



Soy Foods



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What is soy? We have heard that it is a type of protein that can help prevent heart problems and is healthier for you. Soybeans, where soy comes from, belongs to the legume family and is native to East Asia, where it has been used for over five thousand years. Soybeans were only recently introduced to the Western world in the 20th century. There are a wide variety of soils and climates in which the bean grows. Because soybeans are an excellent source of protein and dietary fiber, soy protein is the only vegetable with a complete protein. It also can help lower your LDL (bad cholesterol) levels. According to Soya Food, the FDA “approved the cholesterol-lowering health claim for soy, indicating that daily consumption of 25 grams of soy protein (6.5 grams of soy protein per serving) may lower LDL cholesterol.”

Introduction

- I chose soy foods as my research topic because many people do not realize that although soy looks and seems gross, it is actually very good for you and can be tasteful when mixed with the correct ingredients. About 3 years ago, I became what is known as a meat restrictor. I do not eat any type of red meat, including pork; I only eat chicken and turkey every so often. When I need my protein in my diet, I usually turn to soy. I have learned that soy foods are a great source of protein and contain other important nutrients, like fiber, B vitamins, and omega-3 fatty acids. Foods

containing soy protein, like that of Soy Joy, soy burgers, etc, are healthy alternatives to meats and other animal products that contain cholesterol and saturated fat. Eating healthy has always been a factor in my life. I have an aunt who is a nurse and always has healthy food in her home, as well as many friends who like to care for their health by eating correctly. I am drawn to the new and improved ways of getting my protein and other important nutrients, because I do not eat red meat and sugary things like soda, candy, baked goods, as well as I have given up fast food. I also have learned to cook things on my own, after some news about how restaurants had bacteria on the lemons; I realized that because you do not know what is going on in the kitchen, it is better to make the food yourself. I think of it all like going out to the club and making sure to watch your drink being poured and never put it down. Something bad will happen and can. Soy foods are a healthier alternative to most animal meats and can be tasty.

Section 1: Background & Problem Statement

- Web site #1 name: Soy Foods Association of North America
- Web address: <http://www.soyfoods.org/health/faq>
- Background information:
 - ❖ Healthy People 2020 does not address soy foods, or any type of food concern for that matter. But there are some concerns for people who think about using soy foods as a replacement protein. Many people wonder if this “super food” is really good for you and can help improve heart and cholesterol health. The SANA mission statement is to “encourage sustainability, integrity, and growth of the soy foods industry through our members, by proactively promoting and upholding the benefits of soy-based foods to consumers, health professionals, researchers, media, government officials, and industry partners.” This association wants to prove that not only is soy better for your health, but it is their one main focus to ensure that all questions and awareness about this food is answered to. They are concerned about the food that we consume and want to ensure that, that food is pure and healthy.

- Web site #2 Name: American Dietetic Association
- Web address: <http://www.eatright.org/>
- Background information
 - ❖ The American Dietetic Association is the world’s largest organization of food and nutrition professionals. The ADA is committed to improving the nation’s health and advancing the profession of dietetics through research, education and advocacy. Their mission is to “empower members to be the nation’s food and nutrition leaders” and their vision is to “optimize the nation’s health through food and nutrition. It was funny to find that April is National Soy Foods month, and considering the amount of foods that are now being made from the versatile and nutritious food, it had some recognition. The reason why soy products make good protein alternatives in meatless meals is because compared to other beans, the soybeans are a rich source of plant-based protein that contain as much complete protein as meat. They are also a good source of B vitamins, essential fatty acids,

omega-3, and contain isoflavones that may help lower risks for some diseases.

- Web site #3 name: American Heart Association
- Web address:
http://www.heart.org/HEARTORG/GettingHealthy/NutritionCenter/Nutrition-Center_UCM_001188_SubHomePage.jsp
- Background information:
 - ❖ The American Heart Association mission is “to build healthier lives, free of cardiovascular diseases and stroke. That single purpose drives all we do. The need for our work is beyond question.” According to the AHA Nutrition Center, “Many soy products should be beneficial to cardiovascular and overall health because of their high content of polyunsaturated fats, fiber, vitamins, and minerals and low content of saturated fat.”

