

**Justus Osbon wins 2023 Arkansas Soybean Science Challenge Honorable Mention Award at the Southwestern Energy Arkansas State Science and Engineering Fair**

Justus Osbon, 16, a sophomore at Fayetteville Christian School in Fayetteville, Arkansas, won the 2023 Soybean Science Challenge Honorable Mention Award at the Southwestern Energy Arkansas State Science and Engineering Fair April 1.

Osbon received a $250 cash award for his SSC Honorable Mention finish at State. The award was provided by the Arkansas Soybean Promotion Board. His science project title “How much smoke until you choke?” also placed third in Chemistry at the State Science Fair.

Alicia Deavens, Justus’ teacher, won the $100 State Soybean Science Challenge Honorable Mention Teacher-Mentor Award. Deavens stated that the Soybean Science Challenge course and resources are very applicable to teaching science in the classroom. “Soybeans are amazing. Sharing the benefits and the life cycle of soybeans is critical not only in plant science but also in Arkansas History.  I find myself sharing something about soybeans in each grade I teach.  The diversity of soybeans as a food source, a nitrogen fixer in areas of crop rotation, and a source of other soybean biproducts make soybean research relevant for all levels of education,” she replied.

Justus was surprised and thrilled to receive Honorable Mention in the State Soybean Science Challenge. I was so surprised that my project was considered as one of the top awards.  I am proud of myself,” he exclaimed.

Justus’ parents, Terry and Crystal Osbon, were thrilled to see him get this award. “We cannot tell you what a confidence booster it was to him.  Justus does well on the basketball court, but because he has learning difficulties due to dyslexia, school is a huge struggle.  In this project, he was able to see that hard work amounted to great success, and it was a huge blessing to us that he was chosen.  Winning this award might be somewhat inconsequential to others, but it is life changing for us,” they explained.

Justus acknowledged he has a whole new perspective about agriculture. “Soybeans make more stuff that you use on a day-to-day basis than one would realize.  In taking this course and doing research for my project, I learned that soybeans and their byproducts are limitless.  It makes me thankful for farmers and the industry when I realized how many things are associated with soybeans.,” he stated.

Alicia Deavens believes student research can be very helpful for farmers. “I think students can help contribute to farmers by learning more about how soybeans affect the soil and our environment, and by learning more about the many uses of soybeans. Expanding one's knowledge of the different types of soybeans and the different varieties can add value and diversity to the already limitless possibilities in the growing soybean industry. Soybean farmers impact our lives in many areas such as economics, agriculture, textiles, and engineering.  I am hoping that my students will continue soybean-based projects in the future.  I look forward to helping each year as they learn more about Soybeans and participate in the Soybean Science Challenge.

“The Soybean Science Challenge provides an opportunity for Arkansas junior high and high school students to participate in scientific research that can impact the State of Arkansas as well as the world. Soybean Science Challenge student researchers learn about this important commodity crop and its many uses including feeding the world, development of biofuels and sustainable products. The Soybean Science Challenge helps students develop an understanding of the challenges and complexities of modern farming,” said Dr. Julie Robinson, Associate Professor 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, a former member 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 9-12th grade science students. Students who successfully completed the online course were eligible to have their original soybean-related research projects judged at the 2023 ISEF-affiliated Arkansas Science and Engineering Fairs.

Information on the 2023-2024 Arkansas Soybean Science Challenge will be available in summer 2023. For more information, contact Dr. Julie Robinson at [jrobinson@uada.edu](mailto:jrobinson@uada.edu) or Diedre Young at [dyoung@uada.edu](mailto:dyoung@uada.edu).

The Cooperative Extension Service is part of the University of Arkansas System Division of Agriculture.

**Justus Osbon, Fayetteville Christian School; Fayetteville, Arkansas; Teacher, Alicia Deavens**

**Category: Chemistry**

**Title: Smoke until you choke**

**Abstract:**

Which oil is cleaner to cook with based on the soot that is produced in the air while cooking? Canola oil was my control and soybean oil, and olive oil were variables.

The oils have a smoke point range from 400\* to 470\* F. (Olive oil has a smoke point range of 390-470\*F, Canola has a smoke point range of 375-450\*F and Soybean has a smoke point of 450\*F.) My hypothesis was that canola oil would smoke sooner than soybean oil or olive oil because it has the lowest smoke point. Canola, soybean, and olive oils were heated separately with a Bunsen burner until they began to smoke. To determine the amount of smoke released from each oil when heated, I captured the smoke residue with paper and coffee filters. Each filter was weighed before and after capturing the smoke. The filters captured the smoke for one minute. The net weight difference of the filters was averaged after five trials with each oil. The results show that canola oil and olive oil release more smoke when heated to its smoking temperature.

![A person and person holding a framed picture

Description automatically generated with low confidence]()

State Science Fair Honorable Mention Winner Justus Osbon with Teacher-Mentor Alicia Deavens