Logistics for Today’s Webinar

• All participants are on mute.
• Submit questions in the “chat” box at any time (see right side bar for light gray “Chat” symbol).
• To submit a question, type in the text box and press “enter” on your keyboard.
• Webinar slides will be posted here following today’s presentation: http://foundationfar.org/ROAR/

Thank you for joining us!
Dr. LaKisha Odom, Ph.D.
Scientific Program Director | Healthy Soils, Thriving Farms
Foundation for Food and Agriculture Research

Dr. Douglas Karlen, Ph.D.
• Research Soil Scientist, USDA ARS
• Chair, Foundation for Food and Agriculture Research
Soil Health Advisory Council
Discussion Items

1. Greetings and Introduction
2. Report out of Soil Health Convening Meeting
3. Presentation of Possible Soil Health Program Direction
4. Open Discussion
5. Next Steps
We build unique partnerships to support innovative science addressing today’s food and agriculture challenges.
About FFAR

• Nonprofit organization created in the 2014 Farm Bill to spur innovation and collaboration in agriculture
• $200M to invest with partners in cutting edge research
• Governed by a Board of Directors, advised by expert Councils
• FFAR complements the work of the USDA
Who We Are

- Independent 501 (c) (3) organization
- Governed by 20-Member Board of Directors
  - Chair: Former Secretary of Agriculture Dan Glickman
  - U.S. Department of Agriculture and National Science Foundation represented through ex-officio members, including Secretary of Agriculture Tom Vilsack
- Advised by seven Councils composed of experts representing producers, academia, and industry
Who We Are - Board
20 Voting Members

Dr. Kathryn J. Boor, Cornell University
Dr. Doug Buhler, Michigan State University
Dr. Doug Cameron, First Green Partners
Mr. Carl Casale, CHS
Dr. Gail Christopher, Kellogg Foundation
Dr. Nancy Creamer, North Carolina State University
Dr. Deborah Delmer, University of California Davis
Hon. Dan Glickman, Aspen Institute; Board Chair
Dr. Rob Horsch, Bill & Melinda Gates Foundation
Dr. Mehmood Khan, PepsiCo
Ms. Pam Johnson, National Corn Growers Association

Dr. Mark Keenum, Mississippi State University
Dr. Michael Ladisch, Purdue University
Dr. Chris Mallett, Cargill Inc.
Dr. Pam Marrone, Marrone BioInnovations Inc.
Dr. Terry F. McElwain, Washington State University
Dr. Stanley Prusiner, University of California - San Francisco
Dr. Yehia “Mo” Saif, Ohio State University
Mr. Bob Stallman, American Farm Bureau Federation
Dr. Alton Thompson, Association of Research Directors of 1890 Land Grant Universities
Who We Are – Board

5 Ex officio Members

- Hon. Tom Vilsack, Secretary of Agriculture
- Dr. France Córdova, Chair, National Science Foundation
- Dr. Catherine Woteki, Chief Scientist and Under Secretary for Research, Education and Economics, USDA
- Dr. Sonny Ramaswamy, NIFA Director, USDA
- Dr. Chavonda Jacobs-Young, ARS Administrator, USDA
How We Work

• Fund cutting-edge research and development through grants and challenges
• Build unique public-private partnerships
• Convene stakeholders and thought leaders to foster collaboration
• Build human capacity to advance innovation
• Utilize social, physical, and biological sciences to answer research questions
How We Work

Convening Events

• Goal of FFAR-funded research: yield actionable outcomes
• We know that to make an impact, research findings must make economic, social, and environmental sense
• We bring experts and stakeholders to the table to inform research design and goals before launching programs
• Summer 2016 Convening Events:
  o Phytobiomes – July 29 in Tampa, FL
  o Phenotyping – August 29-31 at Purdue University
• Fall 2016 Convening Events:
  o Our Healthy Purpose November 7 in Washington, DC
  o Soil Health – November 9-10 in Phoenix, AZ
How We Work

