

# *Asian-Inspired Vegan Cooking Class*

*June 26, 2009*

## *Menu*

*Oven-baked Spring Rolls*

春巻き

*Rice Paper Spring Rolls*

生春巻き

*Chapchei Stir-fry Noodles*

韓国風焼きそば

*Gyoza Dumplings*

餃子

*Tapioca Pudding*

タピオカプリン



*Presented by*



Hartland Institute of Health and Education

## DUMPLING

Originating in China, and also popular in Japan and Korea. The traditional filling is pork and cabbage, but they're often stuffed with chicken, seafood, or **VEGETABLES!** This recipe includes directions to make the wrappers using **WHOLE WHEAT FLOUR**. (You may also purchase wrappers made from white flour in a frozen food section in Asian foods stores etc.)

### Sauce:

In a small sauce pan, heat the following ingredient):

¼ cup lemon juice	¼ cup chopped green onions
½ tsp paprika	½ cup Liquid Amino (soy sauce)
2 T pineapple or raspberry juice concentrate	3 T honey
1 clove of Garlic (finely chopped)	1 T sesame oil

### Wrappers:

Mix together and form a ball):

1 cup bread flour	1 cup whole wheat flour
1 cup luke-warm water	

Start with the sticky dough in the middle and pack the flour onto it, then fold it over itself, squish down, and fold it again, then pack on some more flour and repeat. When it is holding together, yet flakey, start pressing into a ball and knead. You may simply put the mixture into a bread machine just as making a bread dough. The dough is ready when you are able to push lightly on it with your finger and it'll bounce back into shape, has no more stickiness to it, and is soft and smooth. Finally, wrap the dough with a damp plastic and let set for more than 30 minutes in the refrigerator.

### Filling:

4 T olive oil or water	3-5 garlic cloves, minced
½ cup onion, minced	1 lb thawed frozen extra firm tofu, crumbled*
2 cups finely chopped nappa or regular cabbage	½-1 cup chopped green onions or Nira leek
2-3 Tbs Liquid Amino (soy sauce)	½ tsp salt
¼ tsp sesame oil	½ cup ground sesame seeds
4 T yeast flakes	2 T onion powder

\*You may substitute with vegan meat substitute such as "Morning Star Meal Starter"

In a large non-stick skillet cook onion and garlic with olive oil over medium-high heat. Add tofu and cook 3 minutes or until moisture evaporates, stirring frequently. Add cabbage; cook 3 minutes or until softened, stirring frequently. Stir in 2 tablespoons green onions and the remaining ingredients; simmer 2 minutes. Remove from heat; set aside.

### Steam-fry:

Divide dough into a 1-inch-thick rope. Cut each rope into ½ inch in length. Roll each portion into an approximately 3 inches wide circle on a floured surface (cover circles with a damp towel to prevent drying). Spoon 2 teaspoons filling into center of wrapper. Fold in half. Fold top edge of wrapper at 1/2-inch intervals to form pleats, pressing against bottom edge to seal. Place dumplings, pleated sides down, on a large baking sheet dusted with flour; cover loosely with towel to prevent drying. Heat some/olive oil up in a pan, and place the gyoza on it with the folded side at the top. Brown the bottoms (3 to 5 minutes), then add 1/2 cup of water and quickly put the lid on. Steam them off for 5 minutes, then remove the lid. (Turn them if you like both side crunchy.) Let them fry for a couple more minutes, then carefully take them out of the pan.

• Try filling left-over mashed potatoes (Delicious!)



## OVEN-BAKED\* SPRING ROLLS

1. Sauté with a little oil:  
2 onions, chopped  
½ head cabbage, coarsely shredded  
1 red (or orange or yellow) bell pepper, thinly sliced  
½ cup celery, sliced  
½ cup carrot, julienned
2. Sauté with a little oil  
1 lb extra firm tofu, cut into 1 ½ x ¼ " strips
3. Sprinkle:  
2 T chicken style seasoning  
1 tsp garlic powder  
1 tsp onion powder  
2 T Liquid Amino (soy sauce)
4. Stir until liquid dries up.
5. In a bowl mix sautéed vegetables and tofu together.
6. Mix in a small bowl.  
1 T corn starch  
1 cup water
7. Place heaping 1 tablespoon of the mixture in the center of spring roll wrappers.
8. Roll wrappers around the mixture, folding edges inward to close.
9. Moisten fingers in the cornstarch and water mixture, and brush wrapper seams to seal.
10. Arrange spring rolls in a single layer on a medium baking sheet.
11. Brush each spring roll with vegetable oil.
12. Bake in the preheated oven (400 - 425°F) for approximately 20 minutes, or until golden brown. For crispier spring rolls, turn spring rolls after 10-15 minutes.

*\*When the food is browned by the high heat, Protein turns into acrolein (carcinogen), starches and sugars are caramelized through molecular destruction (carcinogens such as Advanced Glycation End Products (AGE's) as well as Acrylamide), and Oils are damaged (trans-fatty acids, free radicals, and unnatural breakdown products).*

## RICE PAPER SPRING ROLLS

*Makes 12-16 rolls*

*Serves: 4-5 people as a main course; 8-16 as an appetizer*

1. In a small sauce pan, heat the following ingredients to make the sauce:  
¼ cup Liquid Amino (soy sauce)  
¼ cup pineapple juice or honey  
1 T sesame oil  
¼ cup water or vegetable stock  
1 tsp paprika  
1 T cold pressed extra virgin olive oil
2. Marinate in the sauce: (save the sauce for dipping)  
fresh or roasted bell peppers, cut into stripes
3. Meanwhile prepare all or some of the following for filling:  
1 large or 1 ½ small avocado(s), cut into 12-16 slices  
1 (or half English) cucumber, thinly sliced  
1 cup vegan mayonnaise or peanut sauce\*  
½ yellow bell peppers, cut into stripes  
½ head green leafy/Boston lettuce leaves
4. Prepare:  
boiling water  
pie plate or any other dish to fit the rice papers
5. Place one sheet of rice paper into the hot water until soft. Remove and quickly (but gently) place onto a plate, cutting board, etc.
6. On the bottom third of the sheet of rice paper, put filling in a thin line.
7. Gently fold the rice paper over the filling and roll till the filling is covered.
8. Fold the sides in towards the center and finish rolling.

