

**RONALD J. SMITH**[rsmith00@purdue.edu](mailto:rsmith00@purdue.edu)

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225 South University Street

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**Education****Purdue University, West Lafayette, Indiana**PhD. Candidate      Agricultural & Biological Engineering/  
Ecological Science & Engineering      Aug. 2021

M.Sc.      Ecological Science and Engineering/Agronomy      May 2015

**Tuskegee University, Tuskegee, Alabama**

M.Sc.      Plant and Soil Science      May 2011

B.Sc.      Plant and Soil Science      May 1999

**Areas of Interest and Expertise**

Food production systems, technological innovation, sustainable engineering, controlled environment agriculture, urban agriculture, engineering management and design, team dynamics and performance, producer decision-making, intercultural communication as a model for interdisciplinary research and outreach, and intercultural competence and mentoring.

Prior research efforts: testing a hydroponic crop production system in a modified shipping container for research use, evaluation of multiple use warm-season forages for soil and water conservation, animal production, and nutrient management, underutilized medicinal crops for domestic and international limited resource producers, and socio-ecological dynamics in crop ecosystems.

**Research Experience****Research Assistant      Purdue University      2015 –2020**

- Develop and refine metrics for evaluating and comparing controlled environment agriculture (CEA) systems
- Conduct a systematic review of urban agriculture
- Site suitability analysis for urban crop production
- Stakeholder mapping and analysis for controlled environment agriculture innovation
- Site suitability analysis for controlled environment agriculture

**Graduate Fellow      Purdue University      Spring-Summer 2015**  
**Office of Multicultural Programs, Purdue University Graduate School**

Ronald J. Smith

Spring 2021

- Administrative support, database management, copyediting, metrics for URM success
- Studied group dynamics in intercultural and interdisciplinary settings with focus on academia
- Developed formal audits to prepare students for transitions to graduate school and post-graduate school life

**Research Fellow** **Purdue University** **2012 – 2014**

- Studied intercultural communication as a model for interdisciplinary collaboration, research, and education
- Conducted a primary review of nitrogen efficiency and uptake in corn

**Research Assistant** **Tuskegee University** **2008 – 2010**

- Conducted inventory and analysis of forage species under greenhouse and field conditions
- Managed greenhouse and field activities for published research projects
- Formulated manuscripts for professional oral presentation
- Lab management, mentored undergraduate research fellows
- Developed and revised extension materials for Tuskegee University
- Collaborated in the development of two-stage surveys for forage producers in Alabama
- Presented research to extension and conference audiences

**Research Assistant** **Tuskegee University** **1999 – 2002**

- Performed greenhouse and field activities for active research projects
- Collaborated on design and maintenance of conservation buffer strips at the George W. Carver Agricultural Experiment Station

### **Teaching Experience**

#### *Tuskegee University*

PLSS 0100	World Food, Fiber, and People	(teaching assistant, 2009-2010)
PLSS 0501	Field and Forage Crop Production	(teaching assistant, 2008-2009)
PLSS 0521	Soil and Water Conservation	(teaching assistant, 2007-2009)
OREN 0100	Individual Growth and Development	(teaching assistant, 1999-2002)

### **Professional Development**

#### *Preparing Future Faculty*

The Graduate School  
Explored faculty roles and responsibilities and disciplinary paradigms as they relate to institutions of higher education

Spring 2014  
West Lafayette, IN

#### *Communicating Across Cultures*

College of Agriculture  
Examined intercultural communication to enhance interdisciplinary academic, industrial, and governmental collaboration

Spring 2014  
West Lafayette, IN

**Grants and Grantmanship**

Department of Horticulture and Landscape Architecture  
 Developed grant writing and review techniques, and panel reviews.

Fall 2012  
 West Lafayette, IN

**Peer Reviewed Refereed Publications**

Boling, P., E. Blackburn, J. Paine, and **R. J. Smith**. 2017. Farm-to-School in Indiana: The local politics of feeding children. *J. Hunger & Envir. Nutrit.*: 13(3): 385-395.

Ren, W., Y. Wang, J. Li, P. Feng, and **R. J. Smith**. 2016. Drought forecasting in Luanhe River basin involving climatic indices. *Theoretical and Applied Climatology* 130(3-4): 1133-1148.

**Smith, R. J.**, E. G. Rhoden, J. R. Bartlett, V. A. Khan, S. Musser, A. Williams, B. Moore, A. Elliot, and J. Waddy. 2010. The importance of collaboration between Tuskegee University (Cooperative Extension Program) and the Natural Resource Conservation Service. *J. Envir. Monit. & Restor.* 6: 43-51.

**Smith, R. J.**, E. G. Rhoden, V. A. Khan, and J. R. Bartlett. 2010. Production of eastern gamagrass accessions grown under greenhouse conditions. *J. Envir. Monit. & Restor.* 6: 35-42.

**Smith, R. J.**, E. G. Rhoden, J. R. Bartlett, V. A. Khan, C. Drakes, and P. K. Biswas. 2008. The effect of lime application on the emergence and growth of castor oil plants. *Carib. Food Crops Soc.* 44: 401-407.

