Saponins for Health: What will they think of next?



First it was fiber. Then it was antioxidants. Now it is saponins, a wide variety of phytochemicals naturally present in plant foods. These components, many sweet-tasting and some health-promoting, are under close scrutiny by nutrition researchers on how they prevent and treat disease.

Saponins-found in grains such as oats and many vegetables from legumes and potatoes to spinach, tomatoes and alfalfa sprouts have long been known to have strong biological activity. Many of these compounds serve as "natural antibiotics" for the plant but now scientists are looking at how they can help humans fight fungal infections, combat microbes and viruses, boost the effectiveness of certain vaccine and knock out some kinds of tumor cells particularly lung and blood cancers. They can also lower blood cholesterol thereby reducing heart disease. Their natural tendency to ward off microbes may prove to be especially useful for treating those difficult to control fungal and yeast infections.

One of the most exciting prospects for saponins are how they appear to inhibit or kill cancer cells. They may also be able to do it without killing normal cells in the process as is the mode of present cancer-fighting drugs. Cancer cells have more cholesterol-type compounds in their membranes than normal cells. Saponins can bind cholesterol and thus interfere with cell growth and division. While drugs have side effects, many of them serious, saponins are safe. There is little possibility that a person can overdose on saponins from eating vegetables. They are broken down in the digestive tract into cholesterol-like compounds and sugars. Researchers are now looking at their possible risks if taken in larger doses like drugs.

An added saponin bonus is their taste. Many of them are sweet-as much as 200 times the potency of table sugar (sucrose). Used as a sweetener in such small amounts, they would not promote tooth decay, our most prevalent chronic disease. So, why limit your vegetables to three-a-day? Besides being low-calorie, vegetables have all sorts of compounds besides nutrients and water to help you stay healthy. Vegetables look so good and taste so much better than pills. Load up your shopping cart now with vegetables rather than pay the pharmacist later.

If you have trouble using up vegetables before they spoil, buy them frozen or select a variety from the salad bar. Or, arrange with a friend to share your surpluses if the cauliflower or leaf lettuce is too big. He or she may split a bag of potatoes or a bunch of fresh spinach in return. And always keep cans of different kinds of beans on your shelves. What could be faster than canned kidney beans on a bed of greens, whole wheat bread, a glass of skim milk and a piece of fruit for that "sweet-something" at the end of the meal?

Mary Clarke, Ph.D. Extension Specialist, Nutrition Education

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the well-being of Kansans. Supported by county, state, federal and private funds, the program has county Extension offices, experiment fields, area Extension offices and regional research centers statewide. Its headquarters is on the K-State campus, Manhattan.