FOUNDATION FOR FOOD & AGRICULTURE RESEARCH

Partnering for Change: A bold new mission in agriculture

February 4, 2020 | Washington, DC

Introduction

The Foundation for Food & Agriculture Research (FFAR) partnered with the U.S. Farmers and Ranchers Alliance (USFRA) and the World Farmers' Organization (WFO), and invited a number of key stakeholders and thought leaders in the climate agriculture space to a dynamic and interactive discussion around a bold idea: reaching net zero in greenhouse gas emissions in the Agricultural Sector. FFAR and USFRA announced an Agricultural Climate Partnership which is geared towards developing and deploying climate-smart solutions on a global scale.

Research shows that while agriculture contributes 9.9 percent of US greenhouse gas emissions[1] (GHG) emissions, it is the only sector that can mitigate its own emissions and, over time, offset the emissions of other sectors. The potential to reduce emissions lives with our scientists, farmers and ranchers and their ability to develop and deploy climate-smart solutions. Through climate smart agriculture practices, farmers and ranchers can optimize for growing, improve resiliency, minimize fertilizers and other inputs, improve water use and quality, and improve soil, all while storing carbon for future generations. Much work is already happening in fields and labs across the country. Yet, these efforts are fragmented, which ultimately hinders progress. Addressing climate change requires a coordinated response of equal magnitude to the urgency of the situation.

Accelerating agriculture to be net negative for GHG emissions requires demonstrated success in fostering collaboration, conducting scientific research and mobilizing farmer and rancher communities. FFAR builds collaborative private-public partnerships with a broad network of organizations and is already funding over $50 million in climate-smart agriculture research. USFRA activates networks of farmers and ranchers across the US. WFO is the authority for international farmers and ranchers. No other combination of partners can bring the reach, expertise and connections that FFAR, USFRA and WFO command.

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Objectives

The immediate goal of this event was to share the mission of the Agriculture Climate Partnership: for US agriculture to be net negative for greenhouse emissions. The vision of the Agriculture Climate Partnership is that every farmer and rancher will employ at least one climate-smart solution on every acre of farmland. This convening event focused on identifying the driving forces for change in agriculture in the upcoming decade, such as transformative investments, cultural changes and informed scientific partnerships. Every farmer, every acre and every voice matters – the objective of this event was to connect scientists, farmers and ranchers, and identify the issues that matter most so that we can move forward, together.

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Agenda

September 10, 2019: Hilton Baltimore, Key Ballroom 6

8:00-9:00am	**Breakfast/Networking**
9:00-9:30am	**Greetings and Introduction** Dr. LaKisha Odom, **FFAR**
9:30-10:00am	**Climate Partnership Overview FFAR** Dr. Sally Rockey, **FFAR**
10:00-10:30am	**Climate Partnership Overview USFRA** Amanda Raster, **USFRA**
10:30-11:00am	**State of the Science** Dr. Kris Johnson, **The Nature Conservancy**
11:00-11:15am	**Break**
11:15-12:30pm	**Discussion of the Current Landscape & Coordination:** **Overview of currently funded projects** Amanda Raster, **USFRA** Dr. Bill Salas, **Dagan (OpTIS)** Dr. Dorn Cox, **OpenTEAM** Debbie Reed, **Ecosystem Services Market Research Consortium (ESMRC)**
12:30-1:30pm	**Lunch**
1:30-3:00pm	**Breakout Groups to Synthesize the Landscape** Identify who/what is missing from the conversation **Data, Research, and Farmer Networks**
3:00-3:15pm	**Break**
3:15-4:00pm	**Group Report Out**
4:00-5:00pm	**Next Steps and Final Reflections**
5:00pm	**Adjourn**

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State of the Science

Kris Johnson of the Nature Conservancy discussed a modeling tool called the Food System Supply Chain Sustainability Model (FoodS^3). The questions and answer session centered around feed mitigation opportunities, both on the production side as well as in feedlots. Examples of mitigation strategies included grazing and manure management, feed additives to encourage enteric fermentation during the grazing phase and altering feed composition to include various additives on feedlots. Metrics studied to gauge success included nutritional benefit to the animals, changes to days to maturation, as well as annual emission reductions.