## SESAME SPICY PEANUT SAUCE

Mix together and melt in saucepan till smooth:

½ cup natural peanut butter

5 T sugar/honey

10 cloves minced garlic

½ cup soy sauce

1 tsp lemon juice

pinch cayenne pepper

## HOME-MADE VEGAN MAYONNAISE

Blend till smooth:

1 cup raw cashews

½ tsp garlic powder

2 T nutritional yeast flakes (optional)

Cook over medium heat stirring constantly

When thick turn off the heat and stir in

2 T - ¼ cup lemon juice

2 cups water

1 tsp onion powder

¾ tsp salt

## CHAPCHEI NOODLE

Put into boiling water and let simmer for 12 minutes:

½ lb sweet potato starch noodles

Drain the water and fry in frying pan with 1 T of olive oil about 5 minutes and set aside.

Sauté the following vegetables one at a time and with olive oil.

1 tsp garlic, minced

1 cup cabbage, shredded

1 medium carrot, julienned

½ cup bean sprouts (optional)

1 medium onions, sliced fine

1 large bell peppers, sliced

½ cup fresh spinach leaves (optional)

Mix noodles and vegetables together and add:

½ tsp salt

2 Tbs chicken style seasoning

1 Tbs turbinat sugar or honey

1 Tbs sesame oil

1 Tbs soy sauce

## TAPIOCA\* PUDDING

Mix and soak for 10 minutes - 1 hour (10 minutes if it's minute tapioca):

1 15-oz can coconut milk

½ to ¾ cup honey

1 T vanilla flavor

\*stevia to enhance sweetness if using less/no honey

2 15 oz cans 100% juice sweetened crushed pineapple

⅓ cup pearl tapioca

¼ tsp salt

Cook over medium heat stirring constantly until the mixture becomes thick and clear. Pour into dishes and chill

• Tapioca is essentially a flavorless starchy ingredient, produced from treated and dried bitter-cassava root and used in cooking. It is commonly used to make a milky pudding.



## Soy Beans

(1) 25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease. A serving of [name of food] supplies \_\_ grams of soy protein.

(2) Diets low in saturated fat and cholesterol that include 25 grams of soy protein a day may reduce the risk of heart disease. One serving of [name of food] provides \_\_ grams of soy protein.

§ 101.82 *Health claims: Soy protein and risk of coronary heart disease (CHD).*[64 FR 57732, Oct. 26, 1999] *Federal Register* Volume 64, Number 206 Tuesday, October 26, 1999

**The New York Times**

nytimes.com

**As a Substitute for Hormones, Soy Is Ever More Popular, but Is It Safe?**

**August 24, 2004**

The question of soy's health benefits or risks has become more acute as consumption of soy and soy products increases, particularly among women seeking a substitute for hormone therapy. Sales of soy foods soared in the late 1990's, and increased 44 percent since 2001, reaching \$3.9 billion last year... Curiously, sales of supplements dropped 55 percent during the same time, a decline that may reflect both women's concerns about possible health risks from supplements and the growing availability and appeal of soy foods..The most important issue is what connection, if any, there is between breast cancer and the estrogen in soy. The big worry is that by consuming large amounts of soy, women who are at high risk for breast cancer, who have an undetected breast cancer or who are survivors at risk for recurrence are exposing themselves to estrogen that might promote certain breast cancers. A related concern is that soy supplements may somehow interfere with tamoxifen, an antiestrogen drug taken by women to help prevent breast cancer....Meanwhile, no study in women has shown an increased risk of breast cancer among those taking soy. Epidemiological studies from Japan have found that women who eat soy throughout their lives have slightly lower rates of breast cancer than those who do not, and that Japanese breast cancer patients have a higher survival rate than Westerners. But many of these studies were designed to look at other questions, not the relationship between soy and breast cancer, and experts point out that other diet, lifestyle and genetic factors may be at play in the lower cancer rate. In their view, these studies do not provide evidence that eating soy helps prevent cancer....."We have very little data on supplements, and until we get more data, I wouldn't recommend them," Dr. Kurzer said. Many experts believe eating soy in moderation is safe for women who have had breast cancer.

**The Miami Herald**



**Soy's back in good graces** Posted on **Tue, May. 19, 2009**

If put on a pedestal, you can only go down. That's what happened to soy foods, which were once touted, then controversial, and now more greatly understood.About 20 years ago, claims that soy helped deter heart disease, cancer and osteoporosis took hold. In 1999 the FDA, based on the available scientific literature, approved the health claim that 25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease.Then came a bit of backlash and questions regarding soy's impact on breast cancer and thyroid disease. Some clarity on these issues emerged from the Tokyo Eighth International Symposium on the Role of Soy in Health Promotion, and findings were published in the February edition of the *Journal of Nutrition*.Soy protein lowers total and LDL cholesterol. Research published since approval of the FDA health claim, and analysis presented at the Tokyo meeting, report that cholesterol was lowered by about 5 percent, when consuming the recommended 25 daily grams of soy. This is less than originally believed, but still a move in the right direction. The authors state that the benefit of soy protein is similar to that of soluble fiber.Two symposiums addressed the use of soy protein in preventing the reoccurrence of breast cancer. A five-year data analysis of breast cancer survivors associated soy intake with a better outcome, and the National Cancer Institute states that for breast cancer survivors, soy foods, as part of a healthy diet and in moderate amounts, are safe to consume.The phytoestrogens in soy have fed rumors about a negative hormonal effect on men who consume soy foods. Two studies showed no impact on sperm concentration in men consuming isolated soy protein. A third study showed no impact on blood testosterone levels.The bottom line is that soy foods are a nutritious addition to most everyone's diet. Soy is so much more than tofu and edamame. Frozen soy entrees, snack bars and soy yogurt are just a few tasty examples.





