

Nutrition SPOTLight

July/August 1999 Volume 2 Issue 4



Why 5 A Day?

By now, practically everyone has heard the slogan “5 a Day—for Better Health!” Young children know what the phrase means, and people around the U.S., and some other countries as well, are aware of the need to include at least five servings of fruits and vegetables in their diets each day. Unfortunately, new information about our food habits reveals that Americans are still not ‘choosing enough’ of these nutritious choices.

A survey conducted by the USDA’s Agricultural Research Services (ARS) between 1994 and 1996 found that Americans did not meet the minimum number of servings for fruit, and barely met the minimum recommendations for the vegetable group.

As a daily guideline, the Food Guide Pyramid recommends three to five servings of vegetables, and two to four servings of fruit along with a variety of food. Eating at least this minimum number of servings adds up to “five a day,” and that’s where the popular slogan comes from.



What will five servings a day offer a person?

Researchers believe that eating those five servings, at a minimum, will help us beat the odds. Eating more fruits and vegetables appears to protect us against certain diseases, including several forms of cancer and the onset of heart disease. While the studies continue, the message seems to be coming through loud and clear—not only do fruits and vegetables contain valuable vitamins, minerals and fiber, but they also contain a variety of other important substances,

such as phytochemicals, whose roles are now being investigated.

Will any five servings do?

While the ideal diet would reveal a varied five - or more! servings each day, the actual trend is not as positive. Fruit and vegetable consumption continues to be an area in which Americans could use improvement. Lori Borrud, a nutritionist with ARS, said that “most Americans think they are eating a sufficient serving of fruit

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and vegetables, but when we examine what they are eating, they're really not." Survey results indicated that two-thirds of adults think it is important to eat enough fruits and vegetables, but in practice, consumption in these groups has increased only slightly since the 1970's.

It is easier to include five servings of fruits and vegetables in our daily plan than it seems.

Consider these thoughts:

- choose fruits and vegetables in the form you like best — fresh, frozen, dried or canned.
- make your choices count! Be sure the juice you drink is 100% fruit or vegetable juice, and not a juice drink.
- take time to explore what is at the store — or the farmer's market. It's a sure bet we won't eat more fruit and vegetables if we don't buy them and bring them home.

- take a fruit to lunch — plan ahead for snacks or lunch by tucking fruit in your backpack or briefcase.

- sandwich it in — add pizzazz to sandwiches by including sliced pineapple, apple, peppers or tomatoes. Instead of peanut butter and jelly, how about peanut butter and banana?

- add veggies to recipes — get creative with cooking, and add the color, texture and flavor of vegetables to casseroles, soups, and stews. Along that line, think about adding fruit to your creations — folded in muffin batter, stirred into puddings, topping a meat dish.

We hope you will feast on the season's finest, and will find this issue of *Nutrition Spotlight* helpful in teaching and reaching those 5 a day goals.

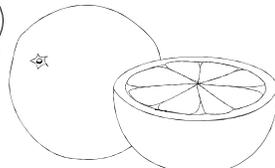
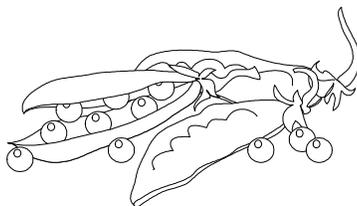
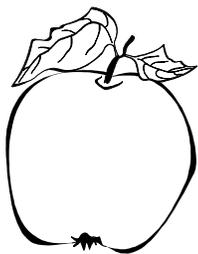
Sources: *4 Weeks to More Fruits and Vegetables. Communicating Food for Health, vol. 7, no. 6. June 1999. p.69.*
Americans Are Not Eating Enough Produce & Grains," CNI, September, 1998. p.2.
Duyff, Roberta. The American Dietetic Association's Complete Food & Nutrition Guide, 1998. 96-97.

C a l e n d a r

July National Baked Beans Month
National Hot Dog Month
National Ice Cream Month
Kansas Wheat Month

July 4 Independence Day

August National Sandwich Month
Kansas Peach Month



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Our Mothers Were Right: Roughage (aka fiber) Is Good for Us

Fiber is an important tool in maintaining good health. It is found in greater or lesser amounts in all plants (fruits, vegetables and grains). Fruits often have more soluble fiber such as pectin, while vegetables have more insoluble fiber such as cellulose.