**FFAR Programs**

- FFAR may award funds in three ways
  - Competitive Grants (preferred model)
  - Direct Contracts
  - Prizes or Challenges
How We Work

Matching Requirement

• FFAR is required to match all investments with non-Federal funds
• Match must be 1:1 or greater

<table>
<thead>
<tr>
<th>FFAR Matching Fund Models</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash Funding</strong> (Direct to FFAR)</td>
</tr>
<tr>
<td>Preferred way of working</td>
</tr>
</tbody>
</table>
Research Areas

- Enhancing sustainable farm animal productivity, resilience, and health
- Achieving a deeper understanding of human nutrition and healthy food choices
- Better health through food
- Spurring food system innovation
- More productive, sustainable agriculture
- Improving plant efficiency
- Optimizing agricultural water use
- Transforming soil health
Challenge Areas

Food Waste and Loss

Healthy Soils, Thriving Farms

Overcoming Water Scarcity

Protein Challenge

“My Food Plate”

Urban Food Systems

Forging the Innovation Pathway

Offer Input: www.foundationfar.org/challenge
Early Career Awards

• **Unmet need**: The New Innovator in Food and Agriculture Research Award will support and spotlight the next generation of scientists pursuing innovative research in food and agriculture.

• Recipients will be committed to mentoring and pursuing innovative research in 1 or more FFAR focus areas.

• **Inaugural recipients: Summer 2016**
Rapid Response Program

• **Unmet need:** Rapid deployment of funds to mitigate potential damage in the face of unanticipated threats to national food supply.

• FFAR is working with partners to establish a fund that will expedite initial research and outreach response in the face of potential emergencies.

• **Criteria for project selection:**
  o Acute
  o National
  o Tangible outcomes

• Pilot focus: pests and pathogens
National Prize

- **Unmet need**: Prestigious recognition for food and agriculture scientists.
- **Award**: $100,000 for one annual, mid-career recipient.
- **Partners:**
Seeding Solutions
Addressing Challenges in Food and Agriculture

• Open opportunity to seed solutions through bold research addressing FFAR’s new Challenge Areas
• Applicants may apply for up to $1M in FFAR funding and must secure an equal or greater match from a non-federal source.
• Pre-Proposals Due: Monday, January 16, 2017

Learn more: www.foundationfar.org/seeding-solutions.
Programs Under Development

• **Pollinator Health**
  o Pursuing a pollinator health research initiative focusing on stressors, best management practices, tech transfer and education.

• **High Throughput Phenotyping**
  o Investing in science and technology to accelerate plant breeding and encouraging partnerships to share equipment and field sites.
  o Convening Event: August 29-31 at Purdue University.

• **Phytobiomes**
  o Convening event at APS (July 29 in Tampa) will scope a FFAR funding opportunity in this area.

• **Our Healthy Purpose is at Point of Purchase**
  o Establishing a space for FFAR at the intersection of local food systems, technology, and health.
Healthy Soils, Thriving Farms

• The Healthy Soils, Thriving Farms Challenge Area aims to increase soil health by building knowledge, fueling innovation, and enabling adoption of existing or new innovative practices that improve soil health.

• This Challenge Area targets research that includes, but is not limited to:
  o promoting robust soil microbial communities
  o improving cover crop cultivars
  o developing improved agronomic practices
  o characterizing soil health-related ecosystem services
  o increasing social and economic tractability of soil health promoting practices
  o enhancing the efficacy of Extension services.
Objectives of Open Sessions Held November 9, 2016 and Closed Session November 10, 2016

• To gather public input on the research gaps and white spaces surrounding soil health

• To inform FFAR’s scientific programming in support of the Healthy Soils, Thriving Farms Challenge Area

• To identify possible partners and discuss next steps
Snapshot of Statements from The listening sessions and the FFAR website