Discussion of the Current Landscape and Coordination

LCA & Metrics: Amanda Raster of USFRA discussed the various impact analysis approaches necessary to build a culture of learning and adaptation. A comparison was made between Life Cycle Analysis (LCA) and Metrics. Participants discussed the strengths and weaknesses of both approaches:

> A key feature of LCA is transparency, where impact can be broken down into steps to pinpoint the best time and place within the supply chain for intervention. LCA is a common tool with many variations, so there would be differences that need to be reconciled in order to create a harmonious process instead of disjointed analysis. Regardless, LCA is a powerful method of identifying areas of support for farmers that would have the highest impact.
>
> Metrics, on the other hand, are a tool to facilitate localized capacity building. The focus should not be on the metrics themselves, but rather on how they are used to create value for a farmer. For example, a dashboard can be created to enable farmers to see how they compare to their peers. This will keep the individual farmer engaged with their data, allow them to visualize their performance, and make adjustments in real time.

Data Tools and Technologies: The conversation continued with a discussion of various modeling tools and techniques currently in development. Bill Salas of Dagan discussed Operational Tillage Information System (OpTIS) which utilizes a DeNitrification-DeComposition (DNDC) model to monitor soil health and measure variabilities in GHG emissions. OpTIS produces spatially comprehensive maps of crop residue cover, cover crops, and crop rotations, and is developing national databases for calibration and validation of DNDC models. They hope to expand their mapping capabilities to cover the entire U.S. by the end of 2021.

Dorn Cox of OpenTEAM discussed the need for interoperability in the agricultural data world. There are many valuable resources at the disposal of farmers, from remote sensing to agroecosystem models, decision and observation tools and adaptive management. The key is bridging the gap between the farmer in the field and the researcher in the lab. The goal of OpenTEAM is to create a platform where farmers can enter their data once, and then have a variety of tools at their disposal from a single dashboard. Data sharing and data privacy are among the primary concerns of OpenTEAM as the program develops. This discussion continued during a series of webinars and a convening event on September 24-25, 2020.

Success at Scale: Debbie Reed of Ecosystem Services Market Consortium (ESMC)/Ecosystem Services Market Research Consortium (ESMRC) described the public private partnership with members across the agricultural supply chain and value chain co-investing in a national-scale harmonized, pre-competitive ecosystem services market for agriculture. ESMC/ESMRC is making significant infrastructure investments, including a technologically advanced platform and quantification tools to generate outcomes-based, verified, certified credits for increased soil carbon, reduced net greenhouse gases (GHG), improved water quality, and water use conservation. ESMC's mission is scaling stacked beneficial agricultural outcomes demanded by corporates in the food and beverage sector, among others, and to recognize and pay farmers and ranchers for their efforts. Data tools and technology investments will avoid the need for corporations to make these investments individually and provide the tools and technologies for farmers and ranchers to participate without undue burden on them.

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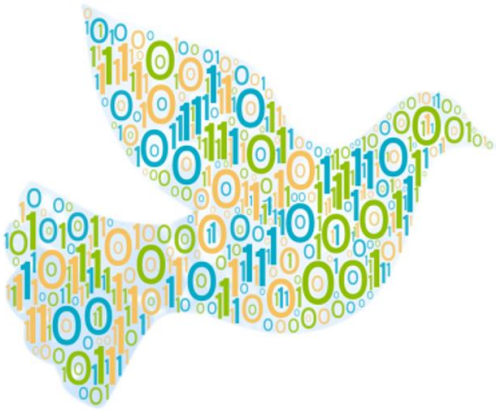
Breakout Group Discussions

Data: The participants discussed multiple areas in need of development. First, a baseline workflow is necessary for monitoring and validation in order to ensure uniformity and harmonization across data streams. Top priorities should be the creation of concrete benchmarks, establishing timeframes for development of new modeling techniques, and identifying funding opportunities. Additionally, the role of farmer engagement as it relates to data was discussed – farmer behavior needs to be analyzed to better understand the learning networks as well as the most efficient avenues to encourage change. Finally, policy changes on the government level as well as the corporate and research institution levels are needed. A policy mechanism to identify externalities and privacy needs would increase the effectiveness of market changes and adaption.



