maintenance. *Annu Rev Nutr* 2009;29:21-41.

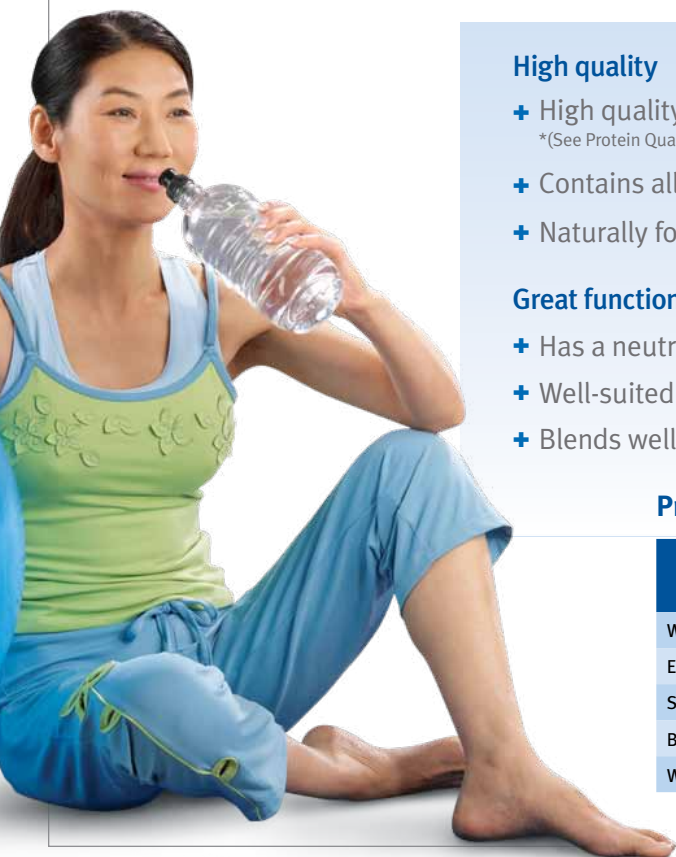
²Veldhorst M, et al. Protein-induced satiety: effects and mechanisms of different proteins. *Physiol Behav* 2008; 94:300-307.

³Paddon-Jones D, et al. Protein, weight management, and satiety. *Am J Clin Nutr* 2008;87(suppl):1558S-1561S.

⁴Acceptable Macronutrient Distribution Range (AMDR) from: Institute of Medicine. Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids. Washington, DC: National Academies Press, 2002.

⁵Fulgioni VL 3rd. Current protein intake in America: analysis of the National Health and Nutrition Examination Survey, 2003-2004. *Am J Clin Nutr* 2008;87(5):1554S-1557S.

Whey protein can help food and beverages succeed in the marketplace.



High quality

- + High quality as measured through various protein quality ratings
(See Protein Quality Ratings chart below)
- + Contains all the essential amino acids required by the body for good health
- + Naturally found in dairy

Great functionality

- + Has a neutral flavor that complements many foods and beverages
- + Well-suited to beverages because of its solubility and clarity
- + Blends well with fruit flavors

Protein Quality Ratings

| Protein Type | PDCAAS | Biological Value | Net Protein Utilization | Protein Efficiency Ratio |
|--------------|--------|------------------|-------------------------|--------------------------|
| Whey Protein | 1.00 | 104 | 92 | 3.2 |
| Egg | 1.00 | 100 | 94 | 3.9 |
| Soy Protein | 1.00 | 74 | 61 | 2.2 |
| Beef | 0.92 | 80 | 73 | 2.9 |
| Wheat Gluten | 0.25 | 64 | 92 | 0.8 |

Hoffman J, Falvo M. Protein: Which is Best?
Journal of Sports Science and Medicine, 2004;3:118-130.

The basics on protein and satiety messages.

Label claims describing the amount of a nutrient and the role of a nutrient, like protein, on a normal structure or function, like satiety, can be made on foods and dietary supplements.⁶⁻⁸ While there are no FDA-approved claims for protein and satiety, nutrient content and structure/function claims on qualifying products can be used to inform consumers that diets higher in protein can help curb hunger. The manufacturer is responsible for compliance with all applicable federal regulations and ensuring the truthfulness and validity of all labeling and advertising claims. FDA's *Guidance for Industry: A Food Labeling Guide*⁹ and related guidance materials¹⁰ are available to help industry comply with labeling regulations for foods and dietary supplements. FTC guidance documents for advertising are also available to help businesses comply with the law.¹¹

Some general guidelines include:

- + All claims should be truthful and not misleading.
- + Although not required by federal regulation, it is advisable to include nutrient content claims when making structure/function claims.
- + Include the percent Daily Value for protein on the Nutrition Facts panel if making a protein claim.