**REUTERS**

**New Report In The Journal of Nutrition Shows Soy Is Beneficial For Heart and Bone...**  
Thu Mar 26, 2009 10:45am EDT / NORTHRIDGE, CALIF (March 26, 2009)

New findings published in the April issue of the Journal of Nutrition suggest soyfoods can play an important role in promoting heart and bone health. The new research was presented at the eighth International Soy Symposium on the role of soy in health promotion and chronic disease prevention and treatment, which was held in Tokyo, November 9-12, 2008.

"Much progress has been made in understanding the health effects of soyfoods since the first Symposium was held in 1994. Each year, the amount of research conducted on the health effects of soy and soybean components continues to impress," says Mark Messina, Ph.D., author of the report and professor of nutrition at Loma Linda University. "The 2008 Symposium in Tokyo provided an ideal venue for researchers in the field to discuss and debate study designs and outcomes. The research presented on soy and heart and bone health showed strong rationale for people to include soy in their diets."

#### ***Soy and Heart Health***

At the Symposium, the most comprehensive systematic review of the cholesterol-lowering effects of soy was presented. It covered the years 1978 through the present and found that in about two-thirds of the studies judged to be of high or moderate quality, soy protein was shown to significantly reduce total and/or LDL (bad) cholesterol. The meta-analysis that was part of the review showed a net reduction in LDL cholesterol of approximately 5 percent, which is in line with other data. Over time, a 5 percent reduction in LDL cholesterol can reduce heart disease risk from 10 to 15 percent. "Although modest compared to cholesterol-lowering drugs like statins, the cholesterol-lowering effects of soy protein are similar to those of soluble fiber and certainly relevant from a public health perspective," says Messina. "Integrating a variety of heart-healthy foods - like soy, beans, nuts and certain vegetables - together into a healthy lifestyle are really the best approach to heart health."

When considering all the ways that heart health is potentially improved, soyfoods certainly look impressive, Messina says. In addition to the cholesterol-lowering effects of soy protein, full-fat soyfoods are also good sources of an essential omega-3 fatty acid, which independently lowers risk of heart disease. Plus, because many soyfoods are low in saturated fat and cholesterol free, they can support healthy cholesterol levels when used in place of many of the more traditional sources of protein in the U.S. diet that tend to be high in saturated fat and cholesterol. Furthermore, soyfoods may reduce heart disease risk independent of their effects on cholesterol, through such mechanisms as lowering blood pressure.

"Although no single coronary benefit can be considered to be especially robust, certainly collectively these effects of soyfoods will contribute to a significant reduction in the risk of coronary heart disease," concludes Messina.

#### ***Soy and Bone Health***

There has been considerable interest in the effects of soy on bone health during the past 10 years, in part because of the low rate of hip fractures among Asians, a population known to have a high rate of soy consumption. Research presented at the Symposium offers hope that soyfoods promote bone health. For example, an Italian randomized clinical trial evaluated the effects of a soy extract on bone mineral density in postmenopausal osteopenic (those with loss of bone mass but not yet with clinical fracture or osteoporosis) women over a three-year period. Women given the soy extract experienced an 8 and 9 percent increase in spinal and hip bone mineral density, respectively, whereas among the women given a placebo, bone mineral density decreased at those sites by approximately 12 and 8 percent, respectively.(1)

In support of these clinical findings are the results of an epidemiologic study presented at the Symposium. The Singapore Chinese Health Study, a prospective cohort of more than 63,000 middle-aged and elderly subjects, examined the relationship between soy intake and risk of hip fracture. Subjects provided information on the intake of soy and other dietary factors at the start of the study and were monitored for approximately 7 years. During the follow-up period, higher soy intake was associated with a one-third reduction in hip fracture risk among postmenopausal women. The results of this study are in agreement with a previously published, prospective study involving women from Shanghai, which also found higher soy intake was associated with an approximate one-third reduction in fracture risk.(2)

#### **Sources:**

1. Breast safety and efficacy of genistein aglycone for postmenopausal bone loss: a follow-up study. *J Clin Endocrinol Metab* 2008;93:4787-96.
2. Prospective cohort study of soy food consumption and risk of bone fracture among postmenopausal women. *Arch Intern Med* 2005;165:1890-5.



8th International Symposium on the *Role of Soy*  
in Health Promotion and Chronic Disease Prevention and Treatment

November 9–12, 2008 • Tokyo, Japan

**Report on the 8th International Symposium on the Role of Soy in Health Promotion and Chronic Disease Prevention and Treatment**

*Journal of Nutrition* Vol. 139, No. 4, 796S–802S, **April 2009**

*J Nutr.* 2009 Apr;139(4):796S–802S. Epub 2009 Feb 18.

The international soy symposium held in Tokyo, November 9–12, 2008, was the eighth in a series that began in 1994.....The conference was attended by >250 scientists from 20 countries; there were 33 oral and 40 poster presentations during the 4-d event. The majority of presentations at the Tokyo symposium focused on isoflavones. In this article, the major findings presented at the symposium are highlighted, and commentary about those findings and related background is provided.

**ALPRO FOUNDATION** by Lynne Garton, Nutritionist and Health Writer

**International Conference Supports Soy's Positive Role in Health, Tokyo 2008**

The health benefits of soy are becoming well recognized due to the vast amount of research been undertaken over recent years. To provide an up-to-date account of this research, the 8th International Soy Symposium on the Role of Soy in Health and Disease was hosted in Tokyo, Japan in November 2008. Lynne Garton provides an overview of this conference with details of the most recent studies that continue to support soy's health benefits.

*Soy and Health – the Japanese experience*

Dr Yamori, Japan explained that the traditional diet and lifestyle of the Japanese, including soy, was one of the reasons for the longest average life expectancies in the world. Their low risk of diseases such as heart disease, prostate and breast cancers has been linked with their intake of soy and the associated isoflavones (natural plant compounds found in soy that are being investigated for their potential health benefits). Dr Yamori stressed that if more soy foods were eaten by Western populations it could hopefully contribute to a healthy, long life.

