

# Discovery, The Student Journal of Dale Bumpers College of Agricultural, Food and Life Sciences

---

Volume 20

Article 2

---

Fall 2019

## Contents

Discovery Editors

Follow this and additional works at: <https://scholarworks.uark.edu/discoverymag>

 Part of the [Agribusiness Commons](#), [Agricultural Economics Commons](#), [Agricultural Education Commons](#), [Agronomy and Crop Sciences Commons](#), [Animal Sciences Commons](#), [Botany Commons](#), [Communication Commons](#), [Entomology Commons](#), [Environmental Studies Commons](#), [Food Science Commons](#), [Home Economics Commons](#), [Horticulture Commons](#), and the [Nutrition Commons](#)

---

### Recommended Citation

Editors, Discovery (2019) "Contents," *Discovery, The Student Journal of Dale Bumpers College of Agricultural, Food and Life Sciences*. University of Arkansas System Division of Agriculture. 20:1-2.

Available at: <https://scholarworks.uark.edu/discoverymag/vol20/iss1/2>

This Front Matter is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in Discovery, The Student Journal of Dale Bumpers College of Agricultural, Food and Life Sciences by an authorized editor of ScholarWorks@UARK. For more information, please contact [ccmiddle@uark.edu](mailto:ccmiddle@uark.edu).

# DISCOVERY

The Student Journal of Dale Bumpers College of Agricultural, Food and Life Sciences

Vol. 20

Fall 2019

**Beth Kegley**  
Faculty Editor  
ekegley@uark.edu

**Gail Halleck**  
Managing Editor  
ghalleck@uark.edu

---

### Deacue Fields

Dean  
Dale Bumpers College of Agricultural,  
Food and Life Sciences  
University of Arkansas System  
Division of Agriculture

**Lona J. Robertson**  
Associate Dean

Dale Bumpers College of Agricultural,  
Food and Life Sciences

### Jean-François Meullenet

Senior Associate Vice President for  
Agriculture–Research  
and Director  
Arkansas Agricultural Experiment Station  
University of Arkansas System  
Division of Agriculture

---

*Discovery* is published annually by the  
University of Arkansas System  
Division of Agriculture  
<https://division.uaex.edu/>  
and Dale Bumpers College of  
Agricultural, Food and Life Sciences.  
<https://bumperscollege.uark.edu/>

The University of Arkansas System Division of  
Agriculture offers all its Extension and Research  
programs and services without regard to race, color,  
sex, gender identity, sexual orientation, national  
origin, religion, age, disability, marital or veteran  
status, genetic information, or any other legally  
protected status, and is an Affirmative Action/Equal  
Opportunity Employer.

## Contents

### Undergraduate Research Articles

---

- Greenhouse aquaponics: custom aquaponics systems at home  
*Jesse Blanchard, David G. Hyatt, Jennie Popp, and Leah English* ..... 6
- Impact of selected infrared wavelengths on inactivation of microbes on rough rice  
*Rebecca Bowie, Abass A. Oduola, Zeinab Mohammadi Shad,  
Shantae A. Wilson, and Griffiths G. Atungulu* ..... 13
- Observations and applications of husbandry methodologies on a backyard  
poultry farm in Dangriga, Belize  
*Bailey Carpenter and Fred Dustan Clark* ..... 21
- The effects of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)  
on brown adipogenesis in stem cell culture  
*Darynne Dahlem and Yan Huang* ..... 27
- Anthocyanin stability in food products made with freeze-dried blueberry powder  
*Samantha Findley and Luke Howard* ..... 33
- Geospatial analysis of rickettsial species in Arkansas  
*Amy Frank and Ashley Dowling* ..... 42
- The diversity of terrestrial mammals surrounding a waterfall at  
Billy Barquedier National Park  
*Kelsey L. Johnson and Jason Apple* ..... 51
- Identifying Arkansas Food Desert Blocks Suitable for a Peer-to-Peer  
Modeled Food Redistribution Program  
*Emily King, Jennie Popp, Michael Thomsen, Di Fang, and Alvaro Durand-Morat*..... 62
- Evaluating rice straw as a substitute for barley straw in inhibiting  
algal growth in farm ponds  
*Jacob Maris, Mary Savin, and Lisa Wood*..... 69
- 

Cover: Features the research of Bumpers student Laura Wasson, a Human Nutrition and Hospitality Innovation major, who looked at increasing low-income residents' access to fresh produce through a local mobile pantry. Laura was presented with the Arkansas AND Outstanding Dietetics Student Award at the state meeting of the Arkansas Academy of Nutrition and Dietetics in Little Rock, April 2019.

  
**DIVISION OF AGRICULTURE**  
RESEARCH & EXTENSION  
University of Arkansas System

  
**UNIVERSITY OF**  
**ARKANSAS**  
Dale Bumpers College of  
Agricultural, Food and Life Sciences

# DISCOVERY

The Student Journal of Dale Bumpers College of Agricultural, Food and Life Sciences

Vol. 20

Fall 2019

## Editorial Board

### Fred Dustan Clark

Distinguished Professor  
Department of Poultry Science  
fdclark@uark.edu

### John R. Clark

Distinguished Professor  
Department of Horticulture  
jrclark@uark.edu

### Ashley P.G. Dowling

Associate Professor  
Department of Entomology  
adowling@uark.edu

### Luke Howard

Professor  
Department of Food Science  
lukeh@uark.edu

### Don Johnson

Associate Poultry Center Director  
Department of Agricultural Education,  
Communications and Technology  
dmjohnso@uark.edu

### Michael P. Popp

Professor  
Department of Agricultural  
Economics and Agribusiness  
mpopp@uark.edu

### Mary Savin

Professor  
Department of Crop, Soil,  
and Environmental Sciences  
msavin@uark.edu

### Kathleen R. Smith

Clinical Associate Professor  
Apparel Merchandising and  
Product Development  
School of Human and  
Environmental Sciences  
kasmith@uark.edu

Increasing low-income residents' access to fresh produce  
through a local mobile pantry

*Laura Elizabeth Wasson, Lawton Lanier Nalley, Mechelle L. Bailey, and Laura L. Hill..... 80*

Determination of optimum harvest date for winter malting  
quality barley in Northwest Arkansas

*Paul D. Wolf, David Moon, and Richard Esten Mason ..... 86*

**Call For Papers ..... 94**

**Instructions for Authors..... 95**