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## Just eat: The food does the rest

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Just about everyone agrees that food and health are inextricably linked. But Yael Vodovotz goes well beyond that standard: The Ohio State food scientist focuses on creating new functional foods that potentially could prevent and treat chronic disease without demanding that consumers make major changes to their diet.

Among the products under development: Soy-based bread that contains enough soy to approach what's typical in the soy-rich Asian diet, soy-based soft pretzels with a low glycemic index to fight diabetes and weight gain and black raspberry confections and nectar packed with polyphenols to battle prostate and oral cancer.

The idea is to formulate foods with specific health benefits that can be easily incorporated into the typical American diet, said Vodovotz, a professor of Food Science and Technology and scientist with the Ohio Agricultural Research and Development Center, the research arm of Ohio State's College of Food, Agricultural, and Environmental Sciences.

"Yes, people could eat more soy now. But how many people would really eat tofu for an extended period of time? That's what it would take to offer a preventive effect.

"What we try to formulate are things that you normally would eat anyway. It would be a no-brainer that instead of buying your standard everyday bread, you buy a soy-based bread. That way, with no change in your habits, you'll be getting the benefit. We want to offer alternatives that require no change in lifestyle, because for most people, changing your lifestyle is harder to do than anything else."

Vodovotz arrived at Ohio State's Department of Food Science and Technology in 2000 after working with NASA, developing novel foods for a manned mission to Mars. Her expertise lies in understanding the material properties of foods. By closely examining the physical and chemical properties, she helps unlock the mysteries of how certain components contribute health benefits, and how they act within the product itself — affecting a product's flavor, quality, stability and safety.

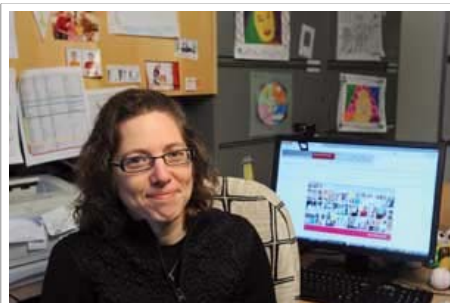
"If you change the material, the properties of all these components can change," Vodovotz said.

With collaborators across the college and university as well as a half-dozen graduate students and post-doctoral researchers, Vodovotz works simultaneously on a multitude of projects.

For example, Vodovotz first began working on a soy-based bread while with NASA. At Ohio State, she and her team have done some fine-tuning to create a product that tastes good and has enough soy to carry the US Food and Drug Administration's "heart-healthy" food claim.

The bread's commercialization is under development, Vodovotz said, but in the meantime, she has worked with Steve Clinton, a medical oncologist with the OSU Comprehensive Cancer Center — Arthur G. James and Richard J. Solove Research Institute, and Steve Schwartz, Ohio State's Carl. E. Haas Endowed Chair in Food Industries, to conduct clinical trials to examine the product's benefits against prostate cancer.

They have even tested new formulations — one with almond powder as an ingredient and a sourdough version — and have found that they make the beneficial isoflavones from soy more easily absorbed by the body and may offer benefits for men diagnosed with prostate cancer.



Professor Yael Vodovotz in Food Science and Technology is working to create functional foods that add to a person's health without changing habits.

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