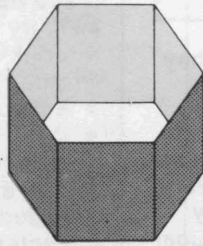


# Texas Agricultural Extension Service



Nutrition and Your Health

## Dietary Guidelines for Americans

### Eat a Variety of Foods

It is important to consider all seven Dietary Guidelines in building a healthful diet:

- Eat a Variety of Foods
- Maintain Desirable Weight
- Avoid Too Much Fat, Saturated Fat, and Cholesterol
- Eat Foods with Adequate Starch and Fiber
- Avoid Too Much Sugar
- Avoid Too Much Sodium
- If You Drink Alcoholic Beverages, Do So in Moderation

## What Do We Mean by Variety?

People need over 40 different nutrients to stay healthy. These include vitamins and minerals as well as protein, fat, carbohydrate, and water. These nutrients are found in foods. **No one food supplies all the essential nutrients in the amounts you need.** So it is important that you eat several types of foods each day to get the nutrients you need.

To help describe a varied diet, foods are grouped by the nutrients they contain. The major groups used are:

- Breads, cereals, and other grain products
- Fruits and vegetables
- Meat, poultry, fish, eggs, dry beans and peas
- Milk, cheese, and yogurt

A varied diet includes foods from each of these groups every day. It should have different foods within groups too. Certain other foods—fats, sweets, and alcoholic beverages—provide few vitamins and minerals, but they do provide calories.

## Nutrients—What Are They?

The six types of nutrients are described below. Most of us can get enough of these nutrients by eating foods from the major groups each day.

- **Proteins** are the building blocks of the body. They are needed for growth, maintenance, and replacement of body cells. They also form the hormones and enzymes used to regulate body processes. Any extra protein is used to supply energy or is changed into body fat.
- **Carbohydrates** include starches, sugars, and dietary fiber. Starch and sugar supply the body with energy. Dietary fiber provides bulk to the diet which encourages regular elimination of wastes.
- **Fats** provide energy and are carriers for fat-soluble vitamins. Fats also add flavor to foods. Some fats help form cell membranes and hormones.
- **Vitamins** are organic substances needed by the body in very small amounts. They do not supply energy, but they help release energy from carbohydrates, fats, and proteins. They also help in other chemical reactions in the body.
- **Minerals** are also needed in relatively small amounts and do not supply energy. They are used to build strong bones and teeth, and to make hemoglobin in red blood cells. They help maintain body fluids and help in other chemical reactions in the body.
- **Water** is often called the "forgotten nutrient." It is needed to replace body water lost in urine and sweat. Water helps to transport nutrients, remove wastes, and regulate body temperature.

**What about calories?** A calorie is not a nutrient. It is a measure of the energy supplied by food when it is used by the body. Our bodies need energy to perform work. The nutrients that supply calories (energy) are carbohydrates, fat, and protein. The alcohol in beer, wine, and liquor also supplies calories.

# Nutrients—Where Are They?

In all foods! Read on to find out which foods are sources of which nutrients.

## Milk, Cheese, and Yogurt— Good Sources of Calcium

The best sources of calcium in U.S. diets are milk, cheese, and yogurt. They also provide protein, riboflavin, vitamins B<sub>12</sub>, A, thiamin, and, if fortified, vitamin D.

Foods listed on the left below provide about the same amount of calcium and other nutrients as 1 cup of skim milk. Some also provide fat and sugar. We call these comparisons "tradeoffs."\* The tradeoffs will help you to identify those foods with fat and added sugar. When you choose a higher fat or sugar dairy product, you'll want to decrease other sources of fat and sugar in your diet that day.

