

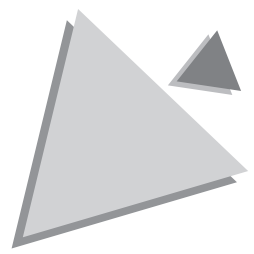
The Base of the Pyramid— Breads and Grains

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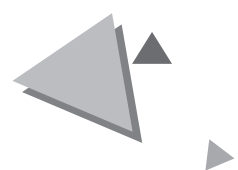


Grains

are an extremely important part of both the North Dakota economy and of our daily diets. If everyone ate the minimum six servings of grain foods daily recommended in the U.S. Dietary Guidelines for Americans, another 300 million bushels of wheat could be sold in the United States.

A bushel of wheat translates into:

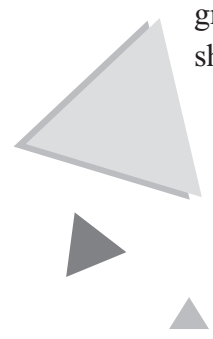
- ▲ 60 pounds wheat as harvested and gives
- ▲ 42 pounds of ground flour which gives
- ▲ 42 pounds of pasta or
- ▲ 42 one-and-a-half pound loaves of bread which have 24 slices each.



Thus a bushel of wheat equals 1008 slices of bread, and if you ate sandwiches three times a day, it would take you 168 days to eat all the bread from one bushel of wheat.

Wheat flour is an important ingredient in yeast breads because it provides the gluten which is essential for the structure and elasticity of the bread dough. Flours milled from grains other than wheat form little or no gluten; therefore, these flours are usually combined with wheat flour in yeast breads to ensure good volume and appearance.

A recent Gallup survey reveals that over 90 percent of Americans aren't eating enough grain foods. The U.S. Dept. of Agriculture's Food Guide Pyramid illustrates the types and quantities of foods that Americans should eat daily. The grain group—including bread, cereal and pasta—makes up the pyramid's foundation because it's from this group that we should consume the largest number of servings, six to 11. Adults consume on the average four servings a day of grain products--estimates range from three to five servings. Surveys show that only one of these servings is whole grain.



Fats, Oils, & Sweets
USE SPARINGLY

Milk, Yogurt,
& Cheese Group
2-3 SERVINGS

Vegetable
Group
3-5 SERVINGS

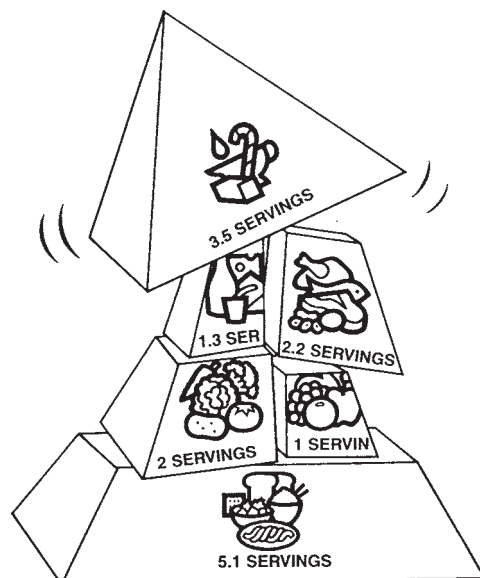
Meat, Poultry, Fish
Dry Beans, Eggs
& Nuts Group
2-3 SERVINGS

Fruit Group
2-4 SERVINGS

Bread, Cereal, Rice
& Pasta Group
6-11 SERVINGS

● Fat (naturally occurring and added)
▼ Sugars (added)
These symbols show that fat and added sugars come mostly from fats, oils, and sweets but can be part of or added to foods from the other food groups as well.

Food Guide Pyramid
U.S. Department of Agriculture



Actual Consumption

Reprinted with permission from:
National Cattlemen's Beef Association
(former National Livestock and Meat Board)

What is a serving?