*Soy and the Menopause*

The isoflavones found in soy show structural similarities to the hormone estrogen and for this reason it has been suggested that soy may help with menopausal symptoms. Studies looking at the impact of soy isoflavones on hot flushes have had mixed results, although it seems to be the more hot flushes a woman experiences (greater than 5 a day) the bigger the benefit. Another reason given for the mixed results could be due to the presence of different levels of isoflavones used in these studies. This was discussed by Dr Williamson-Hughes, USA who presented the results from a recent review of 17 studies that investigated soy isoflavones on hot flushes. From this review, the studies that used genistein (one of the isoflavones in soy), at levels of 15mg a day, appeared to have a greater benefit on hot flushes.

*Soy and Obesity*

With the growing incidence of obesity in the Western world, foods that have a role in keeping us full for longer may help to reduce food and calorie intake and so help with weight control. Dr Dye, UK presented a study investigating this. From a study in twenty young healthy men, it became clear that eating soy at breakfast and lunch significantly reduced food eaten at dinner and evening snacks compared to non soy meals. This resulted in a reduction of 144kcal across the total day with the men reporting that eating a soy based breakfast and lunch was more filling than the meals that didn't contain soy. Reducing 144kcal a day could account for a weight loss of approximately 15lbs (6.8kg) over the course of a year.

*Soy and Heart Disease*

Due to the lower incidence of heart disease in populations consuming soy it has been suggested that soy can reduce the risk of cardiovascular disease risk factors. Dr Kokubo, Japan confirmed this with the results from a study of forty thousand Japanese who were followed up over the course of 12 years. Women who ate soy foods more than five times a week had a 45% lower risk of a heart attack, and a 69% lower risk of dying from a heart attack, compared to those women eating 0 to 2 servings of soy a week.

One of the mechanisms that has been suggested for soy's positive role in heart health is its cholesterol lowering action. The results of an analysis that took into account 45 studies investigating the effect of soy protein on cholesterol reduction was presented by Dr Krul, USA. The results of this analysis found that including soy protein into the diet resulted in a 4% reduction in total cholesterol and a 5% reduction in LDL cholesterol (the 'bad' cholesterol).

*Dispelling the Myths of Soy*

From presentations at the Symposium it was made clear that soy does not have negative affects on hormonal status nor is it associated with a negative impact on health. Three studies examined the effect of soy isoflavones on male reproductive hormones and fertility. Dr Hamilton-Reeves, USA presented the results from 32 trials investigating the effects of soy protein



and isoflavones on reproductive hormones such as testosterone and free testosterone in men. No significant effects of soy protein or isoflavones on any of the hormones were observed. Dr Serafini, Italy looked at the effects of different doses of soy isoflavones on sperm formation in healthy men. In this 3 month study, 20 men were given either 160, 320 or 480mg soy isoflavones a day. After 3 months there were no significant differences in ejaculated volume, sperm concentration, count and motility of sperm. Dr Duncan, Canada confirmed these findings. Thirty two healthy men supplemented their diet with milk protein or a soy protein low in isoflavones or a soy protein high in isoflavones for 57 days each. Analysis of semen samples revealed no significant effects of soy protein containing low or high isoflavones on semen volume, sperm concentration, sperm count, total motile sperm count, sperm motility or sperm morphology.

**The safety issues of soy on breast cancer risk was also addressed.** Populations who typically consume soy appear to have a lower risk of breast cancer and it has been suggested that soy can reduce the risk of breast cancer and improve breast cancer prognosis. Professor Shu, USA presented evidence suggesting that soy food consumption is safe and even beneficial for breast cancer survivors. The Shanghai Breast Cancer Survival Study includes over 5000 breast cancer patients. After a follow up of approximately 26 months, soy food intake was associated with a more favourable outcome; women who ate the most soy protein a day had a 24% lower risk for all deaths and a 33% lower risk for breast cancer deaths or relapse compared to the women in the lowest group of soy intake. Furthermore soy food intake did not appear to interact with Tamoxifen (a widely used treatment for breast cancer) in relation to breast cancer survival. Professor Shu suggested that while soy intake appears to be safe and beneficial for breast cancer survival patients following 26 months of diagnosis, longer term follow up is still required.

#### **Conclusions**

Eating healthily is key in an active and healthy lifestyle and including soy foods into the diet can help achieve this. The presentations delivered at the 8th International Symposium on the Role of Soy continue to confirm the health benefits of soy, as well as highlight soy's safety.

#### **Key Points and Dietary Recommendations**

- Populations who traditionally include soy foods into their diet appear to have a lower risk of diseases such as heart disease
- Soy protein has been shown to be effective in reducing blood cholesterol at intakes of approximately 25g a day. 25g of soy protein can be achieved by consuming 3 to 4 servings of soy foods a day
- The benefits of soy is thought to be due to its excellent nutritional profile as well as the presence of isoflavones
- Consuming soy that contains more than 15mg of genistein/ day appears to be beneficial in reducing hot flushes. 15mg of genistein can be obtained by consuming 2 to 3 servings of soy foods a day
- Including soy foods at breakfast and lunch such as soy milk, soy yoghurts and desserts, soy mince, tofu...) can help keep you feel full for longer, helping to reduce food and calorie intake, so helping to maintain a healthy weight
- Soy foods have been shown to be safe in relation to male hormones and fertility as well as in breast cancer patients



#### **Enjoy More Soy**

June 15th, 2009 10:38 AM Eastern by Tanya Zuckerbrot, MS, RD

Soy is not just recommended for women! Scientific consensus supports soy as a part of a healthful lifestyle, and experts agree that soy is safe and healthy for men to consume in moderate amounts each day (2-3 servings daily). Soy is a rich source of isoflavones, substances that mimic the effects of the female hormone estrogen — leading to concerns of whether or not this will have adverse effects on the male hormone. Not only do researchers say there is no evidence of this when soy is eaten in moderation, but there are numerous studies showing the positive effects of soy on men's health.

Soy doesn't just reduce cholesterol, but according to studies done at Tulane University, by bulking up on soy protein, you can lower your blood pressure. Soy may help by providing amino acids (isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine) that expand blood vessels. Researchers from several Universities have concluded that adding 25 grams of soy protein to your daily diet helps lower the most damaging form of blood cholesterol — low-density lipoprotein (LDL) — by up to about 10 percent.