1 cup whole milk = 1 cup skim milk + 2 tsp. fat
1 cup lowfat (2 percent) milk = 1 cup skim milk + 1 tsp. fat
1 cup lowfat (2 percent) chocolate milk = 1 cup skim milk + 1 tsp. fat + 3 tsp. sugar
8 ounces plain lowfat yogurt = 1 cup skim milk + 1 tsp. fat
8 ounces lowfat vanilla yogurt = 1 cup skim milk + 1 tsp. fat + 4 tsp. sugar
8 ounces lowfat fruit yogurt = 1 cup skim milk + 1 tsp. fat + 7 tsp. sugar
1-1/2 ounces natural cheese = 1 cup skim milk + 3 tsp. fat
2 ounces process American cheese = 1 cup skim milk + 4 tsp. fat

NOTE: Cottage cheese has less calcium than other cheese. One cup of cottage cheese contains only as much calcium as found in 1/2 cup of milk.

\*Tradeoffs are approximations based on the calories and nutrients in these types of foods. Individual foods vary.

## What About Cake and Ice Cream?

Foods like cake and ice cream are hard to classify. Cakes and other baked goods made with enriched or whole-grain flour provide the same essential nutrients as a slice of bread. However, they have much more fat and sugar. Ice cream, ice

milk, and frozen yogurt are made from milk so they have calcium and other nutrients found in milk. They are also higher in fat and sugar. Now and then, you can replace milk or some breads and cereals with these foods. But when you do, remember to cut your use of other fats and sweets. This will help you avoid too much fat and sugar.

## Calcium and Osteoporosis

Many American have diets that do not contain recommended amounts of the mineral calcium. Calcium is important for building strong bones and teeth in growing children. It also helps maintain the bones of adults. Osteoporosis is a disorder in which bone density decreases and bones are more likely to break. Bone density decreases with age in all people after about age 35. But risk of osteoporosis is greater for women, especially after menopause for whites, and for those who are underweight or who smoke. The exact cause of osteoporosis is not known. However, many scientists believe that extra calcium in diets and weight-bearing exercise such as walking may help prevent osteoporosis.

## What if You Can't or Don't Drink Milk?

If you have trouble digesting milk, try to—

- drink a small amount at one time.
- eat yogurt or cheese.
- drink milk to which lactase (an enzyme which breaks down milk sugar—lactose) has been added or add it yourself. Lactase can be purchased at many drug stores.

If you don't drink milk, eat more of other foods that provide some calcium, such as—

- foods made with milk or cheese.
- tofu, a soy product that is sometimes made with calcium sulfate. Check the label. One-half cup (4 ounces) of tofu made with calcium sulfate has about the same amount of calcium, protein, and fat as 1 cup whole milk.
- dark-green leafy vegetables.
- tortillas made with cornmeal fortified with calcium.
- canned or dried fish with edible bones, such as salmon.

People who do not drink milk or eat milk products should check with a dietitian, nutritionist, or physician. They can help to plan ways to get enough calcium. This is very important for children, teens, pregnant and nursing women, and people at risk for osteoporosis.

## The Breads and Cereals Connection

Grain products are an important part of a balanced diet. Both whole-grain and enriched breads and cereals provide starch, thiamin, riboflavin, niacin, and iron. Whole grains are also good sources of fiber and provide folic acid, magnesium, and zinc. Eat some whole-grain and enriched products each day.

## Vitamins and Minerals in Vegetables

All vegetables provide dietary fiber, some provide starch or protein, and they are also sources of many vitamins and minerals. But different types of vegetables vary in the kinds and amounts of nutrients they provide. Below are listed various types of vegetables and some vitamins and minerals each provides.

**Dark-green vegetables**-vitamins A and C, riboflavin, folic acid, iron, calcium, magnesium, potassium.

**Deep-yellow vegetables**-vitamins A and B.

**Dry beans and peas**-thiamin, folic acid, iron, magnesium, phosphorus, zinc, potassium, protein, starch.

**Starchy vegetables**-starch and varying amounts of certain vitamins and minerals, such as niacin, vitamin B<sub>6</sub>, zinc, and potassium.

