

Serving Sizes in the Food Guide Pyramid and on the Nutrition Facts Label: What's Different and Why?

INSIGHT 22

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*How many bread products should I eat every day?
How much cheese equals a glass of milk?*

Consumers are interested in knowing how much and what type of foods to eat for continued or improved health. Two federal nutrition education tools use standard serving sizes: the Food Guide Pyramid and the Nutrition Facts label. The Pyramid was released by the U.S. Department of Agriculture (USDA) in 1992. The Nutrition Facts label, which is under the regulation of the Food and Drug Administration (FDA), has been required on virtually all food labels since August 1994. While both tools contain serving sizes that are standard—thus enabling nutritional and caloric comparisons of similar foods—serving sizes for a particular food are not necessarily the same *between* the Pyramid and the Nutrition Facts label. Attempts to directly compare Pyramid and label servings may, therefore, generate confusion.

For many foods, the serving sizes in the Pyramid and on the label are the same—such as 1 cup of milk and ½ cup of cut-up fruits or vegetables—but there are notable differences. For example, the Pyramid serving size for pasta is ½ cup cooked (about 1 ounce uncooked), while on the label it is about 1 cup cooked (2 ounces uncooked). To understand why serving sizes are sometimes different for the Pyramid and the Nutrition Facts label, it is important to understand the purpose of each and to distinguish how these serving sizes were derived for individual foods. These are explained and a way to help consumers use both more effectively is proposed in this Insight.

FOOD GUIDE PYRAMID

The Food Guide Pyramid translates recommendations of the *Dietary Guidelines for Americans* (1) and nutrient standards like the Recommended Dietary Allowances into food group-based advice for a healthful diet. The Pyramid graphically illustrates a research-based food guidance system built on the foods typically eaten by Americans, the nutrients in these foods, and recommendations on how to make the best food choices to promote good health. (2) The Pyramid suggests the type and amount of foods to eat each day without prescribing rigid guidance, and can be used as a general guide in choosing individualized healthful diets from a variety of common foods. Since its release, the Pyramid has been widely used by nutrition educators, teachers, the media, and the food industry, in nutrition curricula, articles, and food packaging and advertising. (3)

Determination of Serving Sizes in the Pyramid

To establish serving sizes for the food groups in the Pyramid, four factors were considered: *typical portion sizes* (from food consumption surveys), *ease of use*, *nutrient content*, and *tradition* (of use in previous food guides). For some food groups, certain factors were given more emphasis than others.

For example, the serving size for cooked or raw cut-up fruits and vegetables was set at ½ cup based on *typical portion sizes* and for easy recognition and use. Although fruits and vegetables vary in nutrient content, the number of different serving size units was kept to a minimum to make the Pyramid *easier to use*. For the Milk group, on the other hand, *nutrient content* was a more important consideration in determining serving sizes. Serving sizes were set to be equivalent in calcium content to a *typical portion size* for milk, which is 1 cup. In the Meat and Beans group, *nutrient content* was also an important consideration. The specified amount of eggs, nuts, and dry beans provide about the same protein and mineral content as 1 ounce of meat. In the Grains group, the *traditional* serving size of 1 slice of bread was maintained as the serving size. For other grain products *nutrient content* was considered, as serving sizes were set to be approximately equivalent in calories to one slice of bread.

NUTRITION FACTS LABEL

The Nutrition Facts label lists the serving size of the food and the number of servings per container. It also identifies and quantifies key nutrients in a serving as a percentage of Daily Values (%DV) for a 2,000-calorie diet. Before FDA regulation, the choice of serving sizes on food labels was up to the discretion of individual food manufacturers. Serving sizes are now more uniform. The Nutrition Facts label, therefore, enables nutritional comparisons of similar foods. The label is now ubiquitous on food packages and widely recognized by consumers. (4)