Section 2: Research

- Web site #1 Name: American Heart Association
- Web address: <http://www.newsroom.heart.org/index.php?s=43&item=857>
- Summary of the Research:
 - ❖ In Orlando, Florida, November 16, 2009, the American Heart Association had a meeting report to discuss the oil from soybeans that were modified through biotechnology increased levels of omega-3 eicosapentaenoic acid (EPA) in red blood cells according to the research presented at the AHA's Scientific Session 2009. It is said that the soybean oil could be an effective alternative to fish oil as a source of heart-healthy omega-3 fatty acids. In a double-blind study, one group of participants were given 15 grams of the stearidonic acid (SDA) enriched soybean oil, another group consumed 1 gram of EPA in gel caps and 15 grams of commodity soybean oil, the last group only got 15 grams from packets of commodity soybean oil and 1 gram from the gel caps. At the end of the 12-week study, the results concluded that EPA levels rose 17.7% in the SDA group and 19.7% in the EPA group. The volunteers with high triglycerides, consuming SDA or EPA reduced fasting triglycerides by 26% to 30%. This goes to show that adding soybean oils, or soybeans themselves, can help improve heart health.
- Web site #2 Name: Pub Med
- Web address: <http://www.ncbi.nlm.nih.gov/pubmed/21367951>
- Summary of Research:
 - ❖ A study was done to see the effects of soy intake on the glycemic control. What was interesting about this study was that it was a met-analysis of randomized controlled trials that were already conducted. They had performed prespecified subgroup analyses to explore the influence and net changes of fasting glucose and insulin concentrations. Though there was not a significant overall effect of soy intake on improvements of fasting glucose and insulin concentrations, a good portion of the data had changed in fasting glucose concentrations was observed in studies that used whole soy foods or a soy diet in the analysis. I found this to be pretty interesting, considering soy is supposed to be good for helping

cholesterol; it can also help, slightly, with the insulin and glucose levels.

- Web site #3 Name: Pub Med
- Web address: <http://www.ncbi.nlm.nih.gov/pubmed/21357380>
- Summary of Research:
 - ❖ Of the three, this is by far the most interesting article. A study was done to conclude that consuming soy foods would promote breast tumor growth. I find that very hard to believe. According to the study, 3088 breast cancer survivors were followed for about 7.3 years. Isoflavone intakes were measured post-diagnosis and the women would self-report new outcome events semi-annually. After looking at the medical records, they showed that as isoflavone intake increased, the risk of death decreased. It was concluded that not only was it the third epidemiological study to report no adverse effects of soy foods on breast cancer prognosis, it finally gave clinicians evidence that they no longer needed to advise against soy consumption for women diagnosed with breast cancer.

Section 3: Statistics

- Web site #1 Name: Share Guide: Holistic Health Magazine & Resource Directory
- Web address: <http://www.shareguide.com/soyfoods.html>
- Summary of statistics:
 - ❖ Though there is a lot of negative buzz about soy foods and the possibility that they can make matter worse by consuming them, it is shown on this site that soy is healthy for us, as well as for the environment. According to the USDA Nutrient Database for Standard Reference, 100 grams of soybeans supplies 36.5 grams of protein, 277mg of calcium, 15.7 grams of iron, 280 mg of magnesium, 704 mg of phosphorus, 1797mg of potassium, 4.9 mg of zinc, as well as vitamins A,E,C,B1,B2,B3,B5,B6 and folic acid. Sounds healthy to me! Soy beans also contain bioactive ingredients such as polyphenolic isoflavones and various saponins, which are known for their cancer protective effects. A half cup of tofu provides 40% of the USDA daily value of protein and 25% of calcium.
- Web site #2 Name: E How Health
- Web address: http://www.ehow.com/info_8008995_soy-food-industry.html
- Summary of statistics:
 - ❖ Within three years, soy beans and foods have been a huge hit. From 2006-2009, the US farm acreage went from 75.5 million-77.5 million acres. Within that very same time frame, profits had jumped more than \$10 billion- \$20.5-\$31.9 billion. The top 5 soy farm states include Nebraska, Indiana, Minnesota, Illinois, and Iowa. Each produce between 259-289 million bushels of soy every year, while Iowa and Illinois produce 430-489 bushels. Four in 10 of all soy products manufactured in the US are exported to other countries.
- Web site #3 Name: Soya Tech
- Web address: http://www.soyatech.com/soyfoods_facts.htm
- Summary of statistics:

- ❖ Typically, we all get our calcium from milk, cow's milk. Now, soymilk has grown quickly in the US and Europe since the 1980s. Once refrigerated soymilks came on the market in the late 1990s, the industry skyrocketed from \$156 million in the US in 1997 to over \$800 million in 2005. Now, over 80% of the market is owned by the refrigerated soymilk category.