**Other vegetables**-varying amounts of vitamins and minerals, such as vitamin C, vitamin A, and potassium.

## Vegetables—Opportunities for Taste Adventures

### Ideas for Serving Vegetables

- Many vegetables taste good raw. Try the lowfat cucumber dip with raw cauliflower, broccoli, carrot, green pepper, turnip, and rutabaga sticks or pieces. You can use green beans, red peppers, zucchini, or snow peas as dippers, too.
- Green up your salads by adding spinach, watercress, romaine, or other dark greens. They get an A+ in nutrients as well as in flavor. Don't stop there—add more color and flavor with other raw or cooked vegetables. Try cold cooked peas, corn, chickpeas, or beets. Be moderate in your use of oily salad dressings and mayonnaise because they add fats and calories.
- Ever tried steaming vegetables in or basket with water in the bottom of the pan, cover the pan with a tight-fitting lid, and steam vegetables until just tender and crisp.
- Stirfrying is a cooking technique adopted from the Orient. To cook food this way, wash vegetables under running water. Cut food into bite-size pieces. Dry each piece with paper towel to prevent splattering. Then fry in a hot pan in a small amount of oil, stirring constantly to keep from burning. After only a few minutes, the food is ready to eat. It's still crisp. And most nutrients are left in, because food is not overcooked.
- Dry beans and peas are legumes. They have been shown in USDA food guides as alternates for meat, poultry, and fish for decades: but they can be used as vegetables also. Dry beans and peas are available not only in the dry form but also cooked and canned. Dry beans and peas can be cooked ahead and stored in the refrigerator for a day or two or they can be frozen for later use. Beans are good in salads, soups, as a side dish, and, for a "different" snack, as a bean dip.

## Fruits—Nature's Sweets

All fruits are good fresh as well as canned or frozen. Fruits not only add color, flavor, texture, and sweetness to the diet but also provide many nutrients as well as dietary fiber. Citrus fruits (oranges and grapefruit), melons, and berries are excellent sources of vitamin C. Two tropical fruits now available at many supermarkets—kiwifruit and papaya—are also good sources of vitamin C. Deep-yellow fruits such as apricots, cantaloups, and mangos are high in vitamin A. All of these fruits—and others—provide additional nutrients such as folic acid, potassium, and magnesium.

- **Kiwifruit** is colorful and refreshing with a tart-sweet flavor. Serve as an appetizer garnished with mint leaves or slice and add to a fruit salad or fruit cup.
- **Nectarine** is one of the oldest fruits, a smooth-skinned relative of the peach. When plentiful—June to September—try combining with blueberries (fresh or unsweetened frozen) and pineapple.
- **Tangerine** is a spicy tart citrus fruit that is easy to peel. Eat out of hand or add to vegetable or fruit salads. They are available during the winter months when many other fruits are out of season. Canned tangerines are called mandarin oranges.
- **Plantain** is greenish in appearance and is longer and more starchy than its relative, the banana. For eating, plantains must be cooked, usually by boiling, baking, or frying. Like the banana, plantains are a good source of potassium.

## Meat, Poultry, and Fish

Foods in this group are sources of many nutrients. These include protein, niacin, vitamins B<sub>6</sub> and B<sub>12</sub>, iron, phosphorus, and zinc. Meat, poultry, and fish also provide fat and cholesterol. But you can select and prepare items from this group so that the amount of fat is quite modest. Choose lean cuts of meat, trim off visible fat from meat, remove the skin from chicken, and prepare by baking or broiling instead of frying.

### Some Alternates

Eggs can be used as an alternate to lean meat, poultry, and fish, but egg yolks are high in cholesterol. Dry beans and peas and various nuts and seeds are high in protein and can also be used as alternates. The vitamin and mineral content of these foods is similar to meat, except they do not contain vitamin B<sub>12</sub>. Beans and peas contain carbohydrates and are lower in fat than lean meats. Nuts and seeds are much higher in fat than lean meat. The tradeoffs\* below indicate the amount of a meat alternate that can substitute for 1 ounce of lean meat, poultry, or fish. They also show the approximate amount of extra fat in nuts and seeds, compared to lean meats.