Nutrient content claims.

Nutrient content claims, established by regulation, characterize the amount of a nutrient in a food. The FDA requires that a product contain 10 percent to 19 percent of Daily Value to qualify for a “good source” claim and 20 percent or more of Daily Value to qualify for an “excellent source” claim.

Sample nutrient content claims for protein:

- + *A good source of protein, Contains protein, Provides protein:* 5 to 9 grams protein per reference amount customarily consumed (10 percent to 19 percent of Daily Value).
- + *An excellent source of protein, High in protein, Protein rich:* 10 grams or more of protein per reference amount customarily consumed (20 percent or more of the Daily Value).

The amount of protein in a food also can be shown as grams protein or percent Daily Value.

A “disclosure statement” is required when a nutrient content claim is made and the food exceeds set amounts of total fat, saturated fat, cholesterol or sodium.

Structure/function claims.

Structure/function claims describe the role of a nutrient or dietary ingredient on the normal structure or function of the body (e.g., “Calcium helps build strong bones.”).

Some general guidelines include:

- + Should be based on the nutritive value of the nutrient or dietary substance in the product.
- + Should be substantiated to show the claims are truthful and not misleading based on competent and reliable information.
- + Though not required, it is advisable to include a disclosure statement if the food exceeds set amounts of total fat, saturated fat, cholesterol or sodium.

⁶ <http://www.fda.gov/Food/LabelingNutrition/LabelClaims/ucm111447.htm>

⁷ <http://www.fda.gov/Food/LabelingNutrition/default.htm>

⁸ <http://www.fda.gov/Food/DietarySupplements/default.htm>

⁹ <http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/FoodLabelingNutrition/FoodLabelingGuide/default.htm>

¹⁰ <http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/default.htm>

¹¹ <http://www.ftc.gov/bcp/guides/guides.shtm>



Idea startersDiets higher in protein have been shown through scientific research to increase satiety – a feeling

of fullness after or between meals.^{1,3} Idea starters for messages for foods with added whey protein that can be part of an eating plan to achieve a higher protein diet are provided here.

Protein is more satiating than carbohydrates or fats.

Calorie for calorie, whey protein can help you feel fuller than carbohydrates or fat.

*Diets higher in protein, including foods with whey protein can help ...
promote satiety.
you feel full.*

High-protein diets, including foods with whey protein, can help provide a feeling of fullness.

*Whey protein, as part of a diet higher in protein can help ...
keep your hunger down.
curb hunger.
you feel fuller with fewer calories.
you feel satisfied longer between meals.
provide long-lasting hunger satisfaction.*

Whey protein, as part of a diet higher in protein, helps curb hunger. When you are not hungry, you may be less tempted to reach for unhealthy/unwanted snacks.

Contact your account manager for additional resources to assist you in developing satiety claims and on how dairy adds the difference.

+ DAIRY adds the difference.

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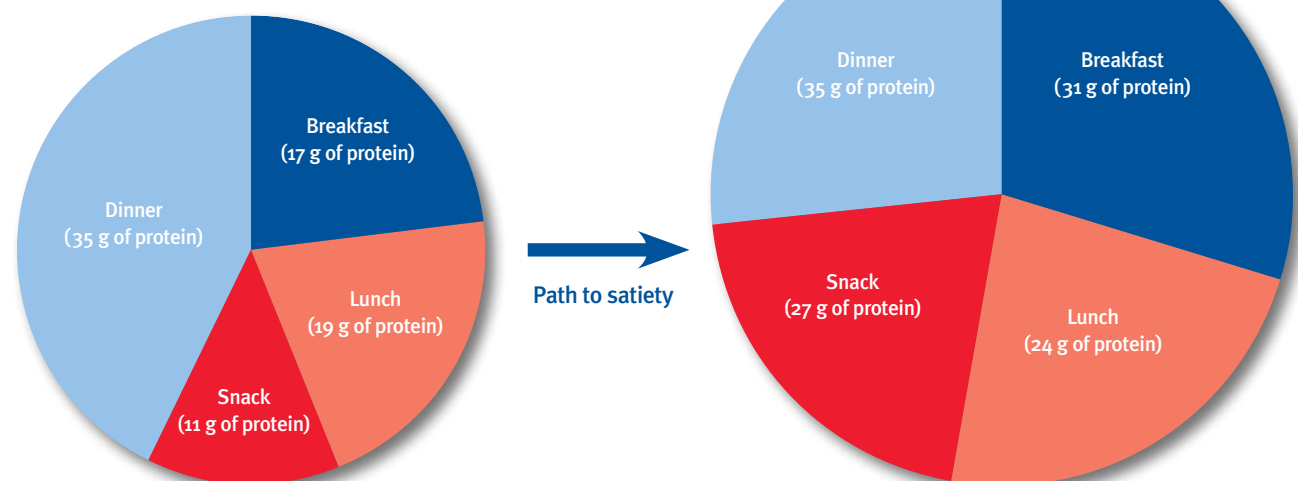
An excellent opportunity for manufacturers.

