

# SOY FOODS



## A CONSUMER'S GUIDE TO SHOPPING, COOKING & EATING "GREEN"



### Miso

A traditional Japanese condiment, miso is a salty paste made from cooked, aged soy beans. Miso contains five cultures and is rich in lactic acid forming bacteria, protein and enzymes that aid digestion. Miso is made from soybeans, salt, water and the starter koji, along with rice and/or other grains.

**Selection and Storage:** Miso comes in a variety of flavors, colors, textures, and aromas. The lighter colored misos are milder in flavor with a sweeter flavor than the darker, full-flavored, well-aged misos.

- Mugi (barley), also called red miso, is dark colored and medium flavor.
- Hatcho (soy), the thickest and strongest in flavor, is good for cold weather. It is lowest in salt and higher in protein because it only contains soybeans with no grains added.
- Kome (brown rice), also called *light* or *white*, is yellow to amber with a relatively sweet and mild flavor. It is good for summer cooking.
- Sweet miso is light and yellowish in color. (Sweet chick-pea miso is a mild, "light" or "blond" choice).
- Mellow miso is a reddish brown (Mellow barley miso is a good all-around miso).
- Country miso is darker brown and has a more robust flavor.

**Storage:** Because it can absorb toxins from plastic containers, miso should be kept in a glass container in the refrigerator for prolonged storage. It will keep indefinitely.

**Serving Suggestions:** Miso is an excellent soup base and a great addition to sauces, gravies, dips, spreads, dressings, and marinades. Miso works well as a replacement for anchovy paste in recipes as well. To add miso to liquids, first mix the miso with hot water in a small bowl. Then add to the main portion of the liquid. Since boiling inactivates some of the beneficial bacteria and enzymes, keep the liquid at a low heat or add the miso at the end of the cooking time. For a delicious paté, mix the miso with roasted tahini (sesame butter), chopped green onions, and herbs.

**Health Benefits:** Low in calories and fat, miso is a superb source of easily assimilated complete protein. Rich in vitamins and minerals, including vitamin B12, unpasteurized miso contains microorganisms and enzymes that facilitate digestion and promote alkalinity.

### Soy Sauce

This is a generic term for the natural soy sauces, tamari and shoyu, as well as the common soy sauce. Tamari and shoyu, fermented soy sauces, have a naturally salty taste but are much lower in sodium than table salt. Two teaspoons of shoyu have as much sodium as ½ teaspoon of salt. Reduced sodium versions are available.

### Tamari

Whole soybeans are inoculated with special mold to ferment them. The resulting mixture is then blended with salt water and aged in large, cedar vats for at least a year. Tamari is traditionally made without wheat (for those with wheat allergies, read the label to make sure) and may have less water than shoyu.

### Shoyu

Made like tamari, only equal parts soybeans and wheat are used to make shoyu.

**Serving Suggestions:** Tamari or shoyu may be used as a condiment or to add flavor to casseroles, stir fries, noodle and vegetable dishes. For a fast and delicious stock, add ¼ c. tamari or shoyu to 6 c. water. Add some crushed garlic, a few slices of fresh ginger, and a 3-inch piece of seaweed kombu (if desired). Simmer together for 15 to 30 minutes and use as a vegetable stock in any dish or as a soup base. Natural soy sauces are best kept in the refrigerator.

### Other Soy Foods

**SOY FLAKES:** Toasted, dried uncooked soybeans are pressed into flakes that resemble fat, golden oatmeal. High in protein and iron, the flakes can be simmered about 45 minutes in boiling water until tender.

**SOY FLOUR:** Made by grinding hulled, cracked and toasted soybeans, soy flour creates a dense, heavy texture in baked goods and has a dominating flavor. Breading foods with soy flour helps to reduce oil absorption when deep frying.

**SOY MILK:** Made by soybeans that are soaked in water, ground into purée, cooked, then pressed dry, soy milk is rich in protein, and high in iron and B vitamins. Natural food brands vary depending upon the oil, grain sweeteners and other ingredients that have been added.

**SOY NUTS:** Soybeans are soaked and either dry-roasted or roasted with oil until golden brown.

**SOY OIL:** Naturally produced soy oil is expeller pressed, unrefined, and has a strong flavor. Store in the refrigerator. Soy oil contains linolenic acid, one of the few plant sources of omega-3 fatty acids.

**SOY POWDER:** Also known as Powdered Soy Milk, this is dehydrated soy milk.

**TEXTURED VEGETABLE PROTEIN (TVP):** Soy grits, a by-product of commercial soy oil extraction, are reduced to their carbohydrate content to create soy protein isolate. After a texturing process, small chunks of firm, chewy isolated soy protein become TVP. Although they are highly processed, soy isolates and TVP help create many vegetarian convenience foods, such as burgers and meat analogs. A dehydrated form is available and may be used for dishes such as, vegetarian sloppy joes, tacos, stews, sauces, casseroles, and chili. Store dehydrated TVP in an airtight container for up to 2 months. **Note:** Those who don't wish to eat highly processed foods should avoid soy protein isolates.

### Choose Organic Soy Products:

More than half the soybean crops in the United States are grown from genetically engineered (GE) seeds. Since there are currently no labeling laws in the United States regarding GE, buying 100% certified organic soy products is the best way to be sure that you are not getting GE ingredients in your food.