**Smith, R. J.** and E. G. Rhoden. 2008. Production of eastern gamagrass accessions grown under greenhouse conditions. *Carib. Food Crops Soc.* 44: 77-83.

Rhoden, E. G., J. R. Bartlett, **R. J. Smith**, and M. McIntyre. 2002. Quality of stockpiled eastern gamagrass forage. *Carib. Food Crops Soc.* 38: 434-439.

**Manuscripts under Review, Revision, or in Preparation**

**Smith, R. J.**, R. M. Stwalley III, et al. 2021. What is Urban Agriculture: Systematic Review of Methods, Contemporary Issues, and Future Research. In preparation for *Current Opinion in Envir. Sust.*

**Smith, R. J.**, R. M. Stwalley III, et al. 2021. A Stakeholder Analysis of Controlled Environment Agriculture Systems in the Midwest United States. In preparation for *J. Cleaner Production.*

**Smith, R. J.**, K. Quagraine, R. M. Stwalley, et al III. 2021. Critical Success Factors for Controlled Environment Agriculture Systems: An Interdisciplinary Planning Approach. In preparation for *Landscape and Urban Planning.*

**Smith, R. J.,** K. Quagraine, R. M. Stwalley, et al III. 2021. A Technoeconomic Evaluation of Controlled Environment Agriculture Systems in the Midwest US. In preparation for *Renewable Agriculture and Food Systems*.

### **Conference Proceedings (peer reviewed)**

**Smith, R. J.** and R. M. Stwalley III. 2020. Using an Interdisciplinary Approach to Assess Controlled Environment Agriculture. In *2020 ASABE Annual International Meeting*. American Society of Agricultural and Biological Engineers.

**Smith, R. J.,** and R. M. Stwalley III. 2019. Stakeholder Mapping of Controlled Environment Agriculture Utilizing the Technological Innovation System Framework. In *2019 ASABE Annual International Meeting*. American Society of Agricultural and Biological Engineers.

**Smith, R. J.,** and R. M. Stwalley III. 2018. A Scoping Review of Urban Agriculture: Trends, Current Issues, and Future Research. In *2018 ASABE Annual International Meeting*. American Society of Agricultural and Biological Engineers.

**Smith, R. J.,** J. Houtman, and R. M. Stwalley III. 2017. A Site Suitability Approach to Sustainable Urban Agriculture Using GIS and Decision Analysis. In *2017 ASABE Annual International Meeting*. American Society of Agricultural and Biological Engineers.

**Smith, R. J.,** E. G. Rhoden, V. A. Khan, and D. Surrency. 2010a. Canopy characteristics of eastern gamagrass (*Tripsacum dactyloides L.*): implications for production in the Alabama Black Belt. *Proc. 7<sup>th</sup> Eastern Native Grass Symposium*. "Native Grasses on Working and Natural Landscapes" October 5-8, 2010, Knoxville, TN.

**Smith, R. J.,** E. G. Rhoden, and V. A. Khan. 2010b. *Distribution* of trace minerals in eastern gamagrass accessions grown under greenhouse conditions. In *Proc. 66<sup>th</sup> Annual Prof. Agric. Workers Conf., "Facing Global Crises: Local Solutions to Energy, Food and Persistent Poverty,"* N. Tackie, T. Hargrove, R. Zabawa, and W. Hill (eds.), 209-215. Tuskegee, Alabama. December 7-9, 2008. Tuskegee University, Tuskegee, Alabama.

**Smith, R. J.,** E. G. Rhoden, and V. A. Khan. 2010c. *Distribution* of macrominerals in eastern gamagrass accessions grown under greenhouse conditions. In *Proc. 66<sup>th</sup> Annual Prof. Agric. Workers Conf., "Facing Global Crises: Local Solutions to Energy, Food and Persistent Poverty,"* N. Tackie, T. Hargrove, R. Zabawa, and W. Hill (eds.), 236-244. Tuskegee, Alabama. December 7-9, 2008. Tuskegee University, Tuskegee, Alabama.

**Smith, R. J.,** E. G. Rhoden, J. R. Bartlett, and V. A. Khan. 2008. Production of eastern gamagrass accessions grown under greenhouse conditions. In *Proc. 64<sup>th</sup> Annual Prof. Agric. Workers Conf., "Meeting the Challenges to Sustainable Growth and Development of Rural Communities,"* N. Tackie, N. Baharanyi, R. Zabawa, and W. Hill (eds.), 155-160. Tuskegee, Alabama. December 3-5, 2006. Tuskegee University, Tuskegee, Alabama.

**Smith, R. J.** and E. G. Rhoden. 2006. Production of eastern gamagrass accessions grown under greenhouse conditions. In *Proc. 5<sup>th</sup> Eastern Native Grass Symposium*, M. Sanderson et al. (ed.), 50-54. Harrisburg, PA, 10-13 Oct. 2006. USDA, Agricultural Research Service and USDA, Natural Resources Conservation Service, Beltsville, MD.