Consumers interested in increasing dietary protein for a satiety benefit will likely select more foods naturally higher in protein (meats, nuts, eggs and dairy foods), plus a variety of protein-fortified foods and beverages, including shakes, bars, cereals, soups and puddings. (See sample menus on back.)

The most practical way to attain a higher protein diet is to incorporate protein in foods throughout the day. Food manufacturers may find a particular opportunity to boost the protein content of breakfast and snack items where protein content is often low.

Sample Daily Menus

(Menu items on back)



Menu 1 – Usual protein intake by meal

Calories: 1,810

Protein: 82 g (17% of calories)

Menu 2 – Higher protein intake spread throughout the day

Calories: 1,800

Protein: 117 g (25% of calories)



Sample daily menus, with and without added whey protein.

| 1,810 Calories Sample Menu (without whey protein) | 1,800 Calories Sample Menu (with whey protein) | Approx. Whey Protein (grams) |
|--|--|------------------------------|
| Breakfast: 1 cup instant oatmeal 1 cup fat-free milk 1 small banana 1 granola bar Calories: 570 Protein: 17 g (12% of calories) | Breakfast: 1 cup “weight control” instant oatmeal 1 cup fat-free milk 1 small banana 1 whey protein bar Calories: 510 Protein: 31 g (24% of calories) | 5 g 10 g |
| Lunch: Tuna salad pita sandwich 2 oz tuna canned in water 1 tbsp mayonnaise 1 lettuce leaf 2 tomato slices 1/2 pita pocket bread 1 cup baby carrots Iced tea Calories: 300 Protein: 19 g (25% of calories) | Lunch: Tuna salad pita sandwich 2 oz tuna canned in water 1 tbsp light mayonnaise 1 lettuce leaf 2 tomato slices 1/2 pita pocket bread 1 cup baby carrots 2 cups protein water Calories: 280 Protein: 24 g (34% of calories) | 5 g |
| Dinner Chicken fajitas 3 oz chicken breast 1 tsp vegetable oil 1 cup sliced peppers & onions 1/3 cup shredded Monterey Jack cheese 2 whole wheat flour tortillas 1 tbsp sour cream 1/2 cup Spanish rice Calories: 650 Protein: 35 g (22% of calories) | Dinner: Chicken fajitas 3 oz chicken breast 1 tsp vegetable oil 1 cup sliced peppers & onions 1/3 cup shredded Monterey Jack cheese 2 whole wheat flour tortillas 1/2 cup Spanish rice Calories: 620 Protein: 35 g (23% of calories) | |
| Snack: 1 cup low-fat yogurt 1 cup strawberries Calories: 290 Protein: 11 g (15% of calories) | Snack: 1 Pomegranate Berry Smoothie (made with yogurt & 1 scoop whey protein) Calories: 390 Protein: 27 g (27% of calories) | 20 g |
| TOTALS Calories: 1,810 Protein: 82 g (17% of calories) Fat: 58 g (28% of calories) Saturated Fat: 19 g Sodium: 2,010 mg Total Carbohydrate: 259 g (55% of calories) Dietary Fiber: 26 g | TOTALS Calories: 1,800 Protein: 117 g (25% of calories) Fat: 47 g (23% of calories) Saturated Fat: 16 g Sodium: 2,180 mg Total Carbohydrate: 246 g (52% of calories) Dietary Fiber: 32 g | 40 g |

Note: Percentages of total calories and nutrient totals are based on rounded values using FDA rounding regulations.