Although fiber is not a nutrient per se, it is a very important part of a healthy diet. It contributes virtually no calories for the human body, but rather provides energy for “good” intestinal bacteria to produce lactic acid which in turn prevents proliferation of disease-causing bacteria and yeast. There are a number of annoying conditions such as constipation, hemorrhoids, and diverticulosis that can be avoided or improved by eating a diet adequate in fiber. Particularly valuable in controlling these conditions is insoluble fiber which softens and adds bulk to the stool and increases transit time through the colon. Although the jury is still out on whether fiber can reduce the incidence of colon cancer, it is still important in maintaining intestinal health.

Fiber offers a variety of additional benefits. It can be helpful in maintaining a good body weight. By creating a sensation of fullness there is less temptation to overeat at meals or to nibble in between. Because soluble fiber slows the absorption of blood sugar, it has been found to help some people with non-insulin dependent diabetes reduce their insulin needs. It also has been shown to lower serum cholesterol, more specifically the “bad cholesterol” (LDLs), by trapping fats and cholesterol in the intestines, thus significantly reducing the risk of coronary heart disease.

How much, then do we need? Most adults need between 25-35 grams each day, of which 5-10g should be soluble fiber. Fruits and vegetables have varying amounts of soluble and insoluble fiber. It’s possible to get an adequate amount of each by eating a variety of both! Children’s needs can be estimated by adding 5+ their age. For example, a five year old would need 5g+5 (years) or a total of 10 grams of fiber. If a child eats a diet too high in fiber, he may get “full” before he eats enough food to meet his caloric and nutritional needs. In addition, too much fiber in his diet can interfere with the absorption of important vitamins and minerals.

It is important to keep in mind that the fiber content of fruits and vegetables change depending on how they are prepared. For example: a medium size apple with skin has 3.0g of fiber, a medium size apple without skin has 2.4g of fiber, 1/2 cup of apple sauce has 1.8g of fiber and 3/4 cup of apple juice has only 0.8g of fiber!

Finally, when assessing the health benefits of various fiber-rich foods, it is hard to separate it from the contributions of other components such as phytochemicals, vitamins and minerals. That is why it is important to ingest fiber– not in pill or powder, but in the old-fashioned way–by enjoying natural fruits and vegetables.

Source: ADA’s Complete Food & Nutrition Guide, 1998.

Fiber Content of Some Fruits and Vegetables

Food	Serving Size	Soluble Fiber	Insoluble Fiber	Total Fiber
Banana	1 medium	0.5g	1.5g	2.0g
Apple with skin	1 medium	0.5g	2.5g	3.0g
Orange	1 medium	0.5g	1.5g	2.0g
Pear with skin	1 medium	0.5g	4.0g	4.5g
Potato with skin	1 medium	1.0g	3.0g	4.0g
Spinach	1/2 cup	0.5g	1.5g	2.0g
Kidney beans	1/2 cup	1.0g	3.5g	4.5g
Corn	1/2 cup	0	1.5g	1.5g

Choosing Fruits and Vegetables

Fresh or Processed?

There is no need to limit yourself to only fresh produce. Dried, frozen or canned fruits and vegetables are often easier to work into your diet.

Frozen and canned vegetables are processed within hours of being harvested; their vitamin and mineral retention is comparable to fresh. Most of the nutrient losses from vegetables occur during cooking. Whatever type of vegetables you choose, be careful not to overcook them, in order to retain more nutrients and preserve their appealing colors and flavors. Usually frozen and canned vegetables need only to be heated, while fresh vegetables should be cooked until tender but still crisp.

What about organic or Integrated Pest Management (IPM) grown food?

“Organically grown” food is food grown and processed using no synthetic fertilizers or pesticides. Pesticides derived from natural sources (e.g., biological pesticides) may be used in producing organically grown food. There are currently no comprehensive national standards on using these farming practices for crops labeled as “organic”. Some states have certification guidelines. Some organic organizations require avoidance of certain practices during crop production in order for the produce to meet their labeling requirements. Food produced under IPM-based practices may have had labeled pesticides (biologically-based or synthetic) applied in situations where pests exceeded economic thresholds. Pesticides are used to prevent yield loss from insects, diseases, weeds, and mold

during the production of most of the fruits and vegetables sold in this country. *To reduce your exposure to pesticide residue:*

- Thoroughly rinse raw produce under running water. Don't use soap or other detergents. This will help remove bacteria and traces of chemicals from the surface, and dirt from crevices. Not all pesticide residues can be removed by washing.