### **Professional Presentations**

#### ***Conference Presentations***

McClure, M. D. and **R. J. Smith**. 2019. Essential Skills: Cultural Fit. Presented at “2019 MANRRS Region V Regional Cluster Meeting,” October 19, 2019. Madison, Wisconsin.

**Smith, R. J.**, B. Hunter, and K-N. Meeks. 2019. Promoting Underrepresented Minority Participation in Agriculture. Presented at “2019 Indiana Small Farms Conference,” February 28-March, 2019. Danville, Indiana.

**Smith, R. J.**, P. Morris, and E. G. Rhoden. 2018. Intercultural Dialogue to Shape Interdisciplinary Agricultural and Biological Engineering Research: A Commentary. Presented at “2018 ASABE Annual International Meeting,” July 31, 2018. Detroit, Michigan.

**Smith, R. J.**, P. Morris, and E. G. Rhoden. 2014. Cross Talk: Communicating Across Cultures as a Model for Interdisciplinary Research Content and Context? Presented at “*Ecological Sciences and Engineering (ESE) Symposium, 2014, #SCIENCE, Effective Interdisciplinary Communication*,” October 20, 2014. Purdue University, West Lafayette, Indiana.

Omotilewa, O. J. and **R. J. Smith**. 2012. Urbanization and Ecological Footprint: Where Does Sustainability Fit? Presented at “*Ecological Sciences and Engineering (ESE) Symposium 2012, “URBAN RISE: Footprints of a Global Civilization*,” October 16-17, 2012. Purdue University, West Lafayette, Indiana.

**Smith, R. J.**, E. G. Rhoden, V. Gathers, and C. Drakes. 2006. The Effect of Lime Application on the Emergence and Growth of Castor Oil Plants (*Ricinus communis*) Grown under Greenhouse conditions. Presented at 64<sup>th</sup> Annual Prof. Agric. Workers Conf., “*Meeting the Challenges to Sustainable Growth and Development of Rural Communities*,” December 3-5, 2006. Tuskegee University, Tuskegee, Alabama.

#### **Other Invited Presentations**

**Smith, R. J.**, E. G. Rhoden, and V. A. Khan. 2009. Production of Eastern Gamagrass. Alabama Cooperative Extension Services, Macon County Extension Meetings, April 9, 2009. Tuskegee, Alabama.

### **Conference Abstracts**

Khan, V. A., E. G. Rhoden, J. R. Bartlett, and **R. J. Smith**. 2009. Application of poultry litter on winter wheat. Proc. National Conf. on Agric. & Nat. Res. Conserv. & Mgt., Oct. 15-17, 2009, Delaware State Univ., Dover, DE.

**Smith, R. J.** and E. G. Rhoden. 2004. Effect of acid soils on the growth and development of eastern gamagrass. In *Proc. 3rd Eastern Native Grass Symposium*, J. Randall and J. C. Burns (eds.), 309. The North Carolina Botanical Garden, Chapel Hill, NC, October 1-3, 2002. Omnipress, Madison, WI.

Rhoden, E. G., J. C. Ritchie, **R. J. Smith**, D. T. Krizek, and M. McIntyre. 2004. Quality of stockpiled eastern gamagrass forage at two southeast locations. In *Proc. 3rd Eastern Native Grass Symposium*, J. Randall and J. C. Burns (eds.), 309. The North Carolina Botanical Garden, Chapel Hill, NC, October 1-3, 2002. Omnipress, Madison, WI.

### **Honors and Awards**

IndianaView Student Scholarship Program	2020
Demetrios Agathangelides Scholarship Award	2019
2019 MANRRS Research Discussion, 1 <sup>st</sup> place	2019
Bilsland Strategic Initiatives Fellowship, Purdue University	2014

### **Research Funding**

**College of Agriculture Agricultural Research and Graduate Education (ARGE) Grant, Purdue University.** *Smith, R. J.* and M. D. McClure. Professional Skills for Graduate Students. 2020.

**Center for Intercultural Learning, Mentorship, Assessment and Research (CILMAR) Mini Grant, Purdue University.** *Smith, R. J.*, M. D. McClure, and R. M. Stwalley III. Developing Intercultural Competence of Agricultural and Biological Engineering Capstone Students: A Primer. 2018-present.

### **Service and Volunteering**

Peer Mentoring Program with Mentoring at Purdue, Purdue University, College of Agriculture  
Junior Minorities in Agriculture, Natural Resources and Related Sciences (Junior MANRRS)  
Landscaping at Cary Homes for Children, Lafayette IN

### **Professional Memberships**

Agricultural and Applied Economics Association (AAEA)  
Agronomy Society of America (ASA)  
Alpha Epsilon (Honor Society of Agricultural, Food, and Biological Engineering)  
American Association for the Advancement of Science (AAAS)  
American Society for Horticultural Science (ASHS)  
American Society of Agricultural and Biological Engineers (ASABE)  
Crop Science Society of America (CSSA)  
Gamma Sigma Delta (Honor Society of Agriculture)  
Golden Key International Honor Society  
Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)  
National Society of Black Engineers (NSBE)  
Sigma Xi (Scientific Research Honor Society)  
Soil Science Society of America (SSSA)