Claire Webre wins 2018 Arkansas Soybean Science Challenge Award at Central Arkansas Regional Science and Engineering Fair

LITTLE ROCK -- Claire Webre, age 17, a senior at Parkview Magnet High School in Little Rock won the Soybean Science Challenge at the 2018 Central Arkansas Regional Science and Engineering Fair held at the University of Arkansas-Little Rock on March 2.

Webre received a $300 cash award provided by the Arkansas Soybean Promotion Board at the Awards Ceremony. Her science project titled "The Effect of Genetic Modification of Soy Oil on Efficiency of Biodiesel" also received an Honorable Mention in Biochemistry. Webre will compete at the Arkansas State Science and Engineering Fair March 30.

Chris Luckey, Webre's teacher, won the Soybean Science Challenge Teacher Mentor Award. Lucky said "Claire is a model science student at Parkview Magnet who excels in all areas of her studies. This achievement serves as proof that she is capable of great things."

Webre said she was honored and inspired that her project won the Soybean Challenge.

Luckey had Webre participate in the Soybean Challenge because he believes that agriculture research has the potential to address many pressing environmental, societal and public health issues that the world faces. He feels this potential is a great way to inspire and motivate young potential scientists to conduct a meaningful scientific investigation that will prepare them for future academic and professional success.

The part of the Soybean Science Challenge course that appealed most to Webre was the purpose and aim of educating youth as future faces in the science world and seeing agriculture as it relates to local communities. Other topics that interested her were soybeans' effect on biofuels, the nitrogen fixation process and how soybeans can impact world hunger.

Prior to completing the online course and conducting the research, Webre said the only thing she knew about soybeans was that they were a major crop in Arkansas. She was surprised to learn the significant impact soybeans have on agriculture and the world. Luckey said he became aware of the Soybean Science Challenge when he attended his first state science fair in 2014; since then, he has involved his students.

Luke and Theresa Webre, Claire's parents, were proud of their daughter's accomplishment in the Soybean Science Challenge and encouraged that she is researching bio forms of fuel. Her parents said, "We realized Claire held a passion for science and

experimentation when she was about 9 or 10 years old. This project has created curiosity and inspiration in Claire to the point that she is considering agriculture and biochemistry as potential career paths rather than the pre-med."

Both Luckey and Claire's parents agree that Webre is highly dedicated to her grades, clubs, and community with her education being her strongest priority.

"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. Soybean farmers help feed the world, and Soybean Science Challenge students not only learn about this important commodity crop, they also develop an understanding of the challenges and complexity of modern farming," 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.

"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."

The Arkansas Soybean Science Challenge was launched in January 2014 to 9-12 grade science students. Students who successfully completed the online course were eligible to have their original soybean-related research projects judged at the 2017 ISEF affiliated Arkansas science and engineering fairs.

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

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Claire Webre: Parkway Magnet School, Little Rock, AR, Teacher-Chris Luckey

Category: Chemistry

Project Title: The Effect of Genetic Modification of Soybean Oil on the Efficiency of Biodiesel It Produces

Abstract:

The purpose of this project was to relate the important topics of biodiesel and genetic modification in order to help in the movement to provide practical and efficient alternatives for fuel. The effect of genetic modification of soybean oil on fuel efficiency was investigated through the process of making biodiesel. Regular and non-GMO soybean oils were utilized in the creation of two batches of biodiesel, which were then run through a chemical analysis, evaluating the efficiency of the samples. Both of the samples exceeded the limits to be considered efficient, due to the great amount of water left in the samples. The data displays that the non-GMO sample had results closer to the required data for utilization. However, the regular soybean oil batch did have oxidation stability 0.2 hours above the non-GMO batch. Although the outcome of this experiment has not answered the research question, the results as well as the experience could potentially lead to further studies and experimentation of different methods.