HEART HEALTHY DIET

Soy as Part of a Heart Healthy Diet

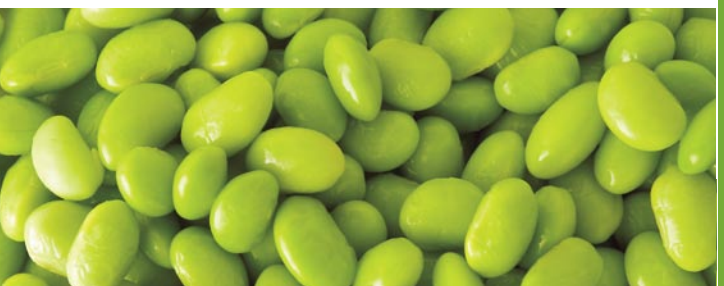
As the AHA Nutrition Committee stated in a recent report, soy foods should be considered beneficial because of their high content of polyunsaturated fat, fiber, vitamins, minerals and their low content of saturated fat and cholesterol.

As an example, one eight-ounce serving of enriched soymilk contains:

- **Zero cholesterol**
- **Zero trans fat**
- **0.5 grams of saturated fat**

Soymilk also provides an excellent source of calcium, vitamins A, C, D, E, riboflavin, B6 and B12.

While soy protein alone may not bring cholesterol levels down to the target goal in hypercholesterolemics, the modest cholesterol-lowering effects and numerous nutritional benefits makes soy an excellent component in an overall heart-healthy diet.



ABOUT USB

The United Soybean Board (USB) is a farmer-led organization comprised of 64 farmer-directors. Working with independent academic researchers affiliated with the National Institutes of Health (NIH) and academic institutions, USB has invested millions of dollars into health and nutrition research related to soy. Soybean farmers take pride in producing one of the healthiest food crops in the world.

USB
UNITED SOYBEAN BOARD
Making Your Checkoff Pay Off.

ABOUT THE FDA HEALTH CLAIM

In 1999, the Food and Drug Administration (FDA) approved a health claim for the relationship between soy protein consumption and reduced risk of CHD. Foods that are low in saturated fat and cholesterol and contain a minimum of 6.25 grams of soy protein per serving can make the following claim on the label:

Diets low in saturated fat and cholesterol that include 25 grams of soy protein a day may reduce the risk of heart disease.

ONLINE RESOURCES

Download a fully-referenced technical fact sheet on Soy & Heart Health, at www.talksoy.com.

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SOY FOR A HEALTHY HEART

AS PART OF A HEALTHY DIET, SOYFOODS MAY HELP REDUCE THE RISK OF HEART DISEASE

HEART HEALTH

In the United States, 13 million people suffer from coronary heart disease (CHD). Approximately one-half of men and one-third of women over the age of 40 will develop CHD in their lifetime. According to the American Heart Association (AHA), the estimated direct and indirect cost of CHD in 2005 was $142 billion.

Risk factors found to contribute to CHD include:

- Elevated serum cholesterol
- High blood pressure
- Elevated triglycerides
- Diabetes
- High Body Mass Index (BMI)
- Smoking

Scientists are now exploring additional emerging risk factors, including:

- Elevated homocysteine
- Inflammation
- Endothelial dysfunction

Lifestyle factors, such as diet, influence many of these risk factors. Research has shown that reducing intake of saturated fat, trans fat and cholesterol and increasing consumption of nutrient-dense foods can help improve cardiovascular function. Soy protein is naturally cholesterol-free and low in saturated fat.

IMPROVED LIPID LEVELS

Elevated serum cholesterol is a primary risk factor for CHD. A meta-analysis of 33 clinical studies involving more than 1,749 subjects, published in the *American Journal of Clinical Nutrition*, demonstrated that adding soy protein to the diet resulted in:

- 3.8 percent reduction of total cholesterol
- 5.3 percent reduction of LDL cholesterol
- 7.3 percent reduction of triglycerides
- 3.0 percent increase in HDL cholesterol

These modest improvements in lipid levels translate to at least a 10 percent reduction in CHD risk on a population-wide basis (based on a one percent LDL cholesterol reduction equaling a two percent CHD risk).

OTHER RISK FACTORS

Lowering Blood Pressure

Even modest reductions in blood pressure can result in significant cardiovascular health benefits. For example, lowering systolic blood pressure by just 2-5 mm Hg:

- Reduces CHD risk by 4 – 9 percent
- Reduces stroke risk by 6 – 14 percent

In a 12-week clinical trial involving approximately 300 prehypertensive and stage 1 hypertensive patients, published in the *Annals of Internal Medicine*, researchers found that 40 grams of soy protein per day significantly lowered blood pressure, compared to a carbohydrate control.

In the hypertensive subjects, the effect of soy protein on systolic blood pressure (~8 mm Hg ▼) was equivalent in potency to currently used blood pressure medications. Additional research is needed to clarify whether the benefit is derived from soy protein in particular or protein intake in general.

Improving Endothelial Health

Endothelial dysfunction is thought to be a global indicator of CHD risk. The endothelial layer influences the health of the coronary vessels and, as a result, CHD risk. Several studies, published in *Circulation, Atherosclerosis* and other journals, show that isoflavone-rich soy protein and isolated isoflavones may increase arterial dilation in postmenopausal women – indicating improved endothelial health.