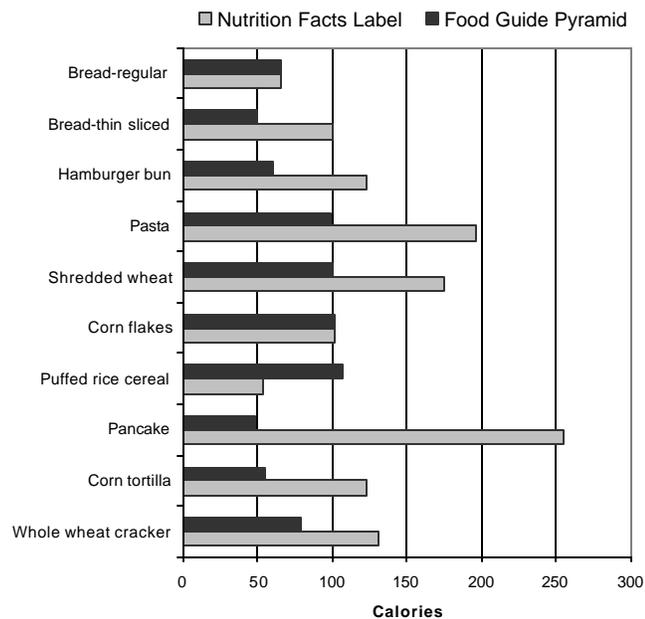
Determination of Serving Sizes on the Nutrition Facts label

Nutrition Facts label serving sizes are *based on*—but not necessarily *equal to*—the amount of food customarily eaten at one time (called the “reference amount”) as reported from nationwide food consumption surveys. As explained next, label serving sizes and reference amounts are related but not necessarily the same.

Serving sizes are based on reference amounts in one of three ways.⁽⁵⁾ For *bulk* products, such as cereals and flour, the Nutrition Facts labels use common household terms such as cup, tablespoon, teaspoon, and fluid ounce at a quantity that is closest to the reference amount for that item. For products that are usually divided for consumption, such as cake or pizza, the serving size is a *fractional* amount of the product (e.g., “1/4 pizza”). Products that come in defined, *discrete* units—such as eggs and sliced products—are normally listed as the number of whole units that *most closely approximates* the reference amount. For example, cookies have a reference amount of 30g. Thus, the serving size on a package of cookies weighing about 30g each would be “1 cookie.” For foods like cookies that come in discrete units, serving sizes for a single item may vary from 50 to 200 percent of the reference amount. Another example is bread—with a reference amount of 50g. The Nutrition Facts label serving size for bread which weighs 25g per slice could either read “1 slice (25g)” or “2 slices (50g).” Additionally, it is possible for a single slice of two different types of bread, with very dissimilar weights, to be listed as a serving on a food label.

Because serving sizes may vary from the reference amount, and because the reference amount for different foods may vary widely in caloric content, there is considerable variation in the calories in a label serving for different products from the Grain group (figure 1). The caloric variation between a single Pyramid serving of these foods is less, which reflects the effort to make Pyramid serving sizes nutritionally similar. For example, the number of calories in a Pyramid serving of the foods shown in Figure 1

Figure 1. Calories in one standard serving--Food Guide Pyramid and Nutrition Facts Label



ranges from about 60 to 110, while the number of calories in a label serving ranges from about 55 to 250.

WHY THE DIFFERENCES?

Serving sizes in the Pyramid and on the Nutrition Facts label are sometimes different because the two serve different purposes. The Pyramid is designed to help people meet daily nutrient recommendations. Serving sizes in combination with the recommended number of daily servings are an educational component of the Pyramid to help consumers select appropriate amounts to eat daily. Therefore, the Pyramid provides relatively few, easy-to-remember serving sizes for each of the food groups that, in most cases, are nutritionally comparable.

Nutrition Facts label serving sizes, on the other hand, provide detailed nutritional information on a food for easy comparison with similar foods. The label is deliberately specific for similar food products to allow consumers to determine differences in important nutrients among these foods and to select among similar foods based on nutritive values of comparable quantities.

If the purposes of the Pyramid and the Nutrition Facts label are understood, the two can be used together to compliment each other and to help consumers make food choices for a healthful diet from a wide variety of foods. The usefulness of both tools would be enhanced and confusion lessened if food product labels included a statement of the number of Pyramid servings contained in one label serving.

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For more information on this topic see *Food Portions and Servings: How Do They Differ?* CNPP Insight #11, 1999.



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