- Scrub produce of which the outer skin or peeling is consumed with a clean dish brush before eating.

- Throw away the outer leaves of leafy vegetables, such as lettuce and cabbage.

- Peel fruits or vegetables to reduce dirt, bacteria, and pesticides, although some nutrients and fiber may be lost when produce is peeled.

- Eat a variety of foods from a variety of sources. This will help give you a better mix of nutrients and reduce your likelihood of exposure to a single pesticide.

Ways to Stretch the value of fruits and vegetables

- ✓ Buy fresh fruits and vegetables in season.

- ✓ Buy only enough fresh fruits and vegetables that you'll use in 3 to 6 days. Buy both ripe and not-so-ripe, so that the not-so-ripe items will last a few days longer and be ready for eating after you've finished the ripe ones.

- ✓ Store fruits and vegetables where you will see them often and remember to eat them.

- ✓ Buy canned, frozen, or dried fruits and vegetables, and juices, for later use, after you've eaten the fresh ones.

- ✓ Watch local grocery advertisements for reduced prices on your favorite fruits and vegetables.

- ✓ Compare prices of different brands of canned and frozen fruits and vegetables and juices and buy the cheapest.

- ✓ Clip coupons for money off on your favorite canned and frozen produce.

Tips for Safe Handling of Fruits and Vegetables

- ☐ Wash hands with warm water and soap for at least 20 seconds before and after handling food, especially fresh whole fruits and vegetables and raw meat, poultry and fish.

- ☐ Use smooth, durable and nonabsorbent cutting boards that can be cleaned and sanitized easily.

- ☐ Wash cutting boards with hot water, soap and a scrub brush to remove food particles. Then sanitize the boards by putting them through the automatic dishwasher or rinsing them in a solution of 1 teaspoon chlorine bleach to 1 quart water. Wash boards and knives after cutting raw meat, poultry or seafood and before cutting another food to prevent cross-contamination.

- ☐ Rinse dirt from fresh fruits and vegetables. Store cut, peeled fruits and vegetables in the refrigerator.

- ☐ People who are very young or very old, have a chronic disease, or take certain medicines should use only pasteurized juices and cider. Pasteurization kills harmful levels of bacteria commonly found in food.

- ☐ Avoid eating fruits and vegetables that look brownish, slimy or dried out.

More to Offer Than Vitamins

Most of us know that plant foods contribute vitamins, minerals and fiber to our diets, but scientists are learning more each day about what other chemicals are in plants that may promote health and decrease the risk of many diseases. The term being given to these compounds in plant foods is phytochemicals (*phyto* means plant).

Phytochemicals are different from vitamins or minerals because a lack of them doesn't cause a deficiency disease. They do, however, have various biological effects in the body. How these chemicals work is not completely understood - some act as antioxidants, others modify the immune system, and still others alter enzymes that metabolize drugs in the body systems.

There have been thousands of phytochemicals identified, but most can be included in one of the following categories:

Isoflavones: These are found in soy beans, garbanzo beans, chick peas, and licorice and have effects similar to those of estrogen. May help protect against heart disease and breast cancer.

Sulfur compounds: Foods like garlic, onions, chives, leeks and scallions contain allylic sulphides that are thought to stimulate enzymes that inhibit bacterial growth.

Indoles and isothiocyanates: Found in cruciferous vegetables such as broccoli, Brussels sprouts, cabbage and cauliflower, these are believed to inhibit the DNA damage that triggers some forms of cancer.

Betaglucan: This is a type of soluble fiber which comes from legumes, oats and some other grains, and is helpful in diabetes control by slowing stomach emptying and glucose absorption.

Saponins: Spinach, potatoes, tomatoes and oats contain this type of carbohydrate. It is thought to suppress the growth of cancers and benefit the heart.

Lignin and alphinolenic acid: These are found in flax seed products and are thought to reduce the risks of breast and colon cancers.

Monoterpenes: These substances are found in orange peel, citrus oils and cherries. They may have anti-tumor properties.

Carotenes: These are found in carrots, dried apricots and peaches, cantaloupe, green leafy vegetables, sweet potatoes, and yams, and are thought to lower risk of lung and other cancers.