In addition, Researchers from Japan's National Cancer Center found that increased intake of soy isoflavones significantly reduced the risk of prostate cancer by as much as 50 percent. If all this isn't enough to convince you to bite into a soy burger, there has been evidence that soy can minimize hair loss, keep blood sugar levels stable and help with overall digestive health.



Soy is a must have for everyone. Soy is good for the heart because it is high in soy protein and fiber, contains heart-healthy fats, and is low in saturated fat. Soy is an all natural nutrient-rich food delivering high-quality protein, carbohydrates and fiber. It is also full of essential vitamins and minerals such as zinc, magnesium, iron and bone-building calcium.

With soy's increase in popularity, manufacturers have been producing more soy products to receive these amazing health benefits....



**Top 5 Foods Real Men Should Eat** Thursday, June 18, 2009 | 11:56 AM

Nutrition Expert and Author David W. Grotto, RD, LDN goes over the best foods for men during Men's Health Week, June 15-21.

1. Soy -- Why? Heart disease is the #1 killer of men. Soy contains isoflavones which help maintain a healthy hearty and improve bone structure -- men get osteoporosis, too! Soy is the richest source of protein next to meat and an excellent source of fiber. 2. Avocado -- Why? Avocado is rich in plant beta sitosterol, helpful in reducing swelling of the prostate gland and is also helpful for lowering cholesterol. Oil of avocado was found to help fight prostate cancer. 3. Potatoes -- Why? Stroke is a major killer of men. Potatoes are one of the richest food sources of potassium in the diet which helps control blood pressure. They are only 110 calories per medium potato -- great for the 'six-pack'. 4. Strawberries -- Why? Helps lower cholesterol and harmful LDL cholesterol while improving cognition. 5. Watermelon -- Why? Watermelon is rich in the amino acid citrulline which helps produce Nitric Oxide which helps promote more blood flow to fight erectile disorder.

**The New York Times**

## **Idea of the Day**

**Must Reads From the Week in Review Staff** Doubts about Soy June 4, 2009, 6:21

**Today's idea:** Soy seems the perfect protein source: cheap, vegetarian, practically "edible heart medicine." But there may be a "hidden dark side" to soy, an article says, particularly for men.

Tofu is obviously soy-based. Other foods, less so.

**Health** "Over the past decade, soy foods and good health have become inextricably linked in the national consciousness," Jim Thornton in Men's Health. But when you consume soy protein, "you're actually courting the Mr. Hyde side of two natural drugs: genistein and daidzein," the article says; they act "so similarly to estrogen" that in large amounts they may cause "gender-bending nightmares" like erectile dysfunction and enlarged breasts in men. Summarizing peer-reviewed studies of people with high-soy diets, the article also cites evidence of decreased sperm counts; reduced immune function in adults raised on soy formula as infants, and increased dementia and memory impairment in the elderly. So why not just steer clear of tofu, meal-replacement drinks and other soy foods? Good luck with that, the article says: "Soy protein today is an ubiquitous, profitable, and often buried ingredient in a bewildering number of packaged foods."

**EarthTimes**

**Soyfoods a Healthy Choice for Men**

WASHINGTON, June 11, 2009 soyfoods-health-men WASHINGTON, June 11 / PRNewswire-USNewswire

June is Men's Health Month, a perfect time to summarize the science showing that soyfoods -- from tofu, soymilk, edamame, soy yogurt and frozen dairy-free soy treats to non-meat alternatives, soy nuts, soy nut butter, and/or cereals and bars with soy -- promote the health of men by helping to protect against prostate cancer, reduce the risk of cardiovascular disease and aide in weight management.

"Today more than ever before, the science is clear: a large body of research documents important health benefits for men who consume soyfoods and does not conclusively find any negative effects on male fertility or erectile function," said Nancy Chapman, RD, MPH, Executive Director of the Soyfoods Association of North America.

The weight of scientific evidence examining how soy affects men's health continues to show soy intake has no effect on erectile function, testosterone levels, reproductive hormones, sperm motility, or sperm quality. This evidence includes a large body of U.S. government and National Institute of Health-sponsored human and primate research, in which controlled amounts of isoflavones from soy were fed and no effect on quantity, quality or motility of sperm were observed. In fact, a small-scale, preliminary study by Dr. Jorge Chavarro (1) found that "soyfood and soy isoflavone intakes were unrelated to total sperm count, ejaculate volume, sperm motility, or sperm morphology," which are the important measures of sperm quality and male infertility.



Misperceptions have developed regarding the estrogen-mimicking phytoestrogens and several men's health problems, including erectile dysfunction (ED). According to the American Urological Association Foundation, there is no association between soyfoods and ED. Rather, the causes of this condition include damage to nerves, muscle, or tissue; lifestyle choices including smoking and being overweight; psychological factors such as stress or depression; and several common medicines used to treat high blood pressure and depression. Additionally, there are no clinical research studies linking soyfoods with a lack of men's sexual performance, low sperm count or infertility.

A study of prostate mortality rates in 42 countries documented significantly lower prostate cancer death rates with soy consumption.(2) A growing body of research suggests that regular consumption of soyfoods may reduce the risk of prostate cancer by as much as 30 percent. (3, 4)

At a time when heart disease remains the leading cause of death for men, (5) a growing body of research continues to find that soy protein lowers both the total amount of cholesterol and the so-called "bad" low-density lipoprotein (LDL) cholesterol. In addition, soy protein may also help maintain or moderately increase the "good" high-density lipoprotein (HDL) cholesterol, (6) and may help lower triglycerides, which both are linked with improved heart health. These findings reinforce the science behind the health claim approved by the Food and Drug Administration in 1999 stating "25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease." While the health claim is currently under review to assess the effect of more recent data, a substantial amount of research conducted since the original soy protein health claim continues to support the role of soy protein as part of a heart healthy diet. (7, 8, 9)

For the estimated 68.3 million men over the age of 20 who are classified as overweight or obese,(10) an evidence-based review conducted by the University of Illinois at Champagne-Urbana finds soy protein is equal to other protein sources, such as dairy or meat, in helping to battle weight by promoting fat loss. (11) Findings from this review also support the possibility that soy protein helps decrease short-term appetite and calorie intake, which is why men battling extra pounds should try soyfoods to curb cravings and replace foods high in calories, saturated fat and cholesterol.

