



Neda Ahmadiani and Greg Sigurdson, Ph.D. students in Giusti's lab, examine anthocyanins' chemical structures and stability in various applications.



"Monica Giusti's work is both cost-effective and innovative — a powerful combination that's attractive to industry partners. Companies are working with Ohio State not only to fund her research but to commercialize it as well." — Melissa Kelly, licensing manager, The Ohio State University Technology Commercialization Office

ESSENTIALS

- Giusti's anthocyanins research has garnered more than \$500,000 in private industry support since 2009. The result: two patents, with five more pending.
- Giusti was named The Ohio State University's Early Career Innovator of the Year in 2013, and is co-editor of "Anthocyanins in Health and Disease," the first book to summarize advances in research of anthocyanins' role in disease prevention.
- Giusti is a member of CAFFRE, the Center for Advanced Functional Foods Research and Entrepreneurship, which focuses on developing health-promoting functional foods and ingredients. CAFFRE combines efforts of 44 university scientists and has resulted in 250-plus collaborative research publications and a total of \$18 million in support related to foods, nutrients and health between 2006–2014, including \$2 million from 21 industry partners: fst.osu.edu/caffre.

Colorful anthocyanins offer health benefits and a natural alternative for use as food dyes. Monica Giusti's innovations could accelerate research and development in the field.

Opening doors for new research into cancer-fighting food dyes

Monica Giusti's lab budget wasn't limitless. And the anthocyanins she studied weren't cheap. So she made her own — slashing costs 10- to 20-fold. Now, her patented process will be commercialized by newly formed Anthocyantific LLC. Giusti is chief scientist.

Anthocyanins are powerful antioxidants that also give color to most red, orange, purple and blue fruits and vegetables. Giusti is internationally known for her research on their potential as cancer-fighters and as natural food dyes.

"Most companies sell anthocyanin standards, one anthocyanin at a time. And only a small portion of the 700 anthocyanins known to exist is available as pure standards," Giusti said. "What we produce is unique."

The process provides a complete blend of anthocyanins from specific foods: the single primary anthocyanin from strawberries, for example, or the 15-plus anthocyanins from blueberries. Giusti hopes the new products' availability and low cost will galvanize new research into the pigments.

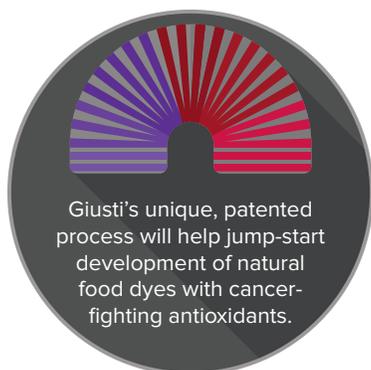
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ag·bi·o·sci·ence (ăg'bt'ō-sī'ens) *n.* the integration of scientific disciplines to address critical needs of food security, safety and health; environmental sustainability; and biobased energy, fuel and products



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Ohio Agricultural Research and Development Center

As the research arm of The Ohio State University's College of Food, Agricultural, and Environmental Sciences (CFAES), the Ohio Agricultural Research and Development Center (OARDC) employs nearly 650 scientists and staff members throughout the state.

Ohio State's Wooster campus is the largest agbioscience research facility in the U.S. OARDC scientists work closely with researchers in Ohio State's Colleges of Education and Human Ecology, Medicine, Public Health, Veterinary Medicine, Biological Sciences and Engineering.

At any given time, OARDC researchers are engaged in nearly 400 research projects. Primary focus is in three signature areas:

- Advanced Bioenergy and Biobased Products
- Environmental Quality and Sustainability
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The Ohio General Assembly established OARDC as the Ohio Agricultural Experiment Station in 1882. It is supported by a line-item appropriation from the Ohio General Assembly, competitive grants, gifts, contracts, federal grants and other sources. OARDC uses these funds to provide direct research support and economic development for Ohio's annual \$100+ billion agbioscience industry. OARDC is not funded by student tuition or any other general funds of The Ohio State University.

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