Lycopene: This chemical from tomatoes may lower risk of prostate and stomach cancer.

Polyphenols: This is found in green tea and is thought to lower risk of skin, lung, and stomach cancers.

Because of the many potential benefits, there are plenty of phytochemical supplements on the market. All plant foods contain dozens to hundreds which could act individually, but more likely act in concert to produce the beneficial effects. Not all of the chemicals have been identified nor do we know which combinations of chemicals are providing the benefits. So, as always, it is better to get your phytochemicals from eating plenty of plant foods, especially fruits and vegetables.

Getting Kids to Eat Vegetables

Do you have trouble getting your child to eat vegetables? It is important for children to learn to like them when they are young. Here are some ideas to make vegetables more appealing to your child:

- **Serve raw vegetables cut into bite-size pieces** so your child won't choke. Serve with a dip.
- **Don't overcook.** Try steaming, microwaving, or stir-frying. These cooking methods help vegetables keep their color, texture, and mild flavor.
- **Let your child help choose and prepare vegetables.** A child is more likely to eat what he or she has helped prepare.
- **Plant a garden with your child.** Children love to watch things grow and will be more likely to eat something they have nurtured.
- **Set a good example.** Let your child see you eating and enjoying vegetables daily.
- **Keep trying.** If certain vegetables aren't a hit the first time they are served, try them again in the future, and continue to look for varied ways to include vegetables in your child's meals.
- **Respect your child's dislikes.** We all have foods we just don't like.



Soy For Your Health

Compared with the U.S., where in the world do people have fewer heart attacks, less breast and prostate cancer, fewer hip fractures, and women report fewer hot flashes and other symptoms of menopause? China and Japan. However, as Asians adopt the western developed world style of eating, their rates for chronic diseases rise. This intriguing information has stimulated considerable research into the effects of soy foods on health.

Heart Disease: While it is apparent that there is no single dietary cause nor cure, the research into the possible heart-protecting role of soybeans in its many

forms is arresting. For example, researchers have shown that 25 grams of soy protein can lower LDL cholesterol levels 10 percent and significantly raise HDL levels, the "good" cholesterol. But other components besides protein in soy protein contribute to the heart-healthy effects of soy. These include isoflavones (soy is particularly rich in genistein), lecithin, saponins, and phytosterols, all suspected of health effects. Soy protein often contains isoflavones but products vary widely in amounts. While the best thing to do is check the label, most soy products do not list their isoflavone content.

Breast Cancer: There is speculation that soy can reduce the likelihood of getting breast cancer. The genistein is a weak estrogen and can interfere with estradiol, the natural hormone produced by women that is widely believed to increase their chances of developing breast cancer. In a test tube,

genistein can either stop cancer cells from growing or stimulate their growth, depending upon the kind of cell. The research shows mixed results. One possibility is that the genistein is more effective in premenopausal than in postmenopausal women.

Prostate Cancer: While Japanese men have about the same number of non-invasive prostate cancer cells as Americans, the cells are less likely to become cancerous. Studies are underway in this country to check the effect of a low-fat, soy-supplemented vs a regular diet for affecting PSA

levels, a specific blood test for prostate cancer. While isoflavone

pills may prove to have merit, it is too early to take them in hope of preventing breast or prostate cancer. Foods like tofu, soy milk and tempeh or soy protein powder are likely to be good sources of isoflavones.

Menopausal Symptoms: Asian women have so few hot flashes that the Japanese don't even have a phrase for them. A study in the U.S. with women taking soy protein powder compared with women on placebos had the same number of hot flashes but they were considerably milder. The women also experienced average drops of 10 percent in total cholesterol and 12 percent lower LDL levels.

Osteoporosis: In a recent report, soy protein helped protect lumbar bone from losing calcium out of the spinal column. In this short-term study, isoflavones did not improve bone density and other bones were not affected.

Diabetes: Blood-glucose levels can be lowered with soluble fiber and a low-fat, high-carbohydrate diet. Soy along with other legumes, barley, oats, and fruits are sources of soluble fiber. It is believed that soy fiber is mainly responsible for this sugar-lowering effect. Unfortunately, much of the fiber is often removed during processing of soy products.