Men can have complete confidence that eating soyfoods is not only safe, but also that soy is a healthy option. For the most part, soyfoods are easily digestible, low in calories and saturated fat, and contain no cholesterol. Improved men's health and eating soyfoods go hand-in-hand. For more information, please visit [www.soyfoods.org](http://www.soyfoods.org).

#### References:

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## Is It Safe to Eat Soy?

By Virginia Messina, MPH, RD & Mark Messina, PhD

No doubt you've heard lots of good things about soyfoods. According to a health claim sanctioned by the FDA, they can help to fight heart disease.<sup>1</sup> They may also make your bones stronger.<sup>2, 3</sup> And the biggest news about soyfoods over the past decade has been that they contain cancer-fighting compounds.<sup>4</sup>

But just as it seemed that things couldn't get any better for soy, articles began to pop up on the internet saying that the pro-soy stories are nothing more than hype--and that the real scoop on soy is not nearly as positive. In fact, the stories say, eating soy could endanger your health. These claims against soy include allegations that it raises cancer risk, and causes nutrient deficiencies, osteoporosis, thyroid problems, reproductive difficulties, and Alzheimer's Disease.

Making your way through the controversy can be confusing, especially since some of what the soy naysayers claim is based on some scientific data--although this doesn't mean that their conclusions are right. And it's true that some soy proponents may overstate the benefits of soy. Hopefully, we can tread a more even path here and convince you that, while soyfoods may not be the answer to all your problems, and while there certainly are a few unanswered questions, you can include soyfoods in a balanced and healthful vegan diet.

In making our way through this quagmire, it is important to recognize some important facts about scientific research. It's true that there have been studies showing negative effects associated with soy consumption. But it is a rare situation where every single study on a subject is in agreement. There are always a few that sit in direct contrast to the majority of the studies. So it is never a good idea to suggest broad conclusions or recommendations based on one or two studies. By picking and choosing individual studies carefully enough, you can prove just about anything you would like about nutrition. That's why health experts look at all the research and pay attention to the totality of the evidence, not just to a few studies. Many of the studies that have concluded that soy is unhealthy have used animals as subjects. Drawing conclusions about human health from animal research can be very misleading. For example, broccoli and other cruciferous vegetables contain a compound (called indole-3 carbinol) that is an anticarcinogen in humans. But in some other species, it causes cancer.<sup>5</sup> If we looked only at the results of the studies in those species, the FDA would no doubt ban broccoli and cabbage from grocery stores.

Even so, soyfoods are significant in the diets of many vegans and it is worth taking a look at some of the claims against them.

### Soyfoods and Thyroid

Many foods contain goitrogens, compounds that interfere with thyroid function (and in extreme cases can cause an enlarged thyroid, called a goiter). Along with soyfoods, millet, cruciferous vegetables and other foods contain goitrogens. Generally, these foods cause problems only in areas where iodine intake is low since this mineral is important for thyroid function. The effects of iodine deficiency can be made worse if the diet is high in goitrogens.

Although a concern about soy and thyroid function may be news to many vegans, it has actually been a focus of research for more than 70 years.<sup>6</sup> Between 1951 and 1961, this research took on a special importance when about 10 cases of goiter were diagnosed in infants who had been fed infant formula made from soy flour. These old studies form some of the basis for arguments that soy is dangerous for infants. However, the situation for today's soy formula-fed infant is very different. Since the 1960's, soy-based infant formula has been made from soy protein isolate (which does not contain the goitrogen component; soy flour formulas did) and it is fortified with iodine. No cases of goiter have been diagnosed in infants fed this formula in the past 40 years.

Nor is there any evidence that consuming soy causes thyroid problems in healthy, well-nourished people who have adequate iodine in their diet.<sup>7-10</sup> However, it is possible that eating a diet with generous amounts of soyfoods could be a problem for people whose iodine intake is marginal. And that might just include some vegans, since the main sources of iodine in western diets are fish and milk. But the appropriate response to this is not to limit healthful soyfoods; it's to get enough iodine. Vegetables have varying amounts of iodine depending on where they are grown. In some parts of the world--



specifically northern Europe--vegans may have low intakes of iodine. Foods that can supply iodine to vegan diets are sea vegetables, although contents vary quite a bit. Fortified foods are also a good source. Iodized salt is about the most reliable source. Vegans should be sure that, when they season foods with salt, it is iodized. If this isn't a regular part of your diet, use an iodine supplement.

**Conclusion:** Soyfoods may contain goitrogenic compounds as do other foods. There is no evidence that eating soyfoods regularly causes thyroid problems in people who eat a balanced diet. Vegans should make an effort to include adequate sources of iodine in their diet.

### Soyfoods and Cognitive Function

A study conducted in Hawaii called the Honolulu Heart Study came up with a surprising finding. The study looked at Japanese men residing in Hawaii and aimed to compare diet to risk of dementia. The researchers found that those men who ate tofu most frequently during their mid-40's to mid-60's showed the most signs of mental deterioration in their 70's to early 90's.<sup>11</sup> In this study of over 3000 men, intake of 26 foods, including tofu, was recorded between 1965 and 1967 and again in 1971 to 1974. Cognitive test performance was assessed between 1991 and 1993 and the researchers also looked at brain shrinkage through autopsy data of the men who died during the study. Tofu consumption of just two to four servings per week was associated with poorer test performance and more brain loss. Not only that, but the wives of men who ate tofu also showed more signs of dementia.

The study raised lots of questions. For one thing, how could this be when it is known that dementia rates are lower in Asian countries than in western countries and when Japanese lifestyle has actually been associated with better cognition in old age? Many have used this as an argument to show that the Hawaii study results must be wrong. But comparing rates of dementia across cultures doesn't really tell us much in this regard because there are too many differences between the lifestyle in Japan and the lifestyle in Europe and North America. And criteria for diagnosing dementia vary across cultures. To get the real story, we would need to compare frequent tofu consumers in Japan to people in Japan who don't eat tofu. And that study hasn't been done yet.

