



Exploring Soy Foods

April 2014

Teriyaki Soy Rice Bowl

Joy of Soy

Makes: 4 servings | Prep time: 10 minutes | Total time: 20 minutes

Ingredients

1 tablespoon canola oil
1 package firm tofu (14 oz., water-packed package), drained, cut into 1/2-inch cubes
1/2 cup bottled teriyaki sauce, reduced sodium
1/2 cup water
1 1/2 cups carrots, shredded
1 cup frozen edamame (shelled), thawed
1 cup broccoli florets, cut into 1/2-inch pieces
1 cup red bell pepper, cut into 1/2-inch pieces
2 cups cooked brown rice

Directions

Heat oil in large frying pan over medium heat. Add tofu, stirring occasionally, for 5 minutes or until lightly browned. Stir in teriyaki sauce, water, carrots, edamame, broccoli and red bell pepper. Bring to boil and cook, stirring constantly, for 3 minutes or until vegetables are tender and sauce has thickened slightly. Serve over brown or white rice.

Nutritional information (per serving): Calories 460, Total Fat 13g, Saturated Fat 2g, Trans Fat 0g, Cholesterol 0mg, Sodium 700mg, Carbohydrate 64g, Fiber 9g, Protein 23g

Tuna Antipasto Salad

Adapted from EatingWell: July/August 2009

Makes: 4 servings | Active Time: 25 minutes | Total Time: 25 minutes

Ingredients

1 15- to 19-ounce can beans, such as chickpeas, black-eyed peas or kidney beans, rinsed
2 5- to 6-ounce cans water-packed chunk light tuna, drained and flaked
1 large red bell pepper, finely diced
1/2 cup finely chopped red onion
1 cup edamame, thawed if frozen (do not need to cook)
1/2 cup chopped fresh parsley
4 teaspoons capers, rinsed
1/2 teaspoon dried rosemary
1/4 cup fresh lemon juice, divided
2 tablespoons extra-virgin olive oil
Freshly ground pepper, to taste
1/4 teaspoon cayenne pepper (optional)

Directions

Combine beans, tuna, bell pepper, onion, edamame, parsley, capers, rosemary, 1/4 cup lemon juice and 2 tablespoons oil in a medium bowl. Season with pepper.

Nutritional Information (per serving): 290 Calories; 16 g Total Fat; 2 g Saturated fat; 12 mg Cholesterol; 505 mg Sodium; 28 g Carbohydrates; 9 g Fiber; 17 g Protein

Soy Soft Tacos Recipe

United Soybean Board

Serves: 4 (2 tacos each)

Ingredients

1/2 cup boiling water
2/3 cup texturized soy protein (TVP)
1/3 pound 93% lean ground beef
1/3 cup onions, chopped
1 teaspoon canola oil
2/3 cup no salt added tomato sauce
1/3 cup canned diced green chilies
1 teaspoon chili powder
2/3 teaspoon garlic powder
1/8 teaspoon ground pepper
8 corn tortillas
2 cup shredded lettuce
1 cup tomato, diced
1 cup reduced fat cheddar cheese
2 cup prepared salsa

Directions

1. Pour boiling water over TVP.
2. Sauté ground beef and onion in oil until beef is no longer pink. Add rehydrated TVP, tomato sauce, green chilies, chili powder, garlic powder and pepper; mix well. Bring mixture to boil, reduce heat and simmer 15 minutes.
3. Prepare each serving as ordered. Wrap tortilla in clean towel and microwave at HIGH (100% power) 20 to 25 seconds. Place tortilla on serving plate, spoon 1/3 cup filling in center of each tortilla. Top with 1/4 cup shredded lettuce and 2 tablespoons each tomatoes and cheese. Fold in half. Serve with 2 oz. (1/4 cup) salsa. Makes 4 tacos.

Nutritional Information (per serving): Calories 300, Total Fat 10g, Cholesterol 16mg, Sodium 560mg, Total Carbohydrates 16g, Fiber 2g, Protein 10g

Information for Soy (there's a lot of misinformation out there!):

Soybeans

- contain all 9 essential amino acids
- good source of B vitamins
- source of essential fatty acids

Texturized Vegetable Protein (TVP), also known as texturized soy protein

- it's really defatted soy flour (a byproduct of extracting soybean oil)
- used as a meat substitute and can make meat go further

Tofu (aka bean curd)

- made by coagulating soy milk and then pressing the resulting curds
- high in iron

Edamame

- immature soybeans in the pod
- snack with a nutritional punch
- fiber, protein, folate, manganese, vitamin K

Research:

Cancer Prevention and Survival

Women who include soy products in their routines are less likely to develop breast cancer, compared with other women. In January 2008, researchers at the University of Southern California found that women averaging one cup of soymilk or about one-half cup of tofu daily have about a 30 percent less risk of developing breast cancer, compared with women who have little or no soy products in their diets (1). However, to be effective, the soy consumption may have to occur early in life, as breast tissue is forming during adolescence (2-3).

