

Soybean
science challenge

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**ARKANSAS
SOYBEAN**
PROMOTION BOARD

Taylor Orrell wins the Soybean Science Challenge Award at 2018 Southwest Arkansas Regional Science Fair

MAGNOLIA, Ark. -- Taylor Orrell, 16, a freshman at Emerson High School won the regional round of the Soybean Science Challenge at the 2018 Southwest Arkansas Regional Science Fair held at Southern Arkansas University in Magnolia on March 16. Orrell's victory was the fourth for Emerson High in the Soybean Science Challenge.

Orrell received a \$300 cash award provided by the Arkansas Soybean Promotion Board. Her science project "Pharmaceutical Water Pollution in Soybean Production" was conducted to determine the effect pharmaceuticals in water have on soybean production. Her project also won second place in the Earth and Environmental Sciences Division at the regional level.

Connie Orsak, Orrell's science teacher, also won the Soybean Science Challenge Teacher Mentor Award. "I am very much encouraged that Arkansas farmers and the University of Arkansas Cooperative Extension Service are coming alongside educators to show support and enlighten our students to the possibility of Arkansas agronomy."

Orrell enjoyed "Module 2: The Miracle Bean," because it presented her with information on how soybeans are used in food and animal feed. "It was a joyous honor becoming the Southwest Arkansas Regional winner of the challenge," she said. Her passion for agriculture and winning this award is an exciting step towards Orrell's goal of becoming a crop analyst.

Orrell knew very little about soybeans before she started the project; however, her experience with the Soybean Science Challenge course and the knowledge received doing this project has strengthened her future agriculturalist goal.

Orsak said when Orrell heard about the challenge, she immediately wanted to do it, working hard on the tutorial. She then applied her new knowledge to her science fair project, asking questions as needed. Orrell told Orsak after she won the award that it had really boosted her self-esteem.

Orrell's mother, Kela Jermany said she couldn't be more proud of this accomplishment. "Taylor started doing science projects in the fourth grade. She fell in love with the whole process. She has always had an inquisitive mind." Jermany said Taylor has a thirst for knowledge, is a hard worker and always gives 100 percent on a project.

Orsak believes that students who work on the Soybean Challenge have an even greater motivation to do well, going the extra mile in producing quality work. She gets a motivated student determined to succeed, all because of the Arkansas Soybean Science Challenge.

“The Soybean Science Challenge allows Arkansas senior high students to participate in scientific discovery that can make a difference to our state and the world,” said Karen Ballard, professor at the University of Arkansas System Division of Agriculture’s Cooperative Extension Service. She is the developer and director of the program. “Soybean farmers help feed the world, and Soybean Science Challenge students not only learn about this important commodity crop, but they also develop an understanding of the challenges and complexity of modern farming.”

“The goal of the Arkansas Soybean Science Challenge is to engage students in ‘real world’ education to support soybean production and agricultural sustainability,” said Gary Sitzer, chairman of the Arkansas Soybean Promotion Board. “The program also rewards scientific inquiry and discovery that supports the Arkansas soybean industry.”

Information on the 2018-19 Arkansas Soybean Science Challenge will be available in summer 2018. For more information, contact Dr. Karen Ballard at kballard@uaex.edu or Dr. Julie Robinson at jrobinson@uaex.edu.

About the Division of Agriculture

The University of Arkansas System Division of Agriculture’s mission is to strengthen agriculture, communities, and families by connecting trusted research to the adoption of best practices. Through the Agricultural Experiment Station and the Cooperative Extension Service, the Division of Agriculture conducts research and extension work within the nation’s historic land grant education system.

The Division of Agriculture is one of 20 entities within the University of Arkansas System. It has offices in all 75 counties in Arkansas and faculty on five system campuses.

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Taylor Orrell – Emerson High School, Teacher – Connie Orsak

Category: Environmental science

Project Title: Pharmaceutical Water Pollution in Soybean Production

Abstract:

This experiment was designed to test the effects of pharmaceutical drugs on soybean growth, evaluated with biomass achieved. This project had 36 conventional soybeans planted with different levels of water pollution. The drug was placed into water for 6 sets of plants. Six

control plants were watered with purified water. All plants were watered with 20 ml of water each. The same amount of fluorescent lighting and a controlled temperature were used. The soybeans were grown in a greenhouse. The Miracle-Gro soil was utilized to ensure the proper nutrients for the soybeans. The soybeans were dried and massed. A null hypothesis, that there will be no significant difference between the experimental groups growth and the control group's growth, was not supported by the data.