Nutrient profile
Potent and versatile plant sterols
Ronald G. Reichert, ND

Plant sterols can be found in every single plant. Raw almonds, cashews, sesame seeds, sunflower seeds and peas are the highest source of sterols. Photo by Edmund Fong.

Health claims
Plant sterols are remarkable natural products that have significant therapeutic benefits in those suffering from elevated cholesterol levels, seasonal allergies, rheumatoid arthritis, HIV, and an enlargement of the prostate gland called BPH.

What are plant sterols?
Sterols are complex lipid (fat) compounds that are created from the simplest of chemical building blocks: carbon, hydrogen, and oxygen. Cholesterol is the primary sterol found exclusively in animal foods such as eggs, meat, and dairy. In contrast, plants, fruits, and vegetables have their own unique type of sterol compounds—called phytosterols—that include beta-sitosterol, beta-sitosterol glucosides (sterolin), campesterol, and stigmasterol.

How do phytosterols work?
In general, phytosterols suppress the intestinal absorption of cholesterol. However, pioneering work by Professor P.J.D. Bouic determined that a specific mixture of beta-sitosterol (BS) and beta-sitosterol glucoside (BSSG) has profound immune-enhancing effects.

What’s the evidence on phytosterols?
Numerous studies have been published showing that daily use of 1.6 to 3 grams of esterified (saturated) plant sterols and stanols decrease total cholesterol levels (four to nine per cent) and LDL (six to 12 per cent) in both children and adults when taken together with a meal. Moreover, unesterified (nonsaturated) phytosterols at 1.8 grams per day are equally effective at lowering total and LDL cholesterol levels.

Although plant sterols in general have significant cholesterol-lowering effects, research trials employing the BS:BSSG mixture have shown that it can provide other significant clinical benefits. For example, after 30 months of therapy with a sterol/sterolin mixture, those HIV positive patients with a CD4 (T-helper cells) count greater than 500/ul had a significant reduction in their plasma viral load. Similarly, those infected with tuberculosis and given a BS:BSSG mixture for six months along with their standard drug regimen demonstrated a greater gain in weight and a lesser degree of inflammation in comparison to placebo.

The therapeutic advantages of this BS:BSSG mixture extend to those suffering with rheumatoid arthritis (RA). The results of a recent study (based on the American College of Rheumatology’s test criteria, which include grip strength and the degree of joint pain and mobility) suggests that the group taking the phytosterol mixture had a 48-per-cent improvement rate compared to only 21 per cent in the placebo group.

In addition to helping those with RA, the use of sterols and
sterolins also reduces the symptoms in those complaining of hayfever (allergic rhinitis). The clinical benefits of this BS:BSSG mixture is also seen in men with benign prostatic hypertrophy (BPH). Researchers found that 60 milligrams per day for seven months increased urinary flow rates and decreased residual urinary volume in men with BPH.

How should I take phytosterols?
Beta-sitosterol and stanols can be taken in doses ranging from 1.6 to 3 grams per day with meals in those individuals with elevated cholesterol levels. Those taking the BS:BSSG mixture for other clinical concerns should use 20 mg of the product three times a day away from meals.

The safety of phytosterols has not been established in pregnancy.

Individuals with a rare genetic condition called sitosterolemia should not take supplementary plant sterols.

The Bottom Line
Phytosterols are unique supplements that have wide-ranging health benefits.

Ronald G. Reichert, ND, is a practising naturopathic physician in Vancouver, BC.