



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# JOURNAL OF ASFMRA

2022



American Society  
of Farm Managers  
& Rural Appraisers

# From the Editor's Desk



**MARIA A.  
BOERNGEN,  
PH.D.**

Chair, ASFMRA Editorial  
Task Force and Editor,  
*Journal of ASFMRA*

Dear ASFMRA members and professional colleagues:

On behalf of the American Society of Farm Managers and Rural Appraisers, I am pleased to present the 2022 issue of the *Journal of ASFMRA*. As we strive to continue delivering content that is of interest to you and your colleagues, the seven articles in this year's edition address a variety of cutting-edge topics that are relevant to the rural property professions.

I was honored to be appointed as chair of the ASFMRA Editorial Task Force and editor of the *Journal of ASFMRA* in the fall of 2021. My vision for the *Journal of ASFMRA* is "a dynamic publication that facilitates timely, relevant, two-way information flow between academic researchers and rural property professionals." With that in mind, the ASFMRA Executive Council and I are working on some exciting new plans to elevate the Journal. Our first "big thing" is inviting some of the authors featured in this issue to present their work at a special session during the 2022 ASFMRA Annual Conference. Other initiatives are in the works, so please stay tuned for more details!

On a personal note, the *Journal of ASFMRA* has been extremely valuable in my own career, both as an information resource and as a publication outlet for my research. Because of the opportunities the Journal has given to me, I am very thankful for the opportunity to give back to the ASFMRA in my new roles. I look forward to working with industry and academic colleagues to continue bringing the most up-to-date and applicable content to the Journal's readership.

Thank you for your continued support of the *Journal of ASFMRA*. The Journal's future is very bright, and I am excited to be part of that future.

Maria A. Boerngen, Ph.D.

*Chair, ASFMRA Editorial Task Force and Editor, Journal of ASFMRA*

# Thank You to the 2021-22 Editorial Task Force

## TASK FORCE CHAIR

### **Maria A. Boerngen, Ph.D.**

Illinois State University  
maboern@ilstu.edu

## TASK FORCE MEMBERS

Gregory Ibendahl, Ph.D.  
Kansas State University  
ibendahl@ksu.edu

Jim Jansen, AFM, AAC  
University of Nebraska-Lincoln  
jjansen4@unl.edu

James Libbin, Ph.D.  
New Mexico State University  
jlibbin@nmsu.edu

Tyler Mark, Ph.D.  
University of Kentucky  
tyler.mark@uky.edu

Ward Nefstead, Ph.D.  
University of Minnesota  
nefst002@umn.edu

Daniel Peery, ARA  
Agriculture & Industry, LLC  
dan@agindustry.land

Wendong Zhang, Ph.D.  
Iowa State University  
wdzhang@iastate.edu

# Table of Contents

**Factors Affecting Solar System Profitability for Southeastern Broiler Growers** ..... **5**  
By Dennis L. Brothers, Joshua M. Duke, Adam Rabinowitz, and Jose Garcia Gamez  
The authors analyze how system size, photovoltaic power generation, and utility compensation affect solar system profitability on a representative southeastern U.S. commercial poultry farm.

**Farm-Level Economics of Bioenergy in the Upper Missouri River Basin** ..... **16**  
By Eilish R. Hanson, Amy Nagler, John Ritten, and Benjamin Rashford  
In this study, the authors model farm-level economic implications from regional dedicated bioenergy production in the Upper Missouri River Basin to estimate break-even prices for switchgrass across four agricultural sub-regions.

**An Historical Overview of Farmland Ownership and the Rise of the Dynasty Trust** ..... **31**  
By Andrew J. Keller, Michael A. Boland, and Scott A. Petty  
This paper traces the historical roots of farmland ownership, showing how English—and eventually American—property law developed.

**The Growing Use of Alternative Farmland Ownership Methods in the U.S.** ..... **37**  
By Andrew J. Keller, Michael A. Boland, and Scott A. Petty  
This paper explores reasons for the changing structure of U.S. farmland ownership, as well as trends in the proliferation of less traditional methods of farm and ranchland ownership that could impact U.S. agriculture in the future.

**Potential Payoffs of Precision Agriculture** ..... **44**  
By Michael Boehlje and Michael Langemeier  
In this article, the authors discuss potential payoffs of precision agriculture from the producer, value chain, and environmental perspectives.

**Factors Impacting Variability and Downside Risk** ..... **53**  
By Michael Langemeier and Elizabeth Yeager  
This study examines factors impacting variability and downside risk for a sample of Kansas farms, using data from 2007 to 2019.

**U.S. Crop Profitability and Farm Safety Net Payments Since 1975** ..... **60**  
By Carl Zulauf, Michael Langemeier, and Gary Schnitkey  
This paper examines the impact of crop safety net payments, including decoupled payments, on the aggregate net return to nine U.S. crops: barley, corn, cotton, oats, peanuts, rice, sorghum, soybeans, and wheat.