Section 4: Consumer Information

- Web site #1 Name: Soy Joy
- Web address: <http://us.soyjoy.com/benefits.aspx>
- Summary of information:
 - ❖ Soy Joys are the leading source of soy. They are baked whole soybeans and fruit bars. The whole soy that is used is packed full of antioxidant isoflavones, high-quality protein, vitamins, minerals, polyunsaturated fatty acids, fiber, and all nine amino acids that are essential to human nutrition. Along with this super food, the whole soy can help lower heart health and is low in saturated fat and cholesterol free. These little super bars are ground and picked in the United States and contain no GMO (genetically modified soy). This is a great source of protein and can be used not only for snacking, but to help with replacing protein from animal meats. It is a delicious bar, one that I enjoy myself, and it comes in many flavors. It is appealing and good for you and has all of the benefits and more.
- Web site #2: Silk
- Web address: <http://silksoymilk.com/>
- Summary of information:
 - ❖ Instead of drinking cow's milk, try Silk for a change. Silk has made five kinds of soymilk, varying in flavors and health needs, which then continue to multiply according to that category. Specifically speaking, Silk Vanilla, or Simply Silk, is one of the 4 original flavors. It has a nice touch of pure, natural vanilla makes drinking soy milk even better. It contains 6 grams of soy protein, an excellent source of calcium, 100% lactose & dairy free, very low in saturated fat, no artificial colors or flavors, has naturally occurring ALA omega-3, 0 cholesterol and comes in a convenient shelf stable product that is perfect for on the go and can be stored for up to a year, 12 months. With all of that, you cannot go wrong! That is just one of the many kinds of milk that Silk offers.
- Web site #3 Name: BOCA Burgers
- Web address: <http://bocaburger.com/products/bocaburgers.aspx?productBox=0>
- Summary of information
 - ❖ If you're like me, I don't eat red meat, so to replace what I have lost; I love to eat BOCA burgers. They are very good and taste as better than a real burger. These burgers are a blend of nutritious soy with extras like garden fresh veggies, cheeses, and seasonings into a patty that's a great source of fiber and protein. These burgers also collaborate with Weight Watchers, so there is never an issue of limiting your food. They have 65% less fat than normally burger, high in protein,

good source of fiber and iron and low in cholesterol. There are many flavors and the ounce size that you like.

Section 5: Solutions to the Problem (Issue)

- Web site #1 Name: Soy Connection
- Web address: <http://www.soyconnection.com/newsletters/soy-connection/health-nutrition/article.php/Guidelines+for+Healthy+Soy+Intake+?id=233>
- Summary of information:
 - ❖ How much of soy are we allowed to have to help reduce the risk of coronary heart disease? According to the FDA, it was concluded in 1999 that consuming 25 grams per day of soy protein as part of a diet low in saturated fat can help heart health. Though this figure may not be relevant to all consumers, due to it aiming towards those trying to reduce cholesterol, the FDA doesn't provide any guidance on the actual ideal intake of isoflavones. Soybean components have been investigated for the potential health benefits.
- Web site #2 Name: American Diabetic Association
- Web address: <http://care.diabetesjournals.org/content/25/10/1709.short>
- Summary of information:
 - ❖ The beneficial effects of soy phytoestrogen intake for postmenopausal women with type 2 diabetes are that in a study that was conducted with 32 postmenopausal women, a cross-over trial of dietary supplementation with phytoestrogens (soy protein of 30 grams per day, is flavones of 132 mg per day) versus the placebo (cellulose 30grams per day) for 12 weeks. The results concluded that with soy phytoestrogens alters insulin resistance, glycemic control, and serum lipoproteins in postmenopausal women with type 2 diabetes, therefore, improving their cardiovascular risk profile. This shows that by taking some type of soy protein or supplement can improve cardiovascular health.
- Web site #3 Name: Soy Nutrition
- Web address: <http://www.soynutrition.com/soyfacts/soyfacts-children/soy-is-a-healthy-choice-for-children/>
- Summary of information:
 - ❖ Though kids may not want to even think about eating soy foods, introducing soy foods to your children can play a valuable role in their diets. It offers high-quality protein, soymilk provides the same nutrients as cow's milk like vitamin D, potassium, calcium, riboflavin and vitamin B12. By introducing soy into your child's diet, if it is allowed according to your healthcare provider, the benefits are endless and results are positive.

Conclusions:

After excessive research on soy foods, I have learned a lot more about the debatable topic than I knew before. Because I live a lifestyle where soy is part of my diet, I thought that I knew just about everything there was to know about soy foods and

the benefits it brings to your life. It is surprising to find that many people are against the consumption of soy and is debatable according to the benefits and decreasing risks of heart health and other health factors. I was surprised to find that by incorporating soy into your diet, you can decrease your risk for some cancers, help lower cholesterol and increase the good kind, help reduce insulin and other diabetic factors. After this project, I have a clearer picture of the perks and cons of soy beans and foods. I know that I can change my lifestyle a little to better ensure that I consume the recommended amount of soy in my diet and use this information that I learned to inform others about the benefits of soy. Though soy is looked at negatively, soon enough, rumors will be proven wrong by scientists, like they have begun to already, and soy will become a necessary part of our diets, but it is only a matter of time until that happens.

Pictures on cover:

<http://superberrypower.com/smoothie/index.html>

http://www.dietsinreview.com/diet_column/11/easy-ways-to-incorporate-soys-health-benefits-in-your-diet/

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