



Barley lowers cholesterol

Laboratory and animal studies around the world have yielded promising results regarding barley's potential health benefits. Now, data from human clinical trials bolster past findings and show a significant correlation between barley consumption and cholesterol reduction.

USDA/ARS barley clinical trials

Two clinical trials were conducted at the United States Department of Agriculture/Agricultural Research Services (USDA/ARS) Human Nutrition Research Center in Beltsville, MD between 2001 and 2002. Final data from the trials were published in the *Journal of the American College of Nutrition and the American Journal of Clinical Nutrition*. The trials were designed to investigate whether barley, as a soluble fiber source, would beneficially change cardiovascular risk factors and included men, pre-menopausal women and post-menopausal women with moderately elevated cholesterol levels.

Clinical trial specifics

For both trials, the men and women were given controlled American Heart Association Step 1 diets for 17 weeks. After a two-week adaptation period, the diets were modified to include low, medium and high levels of soluble fiber from barley. The three diets were consumed for five weeks each. Cholesterol levels were measured after each five-week period.

Clinical trial findings

Final data from the trials showed that compared to pre-study concentrations, total cholesterol levels and low-density lipoprotein (LDL) cholesterol (commonly known as "bad" cholesterol) levels were significantly reduced after the subjects consumed the modified diets containing low, medium and high levels of soluble fiber from barley.

The researchers reported that the reduction in total cholesterol and LDL cholesterol concentrations was most notable after the subjects consumed the higher levels of soluble fiber from barley. Data between both trials showed total cholesterol levels were reduced on average by 6.5%, 9.3% and 13.3% after

consuming the low, medium and high soluble fiber diets respectively. LDL cholesterol levels were reduced on average by 8.6%, 11.9% and 17.4% after consuming the low, medium and high soluble fiber diets respectively.

Clinical trial conclusions

USDA/ARS researchers concluded that the consumption of barley-containing foods and the associated soluble fiber significantly improved several cardiovascular disease risk factors among the subjects. They emphasized that the highest barley soluble fiber intake resulted in the greatest reduction in total and LDL cholesterol concentrations.

What industry experts say

“We’ve known for years that barley holds tremendous potential as a healthful food choice,” says Dr. Christine Fastnaught, cereal scientist and research consultant for the National Barley Foods Council. “These results confirm key barley health benefits, particularly the grain’s ability to reduce cholesterol.”

When it comes to soluble fiber availability, barley is a superior choice. “That’s because soluble fiber is found throughout the entire kernel,” Fastnaught says. “For some grains, fiber is only found in the bran layer. So when the grain is processed and the bran layer is removed, all of the fiber is lost as well.”

Fiber, including soluble fiber, is found throughout the entire barley kernel. “Even processed barley with the bran removed contains significant amounts of fiber, including soluble fiber,” says Fastnaught. “Whether whole grain or heavily processed, barley is an excellent choice for heart-healthy dining.”

A bright future for commercial foods production

Researchers note that barley’s qualities as a nutritious food ingredient go well beyond cardiovascular disease risk reduction. The grain’s other inherent nutritional benefits will likely increase its use as an important ingredient in new commercial foods development.

Looking ahead

Future studies, including those conducted by USDA/ARS researchers, are planned to investigate barley’s ability to improve intestinal health, increase immunity to disease, and promote weight-loss maintenance by reducing insulin resistance.

Research publication information:

Lipids Significantly Reduced by Diets Containing Barley in Moderately Hypercholesterolemic Men, Journal of the American College of Nutrition, Vol. 23, No. 1, 55-62 (2004)

Diets Containing Barley Significantly Reduce Lipids in Mildly Hypercholesterolemic Men and Women, American Journal of Clinical Nutrition 2004:80:1185-93

