
Your Guide to Soy

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For more information: www.challengecancer.com

You may have heard about it, and may even know the health benefits associated with consuming soy foods, but what is it and how are you supposed to eat it? I've compiled a whole bunch of information about this wondrous bean to show you how you, too, can experience the joy of soy!

What is soy?

When people talk about soy, they are talking about beans. Soybeans. This little legume is high in protein and has been found to contain all the essential amino acids necessary to meet human requirements if daily protein requirements are met. This fact alone makes the soybean unique, because all other plant proteins are low in certain amino acids and can't meet the amino acid and protein needs of both children and adults.

What does it taste like?

Here's the scoop. When combined with other ingredients, soy products tend to take on the flavors that are added to it. Really, by itself, the flavor is quite mild. Really.

Are there health benefits to soy?

Population studies have shown a decreased incidence of certain cancers, particularly cancers of the breast, prostate and colon. Animal and human cell studies show that genistein, a chemical found in soybeans, appears to block key enzymes that tumor cells need to grow. Clinical studies have examined the effects of soy phytoestrogens (plant hormones) as an alternative to hormone replacement therapy. Several studies have found decreased hot flash rates and positive effects on vaginal health in menopausal women with soy product consumption. For those with high cholesterol, it is clear that LDL cholesterol (the bad kind!) and total cholesterol levels drop when animal protein is replaced with soy protein.

Consuming a soy-based diet may have several advantages for diabetics. Soy foods have a low glycemic index, which helps promote blood sugar control and supplemental soy fiber may also help by slowing absorption of sugars.

Soy protein is lactose-free and dairy free. Soy products like soy milk, soy yogurt and soy cheese offer tasty alternatives for those who are intolerant or allergic to milk products.

Are there any guidelines for buying and storing soy products?

Perishable soy products must be refrigerated. For example, tofu is usually found in the produce or dairy sections of the grocery store and kept cold in its aseptic package. Always check the expiration date before purchasing and once opened, left-over tofu should be rinsed

and covered with fresh water for storage. Use the opened tofu within 7 days. Soy milk, also aseptically packaged, must be refrigerated once it is opened. It will stay fresh for about 5 days. Green vegetable soybeans may be refrigerated for a few days or frozen for up to 3 months. Tempeh and miso are usually found in Asian specialty or health food stores. Tempeh can be kept refrigerated for up to 10 days and miso can be held in the refrigerator for several months. As with other fermented or aged products, don't let the mold on the surface of these fine products scare you.

Dry soy products like meat analogs or texturized soy protein (TSP or TVP) can be purchased at health food stores or through mail order catalogs. Because these products are low in moisture, they have a long shelf life and can be kept in a tightly closed container at room temperature for several months. Once these products are rehydrated, use them within a few days. Like whole grain flours, soy flour should be stored in the refrigerator or freezer.

What kind of soy products are available?

Soybeans, used for many years by the Asian population, are so versatile that they are made into a huge variety of food products. Certainly, whole soybeans can be cooked as a vegetable. But perhaps more discreetly, soybeans can be cooked and pureed to form tofu, fermented and combined with grains to create miso, or cooked and pressed to provide soy milk. Let's not forget about the most familiar soy products used by American consumers--soy flour and margarines made from soybean oil and soy sauce. Let's take a few minutes and explore the world of the soybean products:

Tofu, or soybean curd, is a spongy, cheese-like food made by curdling fresh, hot soymilk. The curds are generally pressed together to form a solid block. There are three main types of tofu available in American grocery stores: Firm tofu is dense and retains its shape well and is best used in stir fry recipes, soups or on the grill. Soft tofu is a less dense version used in Oriental soups or in recipes that call for blended tofu. Silken tofu is a creamy, custard like product used in pureed or blended dishes like creamy dressings, dips, desserts and pasta sauces.

Soy Milk is a rich liquid extracted from soybeans. It is high in protein and low in saturated fat. Read labels carefully because soy milk does vary in the protein content from brand to brand. Soy milk also comes in a variety of flavors including chocolate, vanilla, carob, almond and plain. Lite soy milks have a reduced fat content. It has a unique, slightly nutty flavor and is used in a variety of ways. Soy milk may be used in any cooking or baking application or poured straight from the container for use over cereal or as a beverage.

Soy Oil is the natural oil extracted from the soybean. It is the most frequently consumed oil in the United States and accounts for nearly 75 percent of our total vegetable oil intake, mostly through processed food products like mayonnaise, coffee creamers, margarines, sandwich spreads and salad dressings. Oil sold in the grocery store under the generic name "vegetable oil" is usually 100 percent soy oil. Soy oil does contain both omega-3 and omega-6 fatty acids.

Whole Soybeans are available in health food stores and supermarkets in bags or bulk bins. Dry soybeans expand two to three fold when cooked in liquid and should be soaked to lesson cooking time and improve the flavor and texture of the beans. Roasted soybeans are an especially flavorful snack. No other bean has as much protein or fiber!

Soy Flour is made from roasted soybeans and then ground into a fine powder. Soy flour is found in commercial baked goods such as doughnuts, fudge and other candies, pies, cakes and rolls, pasta, pancake mixes and frozen desserts. Soy flour can be used to make home made goodies as well. When baking, soy flour should be mixed with other flours to ensure a quality product is achieved. In yeast raised products, about 15 percent of the flour used may be soy; in those products that are not yeast raised, up to 1/4 cup can be used.

