



Psyllium Seeds

Stock #540-4 (100 capsules)

Psyllium seeds, perhaps less well-known than psyllium hulls (husks), have traditionally been used as a bulk laxative for constipation and inflammatory bowel diseases. In fact, the German Commission E has approved psyllium seeds for the treatment of chronic constipation, irritable bowel syndrome, and health problems in which softened stools are desired (i.e. anal fissures, hemorrhoids, rectal surgery, etc.). The World Health Organization (WHO) also recommends psyllium seeds for restoring and maintaining bowel regularity; for temporary constipation resulting from illness or pregnancy; and, for constipation caused by diverticulitis or duodenal ulcers. It is important to note that constipation can have numerous causes for which psyllium seeds may or may not be effective. For example, a study was conducted in which 149 patients with chronic constipation were given psyllium seeds daily for at least 6 weeks. Results showed that while only 20% of those with constipation resulting from slow gastrointestinal transit time responded to the psyllium seed treatment, 85% of those with no identifiable cause improved or became symptom-free. An additional 37% of patients with various defecation disorders, including internal prolapse, also demonstrated improvement.¹⁻⁷

Psyllium seeds are a source of both soluble and insoluble fiber. Psyllium seeds actually provide a greater amount of fermentable soluble fiber than psyllium hulls. The fermentation of soluble fiber in psyllium seeds by anaerobic bacteria in the large intestine produces short-chain fatty acids (SCFAs), which appear to play a key role in the maintenance of colonic health. Several studies indicate that inflammatory bowel diseases such as Crohn's disease and ulcerative colitis are associated with impaired SCFA production. One such SCFA, butyric acid, has demonstrated anti-cancer activity against colorectal cancer and may be beneficial for the treatment of ulcerative colitis. Research has shown that daily intake of psyllium seeds increases butyric acid production. Furthermore, daily supplementation with psyllium seeds was shown to be comparable in its effects to standard drug therapy for maintaining remission in patients with ulcerative colitis.^{2,5,8-12}

Psyllium seeds have also been shown to help lower cholesterol levels. Studies have found that daily supplementation with psyllium seeds can lower total cholesterol and LDL cholesterol levels in patients with mild hypercholesterolemia. The cholesterol-lowering effects of psyllium seeds are due, at least in part, to the presence of phytosterols, including beta-sitosterol and stigmasterol. Numerous clinical studies have confirmed that phytosterols can reduce serum cholesterol levels in hypercholesterolemic patients, as well as in those with normal cholesterol levels. Phytosterols lower serum cholesterol by inhibiting the intestinal absorption of cholesterol, thus leading to lower serum LDL cholesterol levels and a reduced risk of developing cardiovascular disease.^{1,3,4,13-18}

Furthermore, psyllium seeds may help lower blood glucose levels by delaying the intestinal absorption of sugar and reducing serum insulin levels after eating. It is interesting to note that psyllium seeds naturally contain chromium, a trace mineral. Chromium has been shown to reduce glucose levels and improve insulin sensitivity in insulin-resistant patients with type 2 diabetes, especially when patients exhibit elevated fasting glucose levels.^{3,5,19}

Psyllium seeds are a natural source of B-vitamins and vitamin C, omega-6 and omega-9 essential fatty acids, and several minerals, including chromium, magnesium, manganese, potassium, selenium, silicon and zinc.^{3,14}

Psyllium seeds are not recommended for individuals with a known allergy to psyllium preparations or in stenosis (abnormal narrowing) of the esophagus or the gastrointestinal tract.^{2,3}

References:

- ¹Gelissen, I.C., et. al. "Effect of *Plantago ovata* (psyllium) husk and seeds on sterol metabolism: studies in normal and ileostomy subjects." *The American Journal of Clinical Nutrition*; 1994, 59(2):395-400.
- ²*Plantago ovata* (Psyllium). Monograph. *Alternative Medicine Review*; 2002, 7(2):155-159.
- ³*Herbal Medicine: Expanded Commission E Monographs*. Newton, MA: Integrative Medicine, 2000.
- ⁴Fetrow, C. & Avila, J. *Professional's Handbook of Complementary & Alternative Medicines*. Springhouse, 1999.
- ⁵Mills, S. & Bone, K. *Principles and Practice of Phytotherapy*. London: Churchill Livingstone, 2000.
- ⁶Krammer, H., et. al. [Therapeutic options of chronic constipation]. *Der Internist (Berlin)*; 2005, 46(12):1331-1338.
- ⁷Voderholzer, W.A., et. al. "Clinical response to dietary fiber treatment of chronic constipation." *The American Journal of Gastroenterology*; 1997, 92(1):95-98.
- ⁸Marlett, J.A., et. al. "Position of the American Dietetic Association: health implications of dietary fiber." *Journal of the American Dietetic Association*; 2002, 102(7):993-1000.
- ⁹Galvez, J., et. al. "Effects of dietary fiber on inflammatory bowel disease." *Molecular Nutrition & Food Research*; 2005, 49(6):601-608.
- ¹⁰Nordgaard, I., et. al. "Colonic production of butyrate in patients with previous colonic cancer during long-term treatment with

- dietary fibre (Plantago ovata seeds).“ *Scandinavian Journal of Gastroenterology*; 1996, 31:1011-1020.
- ¹¹Rodríguez-Cabezas, M.E., et. al. "Intestinal anti-inflammatory activity of dietary fiber (Plantago ovata seeds) in HLA-B27 transgenic rats.“ *Clinical Nutrition*; 2003, 22(5):463-471.
- ¹²Fernández-Bañares, F., et. al. "Randomized clinical trial of Plantago ovata seeds (dietary fiber) as compared with mesalamine in maintaining remission in ulcerative colitis. Spanish Group for the Study of Crohn's Disease and Ulcerative Colitis (GETECCU).“ *The American Journal of Gastroenterology*; 1999, 94(2):427-433.
- ¹³Segawa, K., et. al. "Cholesterol-lowering effects of psyllium seed associated with urea metabolism.“ *Biological & Pharmaceutical Bulletin*; 1998, 21(2):184-187.
- ¹⁴Duke PhD, J. *Dr. Duke's Phytochemical and Ethnobotanical Databases*. <<http://tinyurl.com/2egkh6f>>. Accessed August 2010.
- ¹⁵Lugasi, A. [Foods fortified with phytosterins: their role in decreasing serum cholesterol level, their European Community authorization and requirements for placing them on the market]. *Orvosi Hetilap*; 2009, 150(11):483-496.
- ¹⁶Wong, N.C. "The beneficial effects of plant sterols on serum cholesterol.“ *The Canadian Journal of Cardiology*; 2001, 17(6):715-721.
- ¹⁷Brown, A.W., et. al. "Phytosterol Ester Constituents Affect Micellar Cholesterol Solubility in Model Bile.“ *Lipids*; 2010, August 13. [Epub ahead of print]
- ¹⁸Woyengo, T.A., et. al. "Anticancer effects of phytosterols.“ *European Journal of Clinical Nutrition*; 2009, 63(7):813-820.
- ¹⁹Wang, Z.Q., Cefalu, W.T. "Current concepts about chromium supplementation in type 2 diabetes and insulin resistance.“ *Current Diabetes Reports*; 2010, 10(2):145-151.