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### TEMPEH

(Pronounced TEM-pay) This ancient Indonesian staple is a fermented soybean cake consisting of tender, partially cooked soybeans that have been split and hulled, partially sprouted, and inoculated with a tempeh starter or culture (*Rhizopus oligosporus*). The soybeans are then spread out in flat sheets about ½-inch thick and incubated at 88 degrees for 24 to 28 hours.

Some packaged tempeh has been steamed as part of the final process. Tempeh is bound together with a nappy white mycelium (network or branching thread-like filaments). Tempeh has a nutty aroma; a dense, slightly chewy texture; and a hearty, strong flavor.

**Selection and Storage:** In addition to plain soy tempeh, various combinations of tempeh are available with grains and/or seaweeds added. Look for firm, dense tempeh that has a pleasant, clean, mushroomy smell. Some tempeh may have small dark spots, a normal part of the culture.

Refrigerate tempeh for up to 10 days or freeze up to 2 months. If tempeh develops a strong smell of ammonia, throw it away.

**Health Benefits:** The enzyme action of the *Rhizopus* starter makes tempeh easier to digest than other soy foods and produces a medicinal antibiotic that increases the body's resistance to infections and toxins. In addition, the binding mycelium provides many valuable B vitamins. Higher in protein and lower in fat than tofu, tempeh is an excellent protein source of calcium and iron. Tempeh has about 200 calories and 8 grams of fat in a three and a half ounce serving.

**Serving Suggestions:** Tempeh is particularly good when marinated, grilled, fried or steamed. Some experts suggest using assertive seasoning and some souring agent (i.e. lemon juice, vinegar) with tempeh. Ginger, garlic, and coriander seem to complement tempeh regardless of other herbs and spices. To be at its best, tempeh needs high heat, crispness and strong sauces.

**Marinating:** Poke holes or score surface with fork to help tempeh absorb the marinade. Cut into cubes or quarters and slice thinly. Put tempeh in marinade and let sit for at least 2 hours for flavor absorption. Turn tempeh over halfway through. For faster absorption, simmer tempeh in the marinade.

**Grating:** Grate tempeh into spaghetti sauce, lasagna or as a pizza topping or for tempeh salad.

**Broiling and Baking:** Broil or bake tempeh after marinating or simmering in broth. Tempeh cooks much like meat and will brown well.

**Stir-Frying:** Cut or bake tempeh into bite-sized pieces. Heat oil and add tempeh (the hotter the oil, the less oil is absorbed by the tempeh). Cook tempeh in small batches to keep the oil hot. To use less oil, briefly oil-fry tempeh and then add a small amount of water and cover the pan to finish cooking.

**Steaming and Simmering:** Steam or simmer in water, broth, or sauce, then crumble, slice or grate for use in casseroles, soups, and other dishes.

### TOFU

(Pronounced TOE-foo) The most popular soy food in the U.S., tofu is made by first soaking, blending, and cooking soybeans, then filtering them through cloth to yield soy milk. A coagulant (usually a mineral salt such as calcium sulfate, calcium chloride, or magnesium) is added to the soymilk to make it curdle. After the curds separate from the liquid "whey", the curds are pressed and formed into compact blocks of ivory-colored tofu.

**Selection and Storage:** Fresh packed, unopened tofu should be stored in the refrigerator and used by the expiration date. Once open, tofu should be kept in water, changing the water daily and using within 3 to 4 days. Tofu should smell fresh and have a bland taste. If the tofu becomes slimy and has a sour taste, throw it away. Tofu may also be drained, wrapped in tin foil, and frozen. Vacuum-packed (aseptically packed) tofu will keep indefinitely until opened.

**Health Benefits:** If the coagulant used to make it is calcium sulfate, tofu will have a high calcium content. Tofu is an excellent high-protein food. Firm tofu usually has about 145 calories and 9 grams of fat per three and a half ounces. Though not low in fat, tofu is cholesterol free and mostly unsaturated. Tofu also contains the phytochemicals that have been shown to have anticarcinogenic properties. Tofu helps relieve inflammation of the stomach. It also helps neutralize toxins.

**Serving Suggestions:** The amount of whey pressed out of the fresh curd determines the texture of the tofu. Soft tofu, with its custardy consistency, is great as ricotta or cottage cheese substitute or making dips, dressings, smoothies, pie fillings, custards, and puddings, or any dish with a soft texture. Tofu labeled "silken" indicates a very smooth, soft texture. Firm tofu has a medium density and is best for tofu salads, cheese cakes,

and scrambled tofu. Extra-firm is dense and can be sliced or cubed. It will hold its shape well for cutlets, and stir-fried dishes. Frozen tofu, when thawed, become spongy, with a chewy, meat-like texture which absorbs marinades well and is great for dishes like chili and tacos.

**Baking with Tofu:** *Egg substitute:* For each egg, substitute 5 tablespoons of pureed tofu. *Yogurt/Sour Cream substitute:* Used equal parts pureed tofu. *Milk/Buttermilk substitute:* Blend together approximately 12 ounces of extra firm tofu with 1 c. water and 2 T. of lemon juice or white vinegar. Use this blend as an equal substitute for milk or buttermilk in a recipe. The tofu blend will keep refrigerated in a covered container for 1 week.

*Sources:* August 1993 *Vegetarian Times*, *Delicious! Collection*, *The Art of Tofu* by Akasha Richmond. *Recipes From an Ecological Kitchen* by Lorna J. Sass, and *Whole Foods Companion* by Dianne Onstad.



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