Soy Protein Isolates are the most highly refined soy protein is in the isolate form. This protein powder is made from defatted soy flour where most of the carbohydrate and fat has been removed. Infant formulas, health food protein powder drinks and supplements are common products containing soy protein isolates. You may also find them in shakes, soups, puddings or baked products.

Texturized Soy Protein, also called texturized vegetable protein, TSP or TVP is made from soy flour that is compressed until the protein fibers change in structure. It comes in granular, flake or chunk form and plain, beef and chicken flavors. When it is rehydrated with boiling water, TSP has a texture similar to meat. TSP is used in commercial products as a nutritious extender.

Tempeh (pronounced "tem-pay") is a traditional delight from Indonesia is a cultured soy food made with soybeans and grain. It has a dense, chewy texture that can be added to sandwiches, soup and casseroles or simply grilled and served next to rice. Whatever type of cooking process is used, tempeh has a rich flavor, described by some as "smoky or nutty".

Miso is a rich, salty condiment made by combining soybeans, grain, salt and a mold culture. Miso is used to flavor soups, sauces, dressings and marinades. A tablespoon of miso mixed with one cup of hot water makes a low-calorie, healthful broth.

How nutritious are these soy products?

Most soy products contain some fiber, calcium, iron, zinc, and various B vitamins. The nutrient contents of different soy foods vary considerably, depending on how they have been processed. The more a food is processed, the more nutrients can be lost. For example, soy oil has a very high vitamin E content, but about 30 percent of it is lost during the refinement process.

In order to enhance digestibility, all soy products are heat processed and soy isolates have additional chemical processing. Tempeh, miso and other foods made from the whole soybean are typically higher in fiber. Soy milk and tofu have much less fiber, but may contain significant quantities of calcium, iron and zinc. There is some debate over the bioavailability of these

minerals in soy foods. Further research is needed to clarify the overall picture on mineral absorption.

Any quick tips for using all this stuff?

- Add chunks of firm tofu to soups and stews
- Mix crumbled tofu into a meatloaf
- Add tofu to cottage cheese for a sandwich spread
- Marinate tofu in barbecue sauce , grill it and serve it with crusty Italian bread
- Blend dried onion soup mix into soft tofu for a great onion dip
- Add silken tofu to sour cream for a lower fat baked potato topper
- Blend tofu with melted chocolate chips and a little sweetener to make chocolate cream pie
- Make "eggless" salad sandwiches by topping whole grain bread with a mixture of tofu chunks, diced celery, mayonnaise and a dab of mustard
- Pour soy milk over hot or cold breakfast cereal
- Make rich pancake and waffle mixes with soy milk
- Replace milk with soy milk in cream soups
- Create delicious fruit flavored, soy milk shakes
- Mix sherry wine vinegar, chopped basil, parsley and leeks with soy oil to make a herbed vinaigrette
- Add onion, garlic or bay leafs to cooked soybeans
- Throw some soybeans into chilies and soups
- Use in recipes that call for ground beef or turkey
- Add chunks of tempeh to spaghetti sauce or sloppy joes
- Pan fry tempeh with mushrooms, onion and bread crumbs and use as a stuffing

Drink It Up!

Put the joy of soy into your life. These frozen concoctions are high in protein and are packed with disease fighting phytochemicals! Mix together the following ingredients in a blender at high speed for about a minute and enjoy!

THE ISLANDER

2 scoops soy protein powder
1 c unsweetened pineapple juice
1/2 c orange juice concentrate
1 medium banana
3 - 4 ice cubes

FALL DELIGHT

2 scoops soy protein powder
3/4 c canned pumpkin
1/4 t cinnamon
1/4 t nutmeg or allspice
3/4c frozen apple juice concentrate
1/4 c skim milk
3 - 4 ice cubes

STRAWBERRY BLAST

2 scoops soy protein powder
1 c frozen strawberries
1/2 c orange juice concentrate
3 - 4 ice cubes

BERRY SLUSH

2 scoops soy protein powder
1/2 c cranberry juice concentrate
1/2 c frozen mixed berries
3 - 4 ice cubes

CHOCO-MONDO

2 scoops soy protein powder
8 oz plain yogurt
1/2 c skim milk
1/4 c chocolate syrup
1/4 t almond extract
3 - 4 ice cubes

CITRUS SHAKE

2 scoops soy protein powder
1/2 c frozen strawberries
1/2 c fresh kiwi
1/2 c orange juice concentrate
3 - 4 ice cubes

Do you want to explore further?

Don't stop now! The good nutrition and great taste of soybeans are only a cookbook or phone call away!

Recipes:

The Whole Soy Cookbook

Moosewood Restaurant Low-Fat Favorites

Mail order sources of soy foods:

Dixie USA	1 (800) 347-3494
Harvest Direct	1 (800) 835-2867
Hodgson Mill	1 (800)525-0177
The Mail Order Catalog	1 (800) 695-2241

For further reference:

United Soybean Board Soy Hotline

1 (800) TALK-SOY