



Foundation for Food and Agriculture Research Convening Event Recap Report

Sustainable Livestock Production Convening Event

December 4, 2017 | Washington, D.C.

On December 4, 2017, the Foundation for Food and Agriculture Research (FFAR) held a convening meeting at the National Academy of Sciences building in Washington, D.C. This event was the second meeting to seek stakeholder input for FFAR's Protein Challenge Area in a series of nine events hosted by FFAR across each of its seven Challenge Areas in the last quarter of 2017. The Sustainable Livestock Production convening event explored challenges, innovations and future directions in sustainable livestock production and provided a unique forum for thought leaders from academia, industry, farm groups, U.S. government, and public, private and nonprofit organizations to identify knowledge gaps, high-impact targets for program development and opportunities for cross-sector collaboration.



Attendees of the Sustainable Livestock Production Convening Event at the National Academy of Sciences building in Washington, D.C. alongside Scientific Program Director Dr. Tim Kurt and Executive Director Dr. Sally Rockey of the Foundation for Food and Agriculture Research.

The Protein Challenge

With livestock production experiencing rapid growth worldwide, FFAR recognizes that the demand for animal-based products will place considerable pressure on producers to sustainably meet consumer demands and ensure food security for a growing global population. In advancing current production

"The most innovative and impactful research programs are informed by broad expertise and stakeholder input. On behalf of the Foundation for Food and Agriculture Research, thank you to the attendees of this event for your engagement on the important topic of sustainable livestock production. We look forward to advancing science that supports livestock producers and our nation's natural resources."

-Dr. Sally Rockey, FFAR Executive Director

systems, the industry must adapt to address ongoing and emerging challenges to provide safe, quality food products to consumers. Animal agriculture is associated with challenges that range from air and water pollution, to animal welfare and the use of medically-important antibiotics. Therefore, research investment is critical to addressing these ongoing challenges and keeping the U.S. in the forefront of innovative practices that may be adopted on a global scale. As part of FFAR's mission to **build unique partnerships to support innovative science addressing today's food and agriculture challenges**, the Protein Challenge Area is seeking groundbreaking research to enhance and improve the environmental, economic and social sustainability of diverse proteins for a growing global population. To date, FFAR has committed more than \$6.5 million towards research in animal agriculture across its various programs and sub-programs. FFAR aims to continue to leverage public-private partnerships to fund innovative research to address these important challenges, forge greater food security and decrease negative environmental impacts through sustainable livestock production systems.

Goals of the Convening Event

Contemporary livestock production systems pose unique challenges that will require collaboration and input from various stakeholders across the public and private sector. The goals of this event were:

- To identify the unanswered questions that, if addressed, would make substantial contributions to sustainable livestock production.
- To identify research strategies to address these questions.
- To build partnerships in support of innovation.
- To provide diverse stakeholders the opportunity to inform the development of research programs.

Convening Event Overview

Dr. Sally Rockey, Executive Director at the Foundation for Food and Agriculture Research, opened the meeting with a brief introduction to FFAR and the Foundation's interest in sustainable livestock production. Dr. Rockey's remarks were followed by an overview of the agenda and meeting objectives presented by FFAR Scientific Program Director Dr. Tim Kurt, who manages the Protein Challenge Area.

The morning session, titled *Productivity, Health and Welfare Under Changing Production Practices*, was moderated by Dr. Helen Jensen, Professor of Economics at Iowa State University, and included six



Event participants engage in group discussions to address key challenges and research opportunities for animal agriculture.

15-minute ‘lightning talks’ to set the stage and provide an overview of challenges and emerging issues related to livestock production. Presenters covered diverse topics including the idea for an animal welfare market, where welfare “units” could be bought and sold; impacts of the transition to cage-free egg production; advances in dairy sustainability that incorporate consumer preference; computer modeling; nutritional programming and microbiome; and poultry genetics.

During the lunch hour, participants attended a special presentation by Dr. Hyun Lillehoj, Senior Research Immunologist at the Agricultural Research Service of the U.S. Department of Agriculture (USDA). Dr. Lillehoj’s address focused on alternatives to antibiotics in animal agriculture and current challenges facing the industry. FFAR also announced a \$50,000 grant to the Food Marketing Institute (FMI) Foundation and Animal Agriculture Alliance to explore consumer understanding and willingness-to-pay for production practices, such as cage-free eggs, in animal agriculture. Dr. Jayson Lusk from Purdue University gave a short summary of the project and the preliminary findings. The FFAR award has been matched with funding from the FMI Foundation and the Animal Agriculture Alliance for a total investment of \$100,000.