Furthermore, there is a possible biological explanation for the findings. Soybeans contain isoflavones, which are weak estrogens. They fall into the category of estrogen-like compounds known as SERMS--selective estrogen receptor modulators.<sup>12</sup> This means that they have estrogenic effects in some tissues and anti-estrogenic effects in others. Estrogen may have a positive effect on brain tissue but the researchers of the Hawaii study suggested that isoflavones may have antiestrogenic effects on the brain. Of course, we can't know this from the Hawaii study. This was an epidemiological study, so it doesn't show cause and effect. It merely shows that two things occur together. Since the researchers measured intake of only 27 foods and were not able to control for every single lifestyle factor, it is possible that tofu consumption is a marker for some other factor that affects cognitive function. This would make tofu an innocent bystander. Results of other studies suggest this is true.

Results of three clinical studies, only one of which has thus far been published in full manuscript form, suggest soy and isoflavones have beneficial effects on cognition. In the published study, young adult men and women who consumed a high soy diet for 10 weeks experienced significant improvements in short-term and long-term memory and in mental flexibility.<sup>13</sup> The other two studies which have been presented at scientific meetings, found that isoflavone supplements, when taken by postmenopausal women, improve cognitive function. Even with these findings, we really have very little information on how soyfoods consumption might affect cognitive function. It's important to note though that studies of Seventh-day Adventists, many of whom have consumed soyfoods all of their lives, suggest that this group experiences less dementia in old age than the general population.<sup>14</sup> This may reflect an overall healthier lifestyle or higher education (which is linked to better cognitive function in old age). We simply don't know.

We do know that there are ways to protect cognitive function as we age. Eating a diet high in antioxidants (which means a plant-based diet), engaging in regular exercise, and stimulating the brain through learning and problem-solving activities, all seem to be associated with better cognitive aging.<sup>15-19</sup>

**Conclusion.** One study has suggested a link between tofu consumption and poorer cognitive function in old age, but this is an epidemiological study. Therefore it doesn't show cause and effect. It did not look at diet extensively enough to draw firm conclusions. And there are no other studies to support it and three clinical studies suggest soy and isoflavones have beneficial effects on cognition. At this point, there is no reason to believe that eating soyfoods is harmful to brain aging.

### Soyfoods and Mineral Absorption

Critics of soyfoods say that soy is high in phytates which inhibit absorption of iron, zinc, and calcium. But the absorption of calcium from soyfoods is actually surprisingly good given the phytate content of those foods.<sup>20, 21</sup> Not only that, but a



number of studies have shown that the isoflavones in soyfoods protect bone health.<sup>2</sup> and that soy protein when substituted for animal protein decreases urinary calcium excretion.<sup>3</sup> So getting calcium from soyfoods that are either naturally rich in this nutrient or are fortified with it, seems like a very good idea.

However, there is certainly some research showing that vegan women have low calcium intakes. Contrary to popular opinion, there is little evidence that vegans have better bone health than people eating other types of diets and there is some evidence that links their lower calcium intake with poorer bone health. While this is a potential problem, it has nothing to do with any shortcomings of soyfoods. And it is an easily resolved problem. Vegans simply need to make sure they meet recommendations for calcium (1,000 mg a day for adults age 19-50) either through natural food sources of this nutrient, fortified foods or supplements. It is also important to make sure that your diet is well-balanced with adequate protein and with adequate vitamin D. While too much protein may be detrimental to bones, so is too little. And, while it is possible to make adequate vitamin D through sun exposure, it isn't a sure thing in many parts of the world so supplements or fortified foods are a good idea.

But it is true that, all other things being equal, phytates inhibit the absorption of iron and zinc. Soybeans are rich in phytate and vegan diets are especially high in phytate. It is very well documented that vegetarians absorb iron less well than meat eaters and have lower stores of iron in their bodies. But the implications of this aren't clear. Vegetarians don't appear to be any more likely to actually develop iron deficiency.<sup>22</sup> And, because high levels of iron may raise risk for heart disease, it may be that having lower but adequate stores as vegetarians do is the ideal situation.<sup>23</sup>

Soy protein also inhibits absorption of iron, making soyfoods a poor source of available iron even though they contain this nutrient. So the critics are correct that people should not depend very much on soyfoods to meet their iron needs. And it may also be that the protein in soy inhibits absorption of iron from other foods. But this is not a reason to avoid soy. Rather, vegans should make sure that their diets are rich in good sources of iron--grains, beans, dried fruits, nuts, seeds, and many vegetables--and they should also make sure they get adequate vitamin C at meals. Vitamin C boosts absorption of iron from many plant foods. However, it is not enough to have a diet high in vitamin C. If you take a vitamin C supplement in the morning or consume a couple glasses of orange juice between meals, this won't affect your iron absorption. The vitamin C must be consumed at the same time as the iron.

Zinc is also poorly absorbed from soyfoods. Vegans generally have a lower intake of zinc and lower absorption than meat eaters and probably than lacto-ovo vegetarians. It's a nutrient that deserves some attention in vegan diets. But again, avoiding soyfoods is not the way to ensure adequate amounts of bioavailable zinc. Rather, making sure that your diet is rich in zinc-rich foods--nuts, seeds, whole grains, and legumes--is important.

**Conclusion:** Soyfoods can be good sources of well-absorbed calcium whether they are natural sources of this mineral or are fortified with it. They may also provide other factors that help to improve bone health. Vegans should make sure their diets are adequate in calcium and vitamin D and are generally well-balanced with adequate protein. Iron deficiency does not appear to be a problem for vegans--at least no more so than for people eating other kinds of diets. But, given that it is a common world-wide deficiency, everyone should make sure they eat plenty of iron-rich foods and vegans should consume good sources of vitamin C at meals. Likewise, it is important to eat plenty of zinc-rich foods every day.

