



PHYTOSTEROLS

Managing Cholesterol Levels with Phytosterols



HOW DO PLANT STEROLS AND STANOLS WORK?

Plant sterols and stanols, referred to as phytosterols, are plant-derived compounds that are similar in structure to cholesterol, and competitively help block the absorption of cholesterol in the digestive tract. As a result of this activity, sterols and stanols help contribute to lower total cholesterol, LDL cholesterol and non-HDL cholesterol levels in the blood. Healthy cholesterol levels are important for heart health.

Phytosterols occur naturally in small amounts in many plant-based foods, such as unrefined vegetable oils, whole grains, nuts and legumes. However, one would need to consume an extraordinary amount of these foods to achieve clinically meaningful levels of plant sterols and stanols in one's diet. A few commercial foods and beverages, such as margarine and orange juice, are fortified with phytosterols, but the caloric price of these alternative fortified food sources can be high. For those who are interested in other forms, dietary supplements, which come at little to no calories, provide another option for individuals interested in using phytosterols to help manage their cholesterol levels.

Phytosterols from foods and dietary supplements have been studied in a variety of clinical settings. Well-designed studies have demonstrated the cholesterol-lowering effects of phytosterols in tablet and softgel dietary supplement forms.¹⁻³ Phytosterols have demonstrated efficacy in clinical studies in food forms such as margarine, yogurt, salad dressing, mayonnaise, and chocolate.⁴ Products containing at least 400 mg per serving of plant sterols and stanols, eaten twice a day with meals for a daily intake of at least 800 mg as part of a diet low in saturated fat and cholesterol, may help reduce the risk of heart disease.⁵

HOW MUCH PHYTOSTEROLS ARE NATURALLY PRESENT IN FOODS?⁶

Name of Food Item	Quantity of Food Item	Quantity of Phytosterols
Corn oil	1 Tablespoon	134 mg
Olive oil	1 Tablespoon	24 mg
Corn	1 ear	63 mg
Apple	1 each	22 mg
Tomato	1 each	9 mg

The average Western diet only provides ~200 mg/day of phytosterols.⁶

WHAT DOES THE SCIENCE SAY?

There is a large body of supportive research surrounding plant sterols and stanols as an option for lowering cholesterol. Meta-analyses suggest LDL cholesterol reductions of approximately 3-4% per gram of plant sterols/stanols consumed.⁴ Although most of these studies have administered plant sterols/stanols in food forms, studies that tested dietary supplement forms found LDL cholesterol reduction rates similar to those for food forms.¹⁻³ The results from these studies indicated that daily incorporation of four dietary supplement tablets (phytosterols in free form) or softgels (phytosterols in esterified form) containing a total of 1.8 g of plant sterols/stanols into the Therapeutic Lifestyle Changes (TLC) diet (see back page for more details) resulted in favorable changes in concentrations of total, LDL, and non-HDL cholesterol levels in men and women with high cholesterol.¹⁻³

WHAT ARE THE CURRENT GUIDELINES AND RECOMMENDATIONS FOR CHOLESTEROL MANAGEMENT?

Recent studies have shown that there has been a significant increase in the use of statins (cholesterol-lowering drugs) in the last several years.⁷ While statins are certainly effective, patients are also encouraged to incorporate a healthful diet and lifestyle modifications as part of their cholesterol management efforts.⁷⁻⁹



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To help patients manage their cholesterol levels, the National Cholesterol Education Program (NCEP), an umbrella program under the National Institutes of Health (NIH), issued recommendations, advising a decrease in dietary intake of total saturated fat, cholesterol and trans fat in their diets and an increase in soluble fiber (10-25 g/day), and consumption of plant sterols or stanols (2 g/day).⁹ Supplementing one's diet (only supplies ~ 200 mg/day of plant sterols/stanols) with a plant sterol/stanol supplement is needed to achieve this 2 g/day recommendation from the TLC Diet.^{6,9}

These recommendations came as an adjunct to the TLC program issued by the NIH for:

- Weight management
- Diet
- Physical activity

DISCUSS YOUR CHOLESTEROL MANAGEMENT REGIMEN WITH YOUR HEALTHCARE PROFESSIONAL

Phytosterols have been studied in conjunction with cholesterol-lowering medications, however it is still important to discuss their use with a healthcare professional. A Registered Dietitian Nutritionist is a good healthcare professional to help decide which food source(s) and/or phytosterol supplement should be integrated into one's lifestyle.

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The dietary supplement industry is regulated by the U.S. Food and Drug Administration and the Federal Trade Commission, as well as by government agencies in each of the 50 states.

For More Information: www.NatureMade.com/hcp

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