Plant stanols in Benecol® Buttery Spreads are proven to reduce cholesterol.

Defining Plant Stanol Esters

Plant sterols, plant stanols, and their esterified forms (plant sterol ester/plant stanol ester) are classified as phytosterols, which are naturally occurring components of plant cell membranes. Sterols/stanols are found in trace amounts in foods such as cereals and grains, vegetables, fruits and legumes. Because plant sterols/stanols hold a similar molecular structure to cholesterol, they compete for absorption in the intestine, and in turn lower blood cholesterol levels. 1, 2 As high blood cholesterol is a major contributor to Coronary Heart Disease (CHD), the Food & Drug Administration (FDA) recommends the use of plant stanols/sterols as a strategy to lower cholesterol, in turn reducing overall risk of CHD. 3 Though both plant sterol ester and plant stanol ester are effective in lowering total and LDL cholesterol, plant stanol ester on average has been shown to cause a greater reduction in cholesterol compared to that of plant sterol ester. 4

Plant sterols/stanols occur naturally in the Western diet however only provide an average of 0.6 grams daily, which is not enough to achieve the desired cholesterol-lowering effect. Summarizing evidence-based conclusions across 60+ clinical studies, the FDA recommends 2g per day of plant stanols to attain significant reduction in low-density lipoprotein (LDL) cholesterol and total cholesterol. 3 Benecol® is the only buttery spread that contains plant stanol, providing the recommended 2g plant stanol ester in 4 tablespoons of spread.

---


Support from the Food & Drug Administration for Plant Stanol Use

The FDA assigns categories for food product claims, which include **Structure Function Claims, Nutrient Content Claims, and Health Claims that meet Significant Scientific Agreement (SSA).** The SSA claim is by far the strongest of these three as it identifies a proven, significant health-related relationship between an ingredient and a documented health condition. In this instance, the FDA assigns the **Significant Scientific Agreement claim to the relationship between plant stanol/sterol esters and reduced risk of Coronary Heart Disease (CHD).** The foundation of the Significant Scientific Agreement is a body of over 60+ clinical studies published in peer-reviewed scientific and medical journals, including the *American Journal of Clinical Nutrition,* the *American Journal of Cardiology* and *Atherosclerosis.*

While there are non-responders in any study, the overwhelming body of scientific evidence suggests that on average, for most people, there is a significant reduction in LDL and total cholesterol in response to consuming plant stanols. ³

Across the clinical studies supporting the use of plant stanol/plant sterol in lowering cholesterol and risk of CHD, there has been proven efficacy with no known side effects in a variety of populations, including but not limited to:

- **Healthy women, men and children**
- **Subjects with normal, healthy cholesterol levels**
- **Subjects with moderate to high cholesterol levels**
- **People living with Type 1 and 2 Diabetes Mellitus**
- **Subjects with Metabolic Syndrome (collective occurrence of multiple diet-related diseases)**
- **Coronary Artery Disease (CAD) patients**
- **As a part of normal western diet**
- **As a part of strict cholesterol-lowering diet**
- **Paired with statin medication**
- **Globally diverse populations**

The text of the health claim authorized by the FDA with respect to plant stanols is as follows: “Foods containing at least 0.5g per serving of plant stanols eaten with meals or snacks for a daily total intake of 2g as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease.” One serving of Benecol® spread supplies 0.5g of plant stanols.

In addition to the FDA support, the following recognized health-related organizations recommend consumption of plant stanols/sterols as a cholesterol-lowering strategy and overall method of reducing risk of CHD:
For reference, below is a subset of the clinical studies identified by the FDA as contributing to the SSA claim by demonstrating the link between consumption of plant stanols/sterols and the reduced risk of CHD:


