



April is National Soyfoods Month!

What's new with the 2010 Dietary Guidelines?

The Dietary Guidelines for Americans are released every five years in a joint effort by the United States Department of Agriculture (USDA) and the Department of Health and Human Services (HHS). For the first time, the 2010 release addresses an *unhealthy* population, with particular attention paid on America's prevailing health issues: adult and child obesity and diet-related diseases like cardiovascular disease (CVD) and type 2 diabetes.

As in prior versions, the 2010 Guidelines recommend a diet rich in nutrient-dense foods and beverages—vegetables, fruits, whole grains, fat-free or low-fat milk and milk products (including calcium-fortified soy beverages), seafood, lean meats and poultry, eggs, beans and peas, soyfoods, and nuts and seeds.

The 2010 Guidelines include several major updates:

- The recommended sodium level is capped at 2300 mg, and 1500 mg for African Americans, people with hypertension, diabetes, chronic kidney disease, and people 51 and older.
- When describing calorie balance, desirable foods should *replace* undesirable foods, rather than be added to the diet.
- Two new USDA food patterns highlight plant-based protein in meal plans designed specifically for vegetarians and vegans.

Clearer advice on fats.

Despite numerous public health efforts, Americans continue to over consume unhealthy saturated and *trans* fats and cholesterol. Moreover, according to a 2007 International Food Information Council (IFIC) study, consumers do not distinguish between good and bad fats. Additionally, about 70% of protein in the typical American diet comes from animal sources, many of which are not in lean form. Less than 10% comes from plant sources.¹ Soyfoods provide the only plant protein with a quality equivalent to animal protein.

In response, the 2010 Guidelines encourage Americans to eat less *solid fats*, which they define as saturated and *trans* fats. Sources of solid fats are clearly identified as most animal foods like sausage, poultry with skin, full-fat dairy, and meat that has not been trimmed, as well as foods made with partially-hydrogenated oils. Whereas animal products have more saturated fats (seafood being the major exception), plant foods have more mono- and poly-unsaturated fats.

The 2010 Guidelines shift focus to healthy fats, encouraging Americans to eat more vegetable oils, such as liquid vegetable oils like canola, olive, peanut and soybean and plant-based foods rich in healthy fats such as nuts, seeds, olives and avocados. According to the Guidelines, most fats in the diet should be polyunsaturated or monounsaturated. The Guidelines continue to say that because oils are a concentrated source of calories, Americans should *replace solid fats* with oils rather than add oil to the diet and should use oils in small amounts.

Choosing plant-based proteins in place of traditional meat choices that are high in saturated fat naturally replaces solid fat in the diet with healthy oils. In addition, dairy alternatives such as soymilk and soy cheese can replace full-fat milk, ice cream, cheese, and related products.



Why plant protein? The health benefits of plant-based diets.

Many people do not follow dietary advice because they don't want to give up their favorite foods. Soy-based meat alternatives come in many forms, like soy patties, soy crumbles, and veggie burgers, making it easy to follow the new Dietary Guidelines while still eating favorite dishes. Replacing animal with plant sources of protein is a strategy that does more than help Americans follow the 2010 Dietary Guidelines. Studies show that plant protein has the ability to:

- 1. Reduce blood pressure.** According to USDA evidence reviews, intake of vegetable protein has been linked to lower blood pressure.ⁱ
- 2. Displace heart-UNhealthy foods.** Consuming plant sources of protein displaces animal foods that have been linked to coronary heart disease (CHD), such as processed meat (recently associated with a 42% higher risk of CHD).ⁱⁱ
- 3. Decrease serum lipids.** Dry beans and peas including soyfoods are good sources of soluble dietary fiber, which is known to lower serum lipids. Additionally, as the existing FDA-approved health claim states, soy protein has the ability to modestly lower serum lipids. A recent study estimated the total cholesterol lowering effect of soy protein to be between 7.9 to 10.3% and found it to be *distinct from the effects of food displacement*.ⁱⁱⁱ
- 4. Prevent diabetes.** Soluble fibers found in legumes may slow absorption of carbohydrates and lower glucose response. In the Shanghai Women's Health Study, greater intake of soybeans, peanuts, dry beans and peas was associated with a decreased risk for type 2 diabetes.^{iv}
- 5. Lower body weight.** Both plant protein and dietary fiber appear to lower body weight. A recent meta-analysis of 11 studies found that the intake of legumes was associated with decreased body weight.^v
- 6. Redistribute fat.** Besides being as effective as animal protein in achieving lower body weight, soy protein may have an additional advantage of redistributing the fat to the limbs away from the body core.^{vi}

ⁱReport of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010.

ⁱⁱMicha R, Wallace SK, Mozaffarian D. Red and processed meat consumption and risk of incident coronary heart disease, stroke, and diabetes mellitus: A systematic review and meta-analysis. *Circulation*. 2010;121:2271-83.

ⁱⁱⁱJenkins DJ, Mirrahimi A, Srichaikul K, et al. Soy protein reduces serum cholesterol by both intrinsic and food displacement mechanisms. *J Nutr*. 2010 Dec;140(12):2302S-11S.

