

Strawberry Fields...for Now

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JENNY JING'S '13 UNDERGRADUATE RESEARCH WITH THE ROSBREED PROJECT DEALS WITH ANTHOCYANIN PIGMENT COMPOSITION WHERE ANTIOXIDANTS ARE IMPROVED WITHOUT CHANGING THE COLOR OF STRAWBERRIES.

Jenny Jing '13 loves strawberries, and that's a good thing. She's worked in the lab of professor Tom Davis, a leading strawberry genetics researcher, for three years. Now, she's assisting in research that could boost the health benefits of her beloved berries.

Working with doctoral student Lise Mahoney, Jing set out to measure the anthocyanins, the pigments that give strawberries and other fruits and vegetables their red color, in 41 wild and cultivated strawberry types. Smashing the berries then analyzing the anthocyanins using a method called high performance liquid chromatography (HPLC), Jing was looking specifically for the ratio of two pigments, the high-antioxidant cyanidin and pelargonidin.

“Breeders want to increase the antioxidant properties of strawberries without changing the color too much,” she says, adding, “Would you want to eat a purple strawberry?” The strawberries we find at the grocery store are cultivated hybrids of two wild strawberries and are, says Jing, quite tricky to breed.

“Strawberries put people to shame. Their genome is so much larger and so much cooler,” she says. Part of the major RosBREED strawberry-breeding project funded by the U.S. Department of Agriculture, Jing’s work will contribute to helping breeders build a better berry.

Strawberry genetics are in Jing’s genes: Her mother, research associate Qian Zhang, has worked in Davis’s lab since the family moved to Durham from Canada eight years ago. Jing joined Davis’s lab on her mother’s lab coattails but quickly established herself as a researcher in her own right.

“This connection provided an opening for Jenny to begin to explore research in my lab as a freshman biology major, and she has worked hard and taken full advantage of it to gain a diversity of research experiences in the ensuing years,” says Davis. “In doing so, she has contributed materially to the advancement of my Agricultural Experiment Station-funded research project in strawberry genetics.”

Jing praises Davis as an academic mentor and a friend. “He treats everybody like family. He’s a father figure to me,” she says.

Jing was invited to present her research, “Assaying Anthocyanin Pigment Composition in Strawberry Fruit,” at the National Conference on Undergraduate Research at Weber State University in Utah in March, which warmed her up for her presentation at UNH’s Undergraduate Research Conference.

“I just love research,” she says. “It makes me really curious all the time.” A biomedical sciences major with her sights on medical school and a career in cardiology, she’s following her curiosity from pipettes to people. She wrote a paper on the sociology of obesity and eating disorders for Jennifer Asala’s medical sociology class, and next year she hopes to do public health research with assistant professor Semra Aytur. Learning to bring “the bench to the bedside,” she says, is great training for a practicing physician.

“Molecules, they make sense. They don’t try to confuse you. But people don’t behave that way,” she says, adding that, at the end of the day, strawberries and people aren’t so different.

After graduating from Durham’s Oyster River High School, Jing chose to remain in her hometown somewhat reluctantly. Three years later, she calls her decision to come to UNH “the best thing that happened to me.” She has pursued a wide range of out-of-lab activities: she’s been active with the Office of Multicultural Student Affairs, the Connect pre-orientation program, the Golden Key, and intramural sports; she’s volunteered in medical settings in China and Guatemala; she works in Philbrook Dining Hall. This summer, in addition to continuing her research and studying for medical school entrance exams, she’ll be working at the UNH Survey Center.

She is, she says, simply following her mentor's advice. "Tom told me that college is what you make of it, to make the most of my time here," she says. "I've done that."

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