The Unbounded Power of Whole Grains

By the American Institute for Cancer Research

Using a new method, researchers have discovered that whole grains like corn, whole wheat, oats and brown rice can have as much – or more – antioxidant, anti-cancer activity as vegetables and fruits. Previously, the antioxidant potential of whole grains was underestimated because scientists did not know how to measure it.

In the past, fiber was considered the primary health benefit of whole grains. But now it appears that the antioxidants in whole grains are just as important. In fact, the combination of antioxidants, fiber and other natural substances in whole grains may work together to give you even greater health protection.

Bound to Be Healthful

For years, scientists have been measuring the antioxidant power of natural plant substances called phytochemicals. But they concentrated on the "free" form of these substances. These phytochemicals dissolve easily and are quickly absorbed into the bloodstream. The phytochemicals in vegetables and fruits are mostly of this kind.

But researcher Rui Hai Liu, M.D., Ph.D., and his colleagues at Cornell University have now found that the majority of antioxidants in whole grains occurs in a "bound" form. These phytochemicals are attached to the walls of plant cells and do not enter the bloodstream until they are released by intestinal bacteria.

The difference in antioxidant composition between vegetables and whole grains is dramatic. Dr. Liu and his colleagues found that the "free" form of one major class of phytochemicals made up 76 percent of the total amount present in common vegetables. In whole grains, on the other hand, the "free" phytochemicals accounted for less than 1 percent of the total. Ninety-nine percent were in the "bound" form.

A Whole Big Difference

The key to the cancer-fighting potential of whole grains may lie in their wholeness. Each whole grain is composed of three parts: endosperm, bran and germ. When wheat – or any grain – is refined, the bran and germ are normally removed. Although these two parts make up only 15 to 17 percent of the weight of whole wheat grains, most of the protective phytochemicals are in them, as well as the fiber.

Dr. Liu, whose work has been funded by the American Institute for Cancer Research (AICR), believes that his findings may partially explain why diets high in whole grains can help reduce the incidence of colon cancer, breast cancer, prostate cancer, heart disease and diabetes.

More importantly, his findings reinforce the need to eat a variety of vegetables, fruits, whole grains and beans for good health. Different plant foods have different phytochemicals. These substances go to different organs, tissues and cells, where they perform different functions. To ward off disease, your body needs this teamwork produced by eating an abundant assortment of plant foods.

For more information on how you can lower your risk of one cancer associated with whole grain consumption, order AICR's free brochure Reducing Your Risk of Colorectal Cancer. The phone number to call is 1-800-843-8114, ext. 111.