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Press Releases

OSU Tests New Soy-Tomato Drink Posted 8/2/2004

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COLUMBUS, Ohio - It looks a little like watery spaghetti sauce – orange and soupy – and scientists admit it won't win any taste tests just yet, but if all goes well, a new, soy-enhanced tomato juice in clinical trials at the Ohio State University Comprehensive Cancer Center will eventually join the ranks of a growing class of foods called "nutraceuticals," foods with the power of medicine.

Scientists are looking for 20 volunteers to drink the stuff for two months.

How does it taste? "I might not drink it for the flavor, but I might for the health benefits," says Robin Rosselot, an Ohio State student who was among the first to sign up.

OK, so it still needs a little fine-tuning. Right now, investigators are more interested in finding out how people will respond to all the extra soy and lycopene in their diets, anyway.

"First, we just want to find out if the drink is consumable, then we can work on making it desirable," says Dr. Steven Clinton, one of two principal investigators of the trial.

Clinton is an oncologist at the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute at Ohio State and has been studying the properties of soy and lycopene for years. He and co-investigator Dr. Steven Schwartz and colleagues in Ohio State's departments of human nutrition and food science and technology have been developing the drink with support from a grant from the U.S. Department of Agriculture.

"What we are trying to do is pack two potent health promoters in a relatively small package," says Clinton. "We know a lot about how each of these components acts individually in the body, but we're interested in seeing how they might work together."

Study participants will be drinking two 6-ounce cans of the mixture daily, an amount that includes about 40 milligrams of lycopene and about 90 milligrams of soy. Clinton says adding that amount of both to a typical American diet would be a relatively dramatic change. "Right now, the average American has zero soy in his or her diet, and only a fraction of the lycopene we've included."

Soy and tomatoes contain powerful phytochemicals that appear to be helpful in maintaining good health. Ohio State's investigative team is hoping to add to research that has found that the combined effect of health-producing foods is more powerful than their individual impact.

Studies show that lycopene, a carotenoid found in tomatoes and other red fruits, can help break down oxygen free radicals in the body that can damage DNA and lead to cancer. Some studies have suggested that including tomato products containing lycopene and other phytochemicals in a diet can help prevent prostate and colon cancer and reduce a person's risk of cardiovascular disease.

The story on soy is a little more complex. Studies have shown that people in Asia, who eat significantly more soy than do Westerners, enjoy much lower rates of cardiovascular disease and a reduced risk of prostate, breast and colon cancer.

On the other hand, the isoflavones in soy can mimic the action of estrogen. That means soy may be helpful for some women – those who are trying to cope with post-menopausal

symptoms or osteoporosis, for example, but perhaps not for others, who may be at higher risk for breast cancer.

Participants in the study will drink 12 ounces of the soy-tomato juice each day for eight weeks. Scientists will collect their blood and urine and measure how the soy and lycopene is metabolized, absorbed and excreted. They will also be measure the drink's impact on blood lipids and oxidative stress.

Study leaders say this may be the first time substantial concentrations of soy have been successfully added to tomato juice. Soy is heavy and tends to precipitate in liquid; the research team has been working for years to perfect a blend where the soy doesn't settle out. Initially, researchers tried to use soy protein, but success came only when they decided to try soy germ instead.

The Ohio State University Comprehensive Cancer Center is a network of interdisciplinary research programs with over 200 investigators in 13 colleges across the OSU campus, the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute and Children's Hospital, in Columbus. OSUCCC members conduct research on the prevention, detection, diagnosis and treatment of cancer, generating over \$75 million annually in external funding.

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