- ▲ *1 slice soft-crumb bread (1 ounce)
- ▲ *1/2 bagel, English muffin, hamburger roll or soft pretzel
- ▲ *1 ounce cold cereal
- ▲ *1/2 cup cooked pasta, rice, bulgur or barley
- ▲ 3-4 small plain crackers
- ▲ 1 small tortilla
- ▲ *1/2 cup cooked cereal
- ▲ 1 waffle, 3-4 inch diameter
- ▲ 1 pancake, 4 inch diameter
- ▲ 1 slice of pizza (1/8 of 10 inch pizza)
- ▲ 1/2 croissant, large (2oz.)
- ▲ 1/2 doughnut, medium (2oz.)
- ▲ 1/2 Danish, medium (2oz.)

*These items are some of the lower fat foods in this food group.

How many servings do YOU need?

The Pyramid shows a range of servings for each food group. The number of servings that is right for you depends on how many calories you need, which in turn depends on your age, sex, size and how active you are. Almost everyone should have at least the lowest number of servings in the ranges.

Suggestions for Servings

Bread, Cereal, Rice, and Pasta Group

Sedentary women, older adults	6
Children, teenage girls, active women, sedentary men	9
Teenage boys, active men, very active women	11



Why are Breads and Grains Important in the Diet?

- ▲ Grain foods are a source of the three major B vitamins and iron and often provide folate, potassium, calcium, vitamin E and magnesium. They also provide other substances that are important for good health.
- ▲ Grain products are rich in fiber and complex carbohydrates (starches) and are generally low in fat, depending on how they are prepared and what is added to them at the table.



FIBER

In general, Americans get only about half of the daily 20 to 35 grams of fiber the American Dietetics Association and National Cancer Institute recommends, but they do recognize their shortcomings. A 1995 Gallup survey commissioned by the Wheat Foods Council shows 41 percent of Americans admit they don't get enough fiber.

Eating a variety of fiber-containing plant foods is important for proper bowel function, can reduce symptoms of chronic constipation, diverticular disease, and hemorrhoids and may lower the risk for heart disease and some cancers (colorectal, stomach and endometrial). However, some of the health benefits associated with a high-fiber diet may come from other components present in these foods, not just from fiber itself. For this reason, fiber is best obtained from foods rather than supple-

ments. Whole grain foods contain more than fiber—they include antioxidants and phytoestrogens, which may play vital roles in protecting against heart disease.

- ▲ Insoluble fiber aids in weight control if high-fiber foods are substituted for high-fat, high-calorie foods. Insoluble fibers are found in vegetables, fruits, legumes and cereals. Some may be recognized as the woody parts of vegetables such as carrots or the small seeds of fruits such as strawberries.
- ▲ Eating more soluble fiber may lower blood cholesterol in some people when eaten as part of a low-fat diet. In general, soluble fibers occur in higher concentrations in fruits, oats, barley and legumes.

CARBOHYDRATES

▲ Focus on increasing the quality of carbohydrate—not simply replacing fat with carbohydrate in general. For example, replace high fat cookies with reduced-fat cookies of near equal nutritional and caloric value. When fat is decreased other changes may be made in a product to make it acceptable to the consumer. Some of these changes may alter the nutrition beyond just fat and may even increase the number of calories.

Calories Per Gram	
Carbohydrates	.4
Protein	.4
Fat	.9

Current dietary guidelines recommend obtaining 55 to 60 percent of your calories from carbohydrates, especially complex carbohydrates. Carbohydrates are an important energy source, fueling the central nervous system and muscles during physical activity. They also help the body efficiently use vitamins, minerals, amino acids (protein) and other essential nutrients.

