

GRADUATE AG RESEARCH SPOTLIGHT



Kelly Higgins

"The big picture is educating the public. We don't want the public to think these low-calorie sweeteners cause weight gain if, in fact, they don't — and vice versa."

Kelly Higgins, PhD student in Food Science

THE STUDENT: A trip to Panama as an undergraduate at the University of Missouri raised Kelly Higgins' awareness of nutrition as a tool to improve public health. After graduating in nutrition science and biochemistry, the native of Jefferson City, Mo., started looking for a strong graduate program in food science with a nutrition focus. Her undergraduate research mentor had completed a postdoctoral fellowship at Purdue, and meeting Connie Weaver, professor and former head of Purdue's Department of Nutrition Science, at a food science conference confirmed Higgins' interest: "She was so interested in bridging food science and nutrition." That link is particularly important to Higgins, who is pairing her PhD with a master's degree in public health to strengthen both her scientific knowledge and ability to apply it at the community level. "Purdue is unique in that there's a lot of communication between food science and nutrition science — collaboration across projects and faculty with dual appointments," she says. "It's great to have both the scientific research and communication with industry ... the ones who are producing food that people will consume."

THE RESEARCH: Under the guidance of Distinguished Professor Rick Mattes, Higgins began her doctoral work in fall 2014. She studies ingestive behavior, specifically differences among low-calorie sweeteners and their impact on body weight, energy intake, and appetite. "People tend to group these sweeteners all together, but they're very different in their structure and how they bind to different receptors and are metabolized,"

she explains. Her research involves analyzing food intake and appetite data self-reported by study participants as well as biochemical analysis to address this timely topic. Mattes, she adds, lives by his open-door policy: "He wears so many hats, but he will always take the time to answer the smallest question and see how my research is going."

OF INTEREST TO EVERYONE: One of the things Higgins finds compelling about researching food and eating behavior is that nearly everyone she encounters has opinions about them. "My research can apply directly to someone's life," she explains. "People question the efficacy of low-calorie sweetener use for weight loss. One camp says they increase desire for dietary sweetness and lead to obesity, but the science doesn't back that up. They can be a beneficial tool in weight loss or weight maintenance."

LOOKING TO THE FUTURE: In August Higgins received the Rose Marie Pangborn Sensory Scholarship, which she says was particularly meaningful because Pangborn laid a great deal of the groundwork for current research, and because "extraordinary sensory scientists" comprised the selection committee. After completing her degree in August 2018, Higgins plans to continue in research in academia or with a government agency or private firm. In her leisure time, she is an avid cook and runner: "The best way for me to relax after work is go for a run and come home and make dinner," she says.