Cheese is often used in place of meat at meals. But cheese is not a complete nutritional substitute for meat, poultry, or fish. Both meat and cheese are good sources of protein and vitamin B<sub>12</sub>. Meat, poultry, and fish (and eggs, dry beans, dry peas, nuts, and seeds) are good sources of iron. Cheese is a very good source of calcium, but contains little iron. Be sure to include *both* milk products and meats or meat alternates in your diet daily.

1/2 cup cooked dry beans or peas + 1 tsp. fat	= 1 ounce lean meat, poultry, or fish + 1 slice bread
2 tbsp. peanut butter	= 1 ounce lean meat, poultry, or fish + 3 tsp. fat
1/4 cup seeds	= 1 ounce lean meat, poultry, or fish + 4 tsp. fat
1/3 cup nuts	= 1 ounce lean meat, poultry, or fish + 5 tsp. fat

\*Tradeoffs are approximations based on the calories and nutrients in these types of foods. Individual foods vary.

## What Counts as a Serving?

The examples listed below will give you an idea of the amounts of food to count as one serving from each of the major food groups.

- **Breads, cereals, and other grain products:** (4 servings daily) 1 slice of bread; 1/2 hamburger bun or english muffin; a small roll, biscuit, or muffin; 3 to 4 small or 2 large crackers; 1/2 cup cooked cereal, rice, or pasta; or 1 ounce of ready-to-eat breakfast cereal.
- **Fruits and Vegetables:** (4 servings daily) A piece of whole fruit such as an apple, banana, orange; a grapefruit half; a melon wedge; 3/4 cup of juice; 1/2 cup berries, or 1/2 cup cooked or canned fruit; or 1/4 cup dried fruit; 1/2 cup of cooked or chopped raw vegetables or 1 cup of leafy raw vegetables, such as lettuce or spinach.
- **Meat, poultry, fish, and alternates:** (2 servings daily) Serving sizes will differ. Amounts should total 5 to 7 ounces of lean meat, fish, or poultry a day. A serving of meat the size and thickness of the palm of a woman's hand is about 3 to 5 ounces and a man's, 5 to 7 ounces. Count 1 egg, 1/2 cup cooked dry beans, or 2 tablespoons of peanut butter as 1 ounce of lean meat.
- **Milk, cheese, and yogurt:** (2 to 4 servings daily) 1 cup of milk, 8 ounces of yogurt, 1-1/2 ounces natural cheese, or 2 ounces of process cheese.

*Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.*

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## Iron ...

### A Problem Nutrient

Diets of many toddlers, teenagers, and women up to age 50 contain much less than the recommended amount of iron. Iron forms hemoglobin in the blood, which supplies oxygen to the body cells.

Iron is found in many foods. Meat, poultry, and fish are the best sources. Foods from plants such as enriched and whole-grain breads and cereals, dry beans and peas, and dark-green leafy vegetables are also important sources. However, the iron in these foods is in a form that is not as well absorbed by the body as is the iron in meat, poultry, and fish. Recent research suggests that eating these iron-containing plant foods in a meal or snack with a food rich in vitamin C increases the amount of iron the body can absorb. Also, eating some meat, poultry, or fish at the same meal helps the body absorb the iron in plant foods better.

Since it is especially difficult to meet the iron needs of toddlers, many doctors recommend using a fortified breakfast cereal or an iron supplement. Doctors usually prescribe iron supplements for pregnant and nursing mothers, and sometimes for other women of childbearing age.

### \*What About the Number of Servings?

The amount of food you need depends on your age, sex, physical condition, and how active you are. Almost everyone should have at least the minimum number of servings from each food group daily. Many women, older children, and most teenagers and men need more. The top of the range is about right for an active man or teenage boy. Young children may not need as much food. They can have smaller servings from all groups except milk, which should total 2 servings per day. You can use the guide at the left to help plan for the variety and amounts of foods your family needs each day.