Carbohydrate Classification

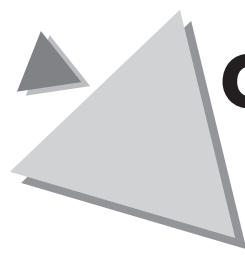
Simple: Sugars are simple carbohydrates because they consist of one or two sugar units. Sugars occur naturally in fruits, vegetables, milk and other foods, as well as in a refined state, such as table sugar or sucrose.

Complex: Complex carbohydrates are complex chain-like structures of many sugar units and include starches and dietary fiber. Complex carbohydrates are found in grain foods, fruits and vegetables.

The most common grain foods are wheat, rye, barley, oats, corn and rice. Whole grain products are made from the entire grain kernel with nothing except the husk (chaff) removed. For instance, whole wheat flour, wheat kernels (berries), some breakfast cereals, brown rice, corn meal, barley and oatmeal are considered whole grain. Whole-grain foods contain many different mixtures of carbohydrates and large molecules present in all plant foods. These are still under investigation for their contributions to the diet.

A recent oversimplification of metabolism suggests that eating pasta or other starchy or sugary foods can cause weight gain. Carbohydrates in and of themselves are not fattening. It is impossible to store calories as fat unless we eat more of them than we burn up. It is important to eat moderate amounts of lower calorie foods from all food groups and to exercise sufficiently to help burn up any extra calories.

Questions may arise regarding the inclusion of carbohydrates in the diets of persons with diabetes. If a person is diabetic or has other metabolic problems like insulin resistance, he or she may need to alter the proportion of calories from fat or carbohydrate in consultation with a physician and dietitian. Keep in mind that carbohydrates are crucial to managing diabetes, or high blood sugar. Under medical supervision, people who follow a diet high in complex carbohydrates and fiber have better blood sugar control.



Getting Enough Grains

Simply adding any of the following choices can help you reach the grain goal of at least six servings every day. Give some thought to what you add to or put on these foods if you are concerned about the amount of calories and/or fat in your diet.

- ▲ Snack of 1/2 bagel or English muffin
- ▲ Add a roll at dinner
- ▲ Go for 1/2 cup pasta salad instead of French fries at lunch
- ▲ Keep your pantry and office desk drawer stocked with low-fat fig bars, breadsticks, crackers, rice cakes, or graham crackers (about two equals one serving)
- ▲ Enjoy a slice of toast with your morning cereal
- ▲ Layer 1/2 cup cereal flakes or nuggets with low-fat yogurt or berries
- ▲ Pack a small pita with cut-up veggies; drizzle with fat-free salad dressing
- ▲ Munch on a quickie appetizer of toasted French bread rubbed with olive oil, garlic and herbs
- ▲ Toast a waffle and spread with ricotta cheese and fruit preserves
- ▲ Enjoy 1/2 cup hot or cold cereal (1 ounce) anytime of the day
- ▲ Roll up a slice of American cheese in a wheat tortilla spread with apple butter




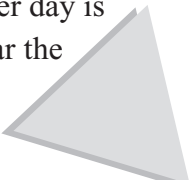
Adopted from Bridge the Gap to Good Nutrition with Grains
Wheat Foods Council



The Food Label

Use the Nutrition Facts portion of the food label to help you select bread and grain products and increase your consumption of these foods. Currently the food label lists the amounts of “total carbohydrate,” “dietary fiber” and “sugars” present in the product. Complex carbohydrates are not listed. An approximate calculation of the amount of complex carbohydrates could be reached by subtracting the sugars from total carbohydrates.

A minimum of three servings of whole-grain foods per day is recommended. Look for the words “whole grain” near the beginning of the ingredient list on the food label.



For additional information on bread contact your county office of the NDSU Extension Service for Breads from Wheat HE 152 or the North Dakota Wheat Commission, 4023 State Street, Bismarck, ND 58501-0690. Check local library or bookstores for books about bread.

You can order Fleischmann’s Yeast Bread Machine Favorites or Best-Ever Breads from PO Box 5953 Dept. A, Stacy, MN 55078-5953 for \$2.95 each.

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