- Economics of soil health.
- Farmers must make profit
- Economic data to show benefit
- How to quantify the benefits of soil health in the short term
- How to determine potential economic gain in the short term in order to encourage adoption
- What is the cost of CO2 to the farm in terms of savings
- How do transfer back to the farmer
- Incentives and economics – Ag Systems under farmer adoptions.
- Data management
- Huge issue - Training there is a need for Ag data people from farm to researcher
- Missing opportunities in training students
- Training opportunities needs to be developed quickly
- Digital Agriculture - how do we develop a trained future workforce?
- Could focus on variability of soils even at a subfield level. Bring ideas to better understand differences in fields.
- Soil health partnership looking at variability in fields.
- Need to think of soil health in multi-year basis. How to manage fields across years to maximize profitability and increase soil health.
- How much modeling – and how would we model.
- Substantial portion of upper Midwest where getting cover crops in has been limited by rain. How do we model? How do we project?
- Development of decision modeling to provide feedback to the farmer.
- Can we create in the public sector? Need to think of Soil in a longer term.
- Assembly of whole systems—marriage of soil health defined by transitional agriculture try to remove the “business as usual” model.

- How to strengthen the thriving farm component.
- Transition to shifting climate and market not to maximize yield but optimizing services.
- How to create thriving farm.
- Don’t build on one incremental step.
- Whole system approaches- how do you get there?
- What would we fund to get there?
- How to we monetize ecosystem services.
- How do we highlight those services that support resilience.
- Huge landscape conversions under business as usual.
- Looking to project the future of what we need to provide to farmers. (Field to Market could be incorporated).
- We have no clear idea of what properties account for resiliency and sustainability
- Alternate use of land or new type of use of farming landscape.
- How do we get there- ecosystem services.
- How do we provide incentives to farmers.
- Financial institutions should be involved in land use change models to see the return on investments to identify vulnerable spots.
- Can we design loan reduction rates (use Credit Corp of Iowa for example).
- Des Moines waterworks.
- Current products favor larger farms, yet small farms may be more inclined to engage in more innovative practices.
- How do we engage those larger scaled farmers?
- Must have some farm economics angle to this where the large landowner can make a profit.
Themes of a Comprehensive Soil Health Program

- Incentives
- Multi-year basis
- Farmers
- Whole system approaches
- Shifting Climate
- Maximize yield
- Digital

- Resiliency
- Agriculture partnership
- Soil Health
- Thriving farm systems
- Whole

- Variability of soil
- Economic
- Landscape
- Economics
- Training
- Public sector type
What FFAR proposes....

- **Landscape Focused Projects**: The need is greater than ever before to understand soil health at the landscape scale. Creating a comprehensive soil health program with the Farmer at the center; while expanding the concept of soil health well beyond the farm to include the ecosystem services provided off farm.
To that end, the FFAR Soil Health Program seeks to place the farmer at the center and focus on thriving farms:

- Thriving farms would increase productivity – must address the global agricultural production needs of a growing population.
- Thriving farms must contribute to a vibrant rural economy.
- Thriving farms must maintain or increase soil health, promote soil resilient practices, and provide off farm benefits.

- *Any other concepts of a thriving farm?*
So How do we get there?

• Making a thriving farm the center piece of a comprehensive soil health program then begs the questions:
  o What components do we need to support to a landscape systematic approach?
Components of a Soil Health Program with a Landscape Approach

Cover crops
Economics and Societal Components
Modeling
Data Management
On Farm Demonstration
Ecosystem services
Training

Thriving Farms
What’s missing
Who else should be at the table? --Potential Partners
What should the program consist of?

• Competitive grants?
• Challenges?
• Prizes?
Please Continue to Engage with FFAR!

- Join the Healthy Soils, Thriving Farms email list to receive an invitation to debrief and continue the conversation via webinar.

- Please Visit the Healthy Soils, Thriving Farms page with all the info about the convening sessions, webinar, and offer your input online.

- WE are looking for INPUT and help build the Soil Health program at FFAR and your continued participation is key!
LaKisha J. Odom
lodom@foundationfar.org
202.570.3162 (cell); 202.836.9952 (desk)

Connect with FFAR
www.foundationfar.org
@FoundationFAR
@RockTalking