Other western, developed-countries ailments: Diastolic blood pressure (the lower one) dropped a significant six points in the study noted above regarding hot flashes. Soy protein may be a factor in that it discourages fluid retention in some people that results from a high animal protein intake. This fluid retention can raise blood pressure. Other soy factors may also be involved in regulating blood pressure. Kidney stones and gallbladder disease rates are lower in those consuming more soy protein and less animal protein.

There is still much research to be done on the health effects of soy foods, but soy is being investigated more than ever before. While these studies will shed further light, we may still have to wait a number of years before we have definite answers including safety ones about taking isoflavone pills and giving soy formula to babies.

In the meantime, you can enjoy soy products like tofu, soy grit, soy milk and soy nuts. By doing so, you just may protect your health.

Sources: Finding Natural ways to Minimize the Side Effects of Menopause. Environmental Nutrition. 21(8):1, 6. August 1998. Liebman, Bonnie. The Soy Story. Nutrition Action Health Letter. 25(7):1-7. September 1998. Messina, Mark and Virginia Messina. The Simple Soybean and Your Health. Avery Publishing Company, Garden City Park. Chapters 6-11. 1994. Soy in A.M. May Relieve Sweats in P.M. Environmental Nutrition. 20(2):8. February 1997.

Hearty Bulgur Salad

- 1 cup dry bulgur
- 2 cups warm water
- 2 cups peeled and diced cucumber
- 1 1/2 cups diced tomatoes
- 1/2 cup thinly sliced green onions
- 1/2 cup diced green pepper
- 10 radishes, diced
- 1/4 cup minced parsley
- 1 teaspoon seasoned salt
- 1/4 teaspoon black pepper
- 1/3 cup lemon juice
- 1 tablespoon minced fresh mint

Combine bulgur and water; let stand until bulgur is soft, about 20 minutes. Strain off excess liquid. In a large salad bowl, toss together all ingredients. Refrigerate until serving. Makes 6 cups.

A Kansas Wheat Commission Recipe

Quick Recipes

- For a convenient bean salad, open cans of kidney beans, wax beans, chick-peas, and green beans, and toss with a lowfat vinaigrette dressing.
- Add 1-2 cups of frozen vegetables to canned soup before heating; serve on top of cooked instant rice in a shallow bowl.
- Scoop out the pulp from a baked potato, combine with scrambled egg or chopped cooked meat and vegetables such as onion, tomato, peppers, and restuff.
- Use a 12-inch, pre-baked packaged pizza crust to create a 20-minute dinner; add sliced zucchini, fresh spinach, mushrooms, tomatoes, garlic, onion, and cheese and baked at 400 degrees until the cheese bubbles.
- Top broiled meat, chicken or fish with salsa. Each 1/2 cup of salsa is a serving of vegetables.

Serving suggestions for fruit and vegetables

Add fruit to your breakfast cereal; drink 100% juice instead of soda for a snack; snack on fresh fruit or vegetables or dried fruit at work or school instead of candy; eat fruits and vegetables from home along with take-out dinners.

Nutrition Facts	
Serving Size 148g	
Servings Per Container 6	
Amount Per Serving	
Calories 110	Calories from Fat 5
% Daily Value *	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 250mg	10%
Total Carbohydrate 24g	8%
Dietary Fiber 6g	23%
Sugars 3g	
Protein 4g	
Vitamin A 10%	Vitamin C 60%
Calcium 2%	Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. If your calorie needs are much different, you adjust the amounts recommended for calories, fats, carbohydrate, and fiber.	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400 mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 Protein 4

Select your daily intake

In selecting your daily intake of fruits and vegetables, the National Cancer Institute recommends choosing:

- At least one serving of a vitamin A-rich fruit or vegetable a day.
- At least one serving of a vitamin C-rich fruit or vegetable each day.
- At least one serving of a high-fiber fruit or vegetable a day.
- Several servings of cruciferous vegetables a week.

Serving Sizes:

- One serving is:
 - a medium piece of fruit
 - 1 cup raw, leafy vegetables
 - 1/2 cup fruit or vegetables (raw, cooked, canned, or frozen)
 - 1/2 cup cooked or canned dried peas or beans
 - 3/4 cup 100% fruit or vegetable juice
 - 1/4 cup dried fruit

We hope you enjoy this “5 A Day” issue of Nutrition Spotlight. In recent issues, we’ve changed our format to focus on many aspects of a central theme each issue—in other words, we intend to “spotlight” a topic that we believe is timely and important to you. Let us know what you think!