The afternoon panel, moderated by Dr. James Reecy of Iowa State University, centered around *Environmental Sustainability*. The session included five speakers, who covered topics including air quality and ethical choices in food security; beef and pork sustainability; regenerative agriculture/ecosystem services; and a systems-wide framework to production practices that includes social science. Some of the common themes identified by speakers included the need for reliable benchmarks and innovative cross-disciplinary research. Through their diverse expertise, speakers contributed thought-provoking insights to stimulate group conversations and participation throughout the meeting.

Event Outcomes: Challenges, Research Questions, and Future Collaboration

In addition to the series of lightning talks, participants worked in small groups to identify the challenges and research gaps and

PANEL 1: PRODUCTIVITY, HEALTH AND WELFARE UNDER CHANGING PRODUCTION PRACTICES

Moderator

Dr. Helen Jensen, Iowa State University

Speakers

Dr. Jayson Lusk, Purdue University – *Economic and social considerations in livestock production*

Dr. Hongwei Xin, Iowa State – *American egg industry at crossroads*

Dr. Juan Tricarico, Innovation Center for U.S. Dairy – *Feed, nutrition, health and welfare practices in dairy production*

Dr. Luis Tedeschi, Texas A&M University – *The role of computer models in food and agriculture*

Dr. Juan Loor, University of Illinois, Urbana-Champaign – *Systems approaches to animal performance*

Dr. Rachel Hawken, Cobb-Vantress – *Poultry (broiler)*

innovative approaches to advance the field. Some of the major challenges and opportunities identified by breakout groups during the morning session included:

PANEL 2: ENVIRONMENTAL SUSTAINABILITY

Moderator

Dr. James Reecy, Iowa State University

Speakers

Dr. Frank Mitloehner, University of California, Davis – *Air impacts of livestock production*

Dr. Sara Place, National Cattlemen’s Beef Association – *Beef production, sustainability and the protein challenge*

Mr. Allan Stokes, National Pork Board – *Pork production*

Mr. Steve Rowe, Newtrient, LLC – *Beyond manure: Nutrient management, recovery and reuse as a critical component of sustainable agriculture*

Dr. Marty Matlock, University of Arkansas – *Moving the curve: Challenges in animal agricultural environmental impacts*

- Development of science-based solutions that take a systems-approach to new technologies and include consumer opinions and perceptions during development
- Work is needed on how to incentivize ecosystem services
- The need to develop effective 2-way communication channels between the food and agriculture sector and the public that considers both *science* and *values*
- Data management needs, including the collection and sharing of big data systems-approaches to food security and livestock production, including infrastructure development
- There is a major need to define sustainability and create tools to measure the sustainability of animal production systems

Following the afternoon break-out discussions, additional challenges and opportunities were presented:

- The need to address water issues is imperative
- How do we educate consumers?
- Workforce development is needed, including increased support for graduate students in the animal sciences and related fields
- Improved interaction and communication between retailers and producers
- LCAs need to be measured across time and the entire supply chain
- Managing the ‘commons’ and enhancing responsible multi-stakeholder management to avoid environmental degradation

Next Steps

Following the December 4 convening event, Dr. Kurt will meet with members of the Protein Challenge Advisory Council to discuss the event outcomes. Recommendations from convening events, the

FFAR Protein Challenge Advisory Council, and the FFAR scientific programs department will inform research priorities including the development of future funding opportunities at FFAR that may take the shape of requests for applications (RFAs), prizes competitions, direct funding, or multi-partner consortia.

Join Us

FFAR looks forward to continuing to build strong public-private partnerships within the agriculture community and welcomes your input. Please feel free to contact our scientific program team at protein@foundationfar.org to learn about how you can engage with FFAR.

To stay up to date on future funding opportunities, please join the Protein Challenge email list: <http://bit.ly/ffarproteinlist>

Many thanks to the Protein Challenge Advisory Council for supporting this event!

Protein Challenge Advisory Council

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Maine Aquaculture Association; Econ-Aqua; TAAG

Oklahoma State University

USDA-ARS Beltsville Human Nutrition Center

Iowa State University

Mountaire Farms Inc.

Washington State University

Texas A&M University

Fieldale Farms Corp

Legislative Affairs, Hormel Foods (ret.)

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National Corn Growers Association

Ohio Soybean Council