^{iv}Villegas R, Gao YT, Yang G, Li HL, Elasy TA, Zheng W, Shu XO. Legume and soy food intake and the incidence of type 2 diabetes in the Shanghai Women's Health Study. *Am J Clin Nutr*. 2008;87(1):162-7.

^vAnderson JW, Major AW. Pulses and lipaemia, short- and long-term effect: potential in the prevention of cardiovascular disease. *Br J Nutr*. 2002;88 Suppl 3:S263-71.

^{vi}Cope MB, Erdman JW, Allison DB. (2008).The Potential Role of Soyfoods in Weight and Adiposity Reduction: An Evidenced Based Review. *Obesity Reviews*, 9(3): 219-235. doi: 10.1111/j.1467-789X.2007.00390.x



Eating a plant-based diet doesn't have to be difficult.

First steps

- Start by replacing animal protein with plant protein at three meals a week.
- Try substituting some of the meat in a recipe with a plant-based alternative. For example, decrease the meat and use extra beans when making chili.
- Choose soy products for highest-quality plant protein and nutritional benefits.

Later steps

- Replace animal protein with plant protein at least one time a day, or 6-9 meals a week.
- Substitute all of the meat in a meal with a plant-based option(s). For example, make chili with beans and soy crumbles.
- Choose plant protein foods fortified with vitamin B12, vitamin D, and calcium to secure needed nutrients.

Eating with the Pyramid, what and how much to include.

In the **Dairy Foods** group, some plant based options equivalent to dairy foods would include 8 ounces of fortified soy beverages (i.e. soymilk). In the **Protein Foods** group, plant-based options equivalent to one ounce of animal protein (meat, poultry, fish) or 1 egg include:*

Dry beans & peas (¼ cup cooked)

black beans
black-eyed peas
chickpeas (garbanzo)
edamame
falafel (2 ¼", 4 oz)
hummus (2 tablespoons)
kidney beans
lentils
navy beans
pinto beans
soy beans
soy nuts, roasted (¼ cup)
split peas

Soyfoods

chickenless chicken slices (1 oz)
soy nutrition bars (2 bars)
soy/veggie burger (1 oz)
soy crumbles (1 oz)
soy cheese (1 oz)
soy deli meat (1 oz)
soy veggie dogs (1 oz)
tempeh (¼ cup)
textured soy protein, dry (¼ cup)
tofu, firm (¼ cup, about 3 oz)
soy yogurt (6 oz)

Nuts and seeds (½ oz)

almonds
cashews
hazelnuts (filberts)
mixed nuts
peanuts
peanut butter (1 TB)
pecans
pistachios
pumpkin seeds
soy nuts (¼ cup roasted)
soy nut butter (1 TB)
sunflower seeds
walnuts

**amounts given replace 1 ounce of meat, poultry or fish, or 1 egg*

In the **Vegetable Foods** group, soyfoods options such as edamame, soy nuts, and canned black soy beans count towards the **Protein Foods** group if consumed in place of animal protein foods. Otherwise, they should be counted as vegetables.



Common portions of plant-based protein foods.

Each of the choices below replaces 2 ounces of meat, poultry, fish, or 2 eggs.

- 1 cup split pea soup
- 1 cup lentil soup
- 1 cup bean soup
- 1 soy-based veggie burger patty
- 1 bean burger patty
- 1 ounce of nuts or seeds
- 4 Tbsp. hummus

Instead of:	Try:
3-oz hamburger	1 veggie burger + ½ oz nuts
2 slices of meat roast beef on a sandwich	2 Tbsp peanut or soy butter with a banana
Steak taco with 1 oz meat	Taco with seasoned pinto beans (¼ cup cooked)

How much is needed?

A daily diet of 2000 calories that follows MyPyramid includes 5.5 ounce equivalents for the **Protein Foods** group and 3 cups from the **Dairy Foods** group.

As individuals move to a more plant-based diet, they can use the USDA food patterns as the base while choosing more plant proteins with less animal proteins in the same recipes or making an entire meal with only plant protein foods. The amount of animal protein substituted can vary based on preference.

A person may switch to a plant-based diet using gradual changes that mean removing only a little more than 3 ounces of animal protein at a meal, 3 times a week, up to 9 meals per week:

For a diet that is ___% plant-based	Replace this much animal protein with plant protein
25%	10 oz a week 3 meals a week
50%	19 oz a week 6 meals a week
75%	29 oz a week 9 meals a week

Maintaining a high-quality and nutritious diet.

Choices of plant foods consumed as a replacement for animal foods should be fortified with vitamin B12, vitamin D, and calcium, if possible. In a diet that excludes all animal products, choline, EPA, and DHA may fall short.

Unlike dry beans and peas, nuts, and seeds, the protein quality of soyfoods matches animal foods. Protein quality for soy protein isolate and soy protein concentrates measures highest among commonly consumed plant proteins and is comparable to animal-based protein sources. Additionally, soy products contain amounts of important nutrients comparable to their animal-based counterparts and have the added benefits of no cholesterol and very little saturated fat.