Research: Research development, dissemination and deployment are the keys to filling knowledge gaps. Information needs to be shared and connected to direct courses of action so that the scientists and the farmers know what role they play in the bigger picture. Partnerships should be size neutral and all inclusive – farms and institutions both big and small can participate in the adoption process.

Key questions to answer include the following:

- Who is the target market?
- Should the adoption process be rapid or incremental?
- What areas/knowledge gaps demand immediate reaction?
- How can processes be tested to ensure that they are commercially viable?

Farmer Networks: The overall theme of this discussion was the essential need to establish trust. Social science comes into play as FFAR and partners communicate and engage with key players. The goal is to identify information sources that farmers use, which may be different from conventional media. The main goal is to create a valuable tool for farmers. However, there is still a question of what role FFAR and partners should play in the value chain. Is it more effective to lead by example with a high-profile communications and political campaign, or would leadership from behind create a more robust support system, allowing farmers to be the face of the movement? Decisions need to be made about the level of help the Partnership can provide. At the end of the day, the individual farmers create the input data for modeling and observe the results of analysis in their crop yields and soil health, so they should be the ones to own the program as a whole. There is no partnership without the farmers in the field.

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Outcomes and Next Steps

This event fostered channels of communication and identified key gaps in research and resources. Now, FFAR and Partners can create a roadmap and move forward together as a partnership, and not in parallel as different organizations and industries all doing the same work.

As FFAR's climate work continues to develop, the initial 5 years will be crucial. Fundraising is already underway, and multiple research and data landscape assessments have been completed to evaluate current gaps that exist in the climate ag space. For more information on FFAR's ongoing climate work, you can visit the ACP webpage. The next stage is this process is to develop a comprehensive assessment of the current landscape of research and data, identifying possible partners and brining partners to the table to join with us in this unprecedented effort.

Join the Conversation!

FFAR looks forward to continuing to build strong public-private partnerships within the agriculture community and welcomes your input. Please feel free to contact Dr. LaKisha Odom at **lodom@foundationfar.org** to learn more about how you can engage with FFAR.

To stay up to date on future funding opportunities, please join the FFAR Newsletter mailing list: https://foundationfar.org/newsletter-signup/

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FFAR's Mission

As a major component of our research, we conduct science that results in thriving farms, environmental resilience and well-being.

We build public-private partnerships to fund audacious research addressing the biggest challenges in food and agriculture.

Our world is changing rapidly. The global population is increasing, climate change is causing extreme weather events and natural resources are diminishing. FFAR brings together leading experts to identify and investigate the researchable questions whose answers have the potential to enhance the economic and environmental resilience of our food supply.

FFAR's Mission

We envision a world in which ever innovating and collaborative science provides every person access to affordable, nutritious food grown on thriving farms.

We believe that this common goal can be met by working together with our research community of nonprofits, foundations, governments, individual researchers and producers, colleges and universities, and companies who can support and implement the science we need. Our research aims to achieve this vision by producing food in an economically and environmentally sustainable way. Part of our role in this collaborative effort is to convene individuals and groups who can pool creative ideas, expertise, and resources so that we can make a difference, together.

USFRA's Mission and Vision

The mission of the USFRA is to co-create sustainable food systems, connecting farmers, ranchers, and food makers. At the heart of USFRA are American farmers and ranchers. More than 75 different food and agricultural organizations are part of our organization, creating a single source for definitive insights, connections, and collaboration opportunities with U.S. food and agriculture.

The vision of USFRA is for farmers and ranchers to be recognized for the unique ways they enable the sustainable food systems of the future and nourish our communities, natural resources, and planet.

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Many thanks to the Steering Committee members for their hard work and support!

Steering Committee for the Convening Event

Dorn Cox, **OpenTEAM**
Kris Johnson, **The Nature Conservancy**
LaKisha Odom, **Foundation for Food and Agriculture Research**
Amanda Raster, **U.S. Farmers and Ranchers Alliance**
Debbie Reed, **Ecosystem Services Market Research Consortium**
Bill Salas, **Dagan**

FFAR | U.S. Farmers & Ranchers Alliance | World Farmers' Organisation

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