What about women who have already been diagnosed with breast cancer? A study published in the *Journal of the American Medical Association* in 2009 shows that soy products may reduce the risk of recurrence (4). In a group of 5,042 women previously diagnosed with breast cancer who were participating in the Shanghai Breast Cancer Survival Study over a four-year period, those who regularly consumed soy products, such as soymilk, tofu, or edamame, had a 32 percent lower risk of recurrence and a 29 percent decreased risk of death, compared with women who consumed little or no soy. An accompanying editorial suggested that inconsistencies in prior research may be attributable to the comparatively low soy consumption in the United States, making beneficial effects harder to identify (5).

Why should soy products reduce cancer risk? Most research has zeroed in on phytoestrogens found in soybeans (phyto means "plant"). These compounds are in some ways similar to the

estrogens (female sex hormones) in a woman's bloodstream, but are much weaker. Some have suggested that phytoestrogens attach to the estrogen receptors in a woman's body, blocking her natural estrogens from being able to attach and stopping estrogen's cancer-inducing effects.

By analogy, the estrogens in a woman's body are like jumbo jets that have landed at an airport. Phytoestrogens are like small private planes that are occupying the Jetways, blocking the jumbo jets from attaching. This explanation is probably overly simplistic, but it may serve to illustrate how soy's weak hormonal compounds can have beneficial effects.

Fibroids

Soy products may reduce the risk of fibroids, knots of muscle tissue that form within the thin muscle layer that lies beneath the uterine lining. A study of Japanese women found that the more soy women ate, the less likely they were to need a hysterectomy, suggesting that fibroids were less frequent (6). In a study of women in Washington State, soy did not seem to help or hurt, perhaps because American women eat very little soy, compared with their Japanese counterparts (7). What did have a big effect in this study were lignans, a type of phytoestrogens found in flaxseed and whole grains. The women consuming the highest amounts of these foods has less than half the risk of fibroids, compared with the women who generally skipped these foods. So, again, phytoestrogens seem beneficial, countering the effects of a woman's natural estrogens, although in this case the benefit comes from foods other than soy.

Soy and Male Hormones

How about men? Although compounds in soy products have been likened to very weak female hormones, they have no adverse effects on men and may actually help them prevent cancer. A meta-analysis to be published in *Fertility and Sterility*, based on more than 50 treatment groups, showed that neither soy foods nor isoflavone supplements from soy affect testosterone levels in men (8). An analysis of 14 studies, published in the *American Journal of Clinical Nutrition* showed that increased intake of soy resulted in a 26 percent reduction in prostate cancer risk (9). Researchers found a 30 percent risk reduction with nonfermented soy products such as soy milk and tofu.

Thyroid Health

Clinical studies show that soy products do not cause hypothyroidism (10). However, soy isoflavones may take up some of the iodine that the body would normally use to make thyroid hormone (11). The same is true of fiber supplements and some medications. In theory, then, people who consume soy might need slightly more iodine in their diets (iodine is found in many plant foods, and especially in seaweed and iodized salt.) Also, a note for people with hypothyroidism: Soy products may reduce the absorption of medicines used to treat the condition (10). People who use these medicines should check with their healthcare providers to see if their doses need to be adjusted.

Other Health Effects

Soy products appear to reduce low density lipoprotein ("bad") cholesterol (12). They may also reduce the risk of osteoporosis-related hip fractures. In a study published in the *American Journal of Epidemiology*, women who consumed at least one-fourth cup of tofu per day averaged a 30 percent reduction in fracture risk (13).

Protein: A Little Goes a Long Way

Many soy products are high in protein. Manufacturers have exploited this fact, packing isolated soy protein into shakes and turning it into meat substitutes. But some have raised the concern that pushing protein intake too high--from any source--might not be wise. The concern is that an overly high protein intake may boost the amount of insulin-like growth factor (IGF-I) in the bloodstream (14), a phenomenon known to occur with cow's milk (15). High IGF-I levels are linked to higher cancer risk. Some reassurance comes from the fact that soy intake is linked to lower, not higher, cancer risk, and simple soy products, such as tempeh, edamame, or soynuts, are unlikely to affect IGF-I levels, in any case.

In summary, evidence to date is reassuring. Soy products may reduce the risk of breast cancer and breast cancer recurrence. They do not appear to have adverse effects on male hormone function or on the thyroid gland, but may reduce the absorption of thyroid medications.

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