### **Soy and Breast Cancer**

All of the popular discussion surrounding soy actually started out because of evidence suggesting that soy, likely because of the isoflavones, reduced breast cancer risk by inhibiting the effects of estrogen.<sup>24</sup> Some of the evidence for this comes from the observation that breast cancer rates are lower in Asian countries than among western women. However, many factors that differ among cultures might affect breast cancer risk. And it is interesting to note that, within Asian cultures, there is little epidemiological evidence that shows soy consumption is protective against breast cancer.

A few short term clinical studies have suggested that soy consumption has estrogenic effects in the breast tissue of young--that is, premenopausal--women.<sup>25, 26</sup> This would suggest a possible increased risk for cancer. The significance of these short term studies isn't clear however. For example, the drug tamoxifen, used to treat breast cancer, actually has estrogenic effects when used for the short term, but antiestrogenic effects over the long term.

There are also a number of other considerations. First, research in laboratories on breast cancer cells has shown that small doses of the soy isoflavone genistein cause cells to replicate whereas large doses inhibit cell growth. Furthermore, there is some evidence that eating soy early in life--especially during puberty--helps to protect girls from breast cancer later in life.<sup>27, 28</sup> This would help explain why Asian women--most of whom grow up on soyfoods--have lower rates of breast of cancer than even western vegetarians, who might not begin eating soy until adulthood.

Finally, soy isoflavones have a number of effects that are possibly protective against cancer and that have nothing to do with



their estrogenic or antiestrogenic effects. For example, genistein may inhibit the growth of the blood vessels that support tumor growth and may also inhibit enzymes that promote cell growth. Soy may alter estrogen metabolism in a way that protects against cancer. Also, year-long studies have found that soy or isoflavones either have no harmful effect or favorably affect breast tissue density, which is an indicator of breast cancer risk.<sup>29</sup>

For women who have already had breast cancer and whose cancer is estrogen positive (meaning it is stimulated by estrogen) it is difficult to know whether to recommend restricting soy. The anti-cancer effects of soy may outweigh any possible estrogenic effects of isoflavones.

Conclusion: At this time, there seems no reason for women who have had breast cancer to avoid moderate consumption of soy. And for women who have never had cancer, there seems no reason to restrict soy.

### **Soy Intake and Ovulation**

Scientists became aware of a potential link between isoflavone consumption and reproductive problems because of breeding problems among female sheep that grazed on a particular type of isoflavone-rich clover in Australia.<sup>30</sup> The amounts of isoflavones being ingested by these animals were extremely high compared to typical consumption of Asians. In addition, species vary in their response to biologically-active compounds and sheep are especially sensitive to isoflavones.

One study has shown that soy consumption delayed ovulation in women, but it did not prevent ovulation and several other studies have not found this effect.<sup>33</sup> A study of adults aged 20 to 34 years who were enrolled in controlled feeding studies at the University of Iowa as infants, found no difference in a wide range of reproductive and physiological measures between those who were fed soy formula and those fed cow milk formula as infants.<sup>34</sup> There have also been no observed widespread reproductive problems in populations where regular soy consumption is the norm.

Conclusion: Although soy isoflavones have weak estrogen-like effects, there is no evidence of ovulation problems in those who eat these foods.

### **Soy and Sperm Count (Updated 03/2009)**

In 2000, environmental estrogens, such as PCBs in fish, were cited as possibly lowering sperm count and possibly interfering with fertility.<sup>31</sup> More recently, there was a lot of interest in a small pilot epidemiologic study showing that soy consumers had lower sperm concentrations than men who didn't eat soy.<sup>35</sup> But for the most part, the men who consumed soy experienced an increase in semen volume, so that the concentration of sperm was lower - not the total number of sperm. And there were no implications for fertility, since sperm concentration seemed to decrease only among men who had above average sperm concentration to begin with.

In any event, small epi studies don't really tell us too much of anything. We can draw real conclusions only from clinical intervention studies. Three such studies have examined the impact of soy intake on sperm and semen, all with reassuring results:

In the first, British men took supplements that contained 40 milligrams of isoflavones (the amount in about 1 1/2 servings of traditional soyfoods).<sup>32</sup> There was no effect on sperm count or quality.

The other two studies have not yet been published but were presented at the 8th International Symposium on the Role of Soy in Health Promotion and Chronic Disease Prevention and Treatment.<sup>36</sup> In one, Italian men were given much higher amounts of isoflavones - equaling four to twelve times what men in Japan typically eat. There was still no effect on sperm.

In the second unpublished study, Canadian researchers compared sperm production in men consuming soy protein to men consuming milk protein - and again, there were no differences in sperm concentration.

### **Testosterone (Updated 03/2009)**

Only two studies - of the many conducted on this topic - found reductions in hormone levels related to soy intake. In one, the isoflavone intake of the subjects was unusually high - about four times what men in Japan typically eat. And the researchers didn't actually make any comparisons to the control group - that is, the men who didn't eat soy. So there was no way to know for certain that there was any difference between the two groups.<sup>37</sup>

The other study had only 12 subjects and nearly all of the reduction in testosterone levels were from just two of those subjects (one of whom had unusually high levels of testosterone to begin with).<sup>38</sup>



On the other hand, the research showing that soy has no effect on testosterone levels is much stronger. A recent analysis of 32 studies found that neither soy protein nor soy isoflavones had any effect on testosterone levels.<sup>39</sup> The researchers looked at the data in a number of different ways - they used several different statistical models - and the results were always the same. Furthermore, studies published too late to be included in this analysis showed the same thing - that soy had no effect on testosterone levels.<sup>40-42</sup>

Looking at the evidence, there is little reason to think that soyfoods aren't safe for men.

## Should You Eat Soy?

Based on the bulk of the evidence soy appears to be perfectly safe for nearly all healthy individuals when it is consumed in reasonable amounts. We would say that a reasonable amount of soy is two to three servings per day. Women who have had estrogen-positive breast cancer may want to be somewhat more restrictive in their soy intake but, if they are already eating and enjoying soyfoods, there is not enough evidence of any harmful effects to suggest that they need to avoid all soy.

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