

2024

PROGRESS
REPORT



AgMissionTM

Cultivating climate-smart solutions

A  **FFAR**[®] Initiative



AgMission™ Vision Statement

Through shared knowledge and partnership, we will enable the pursuit and achievement of net-zero greenhouse gas (GHG) emissions from resilient agriculture at a global scale. Collaborative action between producers and researchers will identify practical and science-based climate solutions, and will lead to more rapid and widespread adoption expanding from individual farms to regional transformation.

Our research tracks are designed to

- Connect producers & researchers
- Create new knowledge
- Accelerate adoption of climate-smart agriculture (CSA)

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Letter from Allison Thomson, Director

Dear AgMission Participants:

Thank you for your continued commitment, engagement and support to our mission of driving forward net-zero resilient agriculture systems. The concept for AgMission was co-developed over time by the Foundation for Food & Agriculture Research (FFAR) scientists, advisors and stakeholders, in collaboration with agricultural producers and the World Farmers' Organisation (WFO). Research activities were first initiated in 2021 with support from our three Founding Partners and numerous contributing supporters. As we take stock here at the mid-point of the initial five year AgMission initiative, we can be proud of the progress achieved and meaningful work that this unique collaboration has made possible.

The AgMission portfolio represents a range of scientific disciplines, approaches and institutions all dedicated to a common goal of ensuring an agricultural future that is resilient in the face of a changing climate while also reducing GHG emissions. Along with every other economic sector, agriculture shares the imperative to work towards a net-zero future, an ambition achievable through science, partnerships and collaborative action. The AgMission projects underway range from critical research and data collection on pathways of GHG emissions from crop systems, to on-farm collaboration and demonstration of practices and systems designed to be resilient to stress, and decision support tools designed to aid farmers, advisors and the supply chain as they seek to make decisions to ensure both production and environmental goals are met.

As we move into the second half of our initial term for AgMission, I am excited by the growing collaboration between partners, including the support, encouragement and advice shared through group discussions as well as the emerging research programs supported by and involving a diverse group of funding partners. It's clear that support for this work and our model of co-creation between agricultural producers and scientists continues to grow and thrive. Together, we look forward to elevating the results of the research already underway and continuing to fund bold and innovative projects in collaboration with agricultural communities to accelerate the transition to a CSA future.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Alli M. Thomson'.

Allison Thomson
Scientific Program Director
Foundation for Food & Agriculture Research

Executive Committee Members



Ceejay Girard
PepsiCo



Jordan Sabine
McDonald's USA



Kris Johnson
The Nature Conservancy



Saharah Moon Chapotin
Foundation for Food
& Agriculture Research



Andrea Porro
World Farmers'
Organisation



Allison Thomson
Foundation for Food
& Agriculture Research

“
WFO and its members believe that research and data are central to adapting and responding to the climate challenge. Still, for innovation in agriculture to be truly successful, it is imperative to nurture an enabling environment for farmers, scientists and researchers to co-design viable, scalable and sustainable solutions for producers. The approach of AgMission really responds to the farmers' request to connect, integrate, create and accelerate CSA knowledge and adoption.
- Andrea Porro, WFO, Secretary General

With special thanks to



Arianna Giuliadori
World Farmers'
Organisation



Margaret Henry
PepsiCo



Executive Summary

AgMission is a public-private partnership established by FFAR and WFO to mobilize science, technology and provide proven CSA solutions to farmers and ranchers. AgMission was formed in 2021 with a \$5 million commitment from each of its three Founding Partners: McDonald's USA, PepsiCo and The Nature Conservancy (TNC). This collective \$15 million commitment was matched by FFAR for a \$30 million Executive Committee research budget.

In addition to these commitments, AgMission has attracted another 31 funders to contribute resources and support efforts which expand the research's scientific breadth and geographic scope. In less than three years, these investments have propelled this effort from an idea to an impactful and bold initiative. More than \$30 million total* has been invested across every region of the United States and six continents in order to drive forward CSA research and accelerate adoption of science-based solutions.

Intersectional themes to support this audacious research include dismantling barriers to CSA adoption; connecting producers and scientists to focus research, synchronize data and rapidly expand climate-smart practices currently in use; and supporting the growing need for resilient agricultural systems.

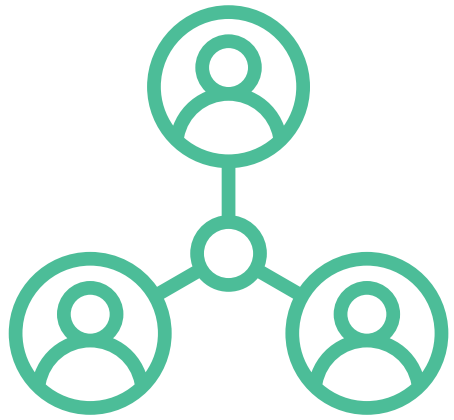
AgMission is grateful to each participant for their invaluable expertise, energy and dedication to forging this trailblazing initiative. Over the next two years, AgMission aims to convene our EC to collaboratively fund innovative research on climate impacts, resiliency, mitigation and diversified production systems.

**Sourced from both the Executive Committee (EC) program in addition to 31 external matching funders which have contributed to other climate-related FFAR grants such as Seeding Solutions and non-EC directly-funded proposals.*

Impact at a Glance



\$30 million USD invested



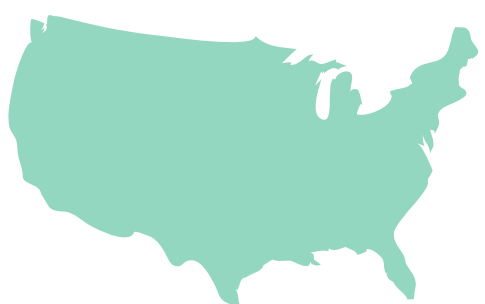
34 matching funders



15 institutions receiving funds



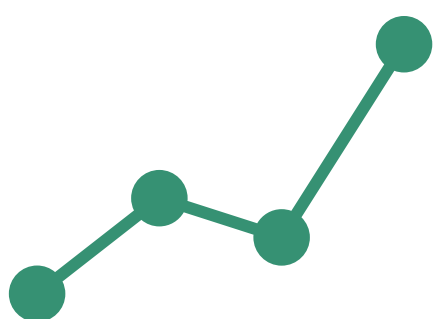
1:1.4 matching funds ratio



16 U.S. states participating in research*



56 countries participating in research*



4 new data products

Project Reports

Research Tracks



Connect producers & researchers

Connect networks of producers and researchers to ensure producer-centric principles, values and objectives are embedded in research design and outcomes.



Create new knowledge

Expand the frontiers of CSA knowledge and data by contributing to breakthrough research, multistakeholder partnerships and developing innovative tools.



Accelerate adoption

Enable producer adoption of CSA through novel pathways of disseminating practical insights and incorporating feedback to continuously improve climate solutions.

While many of our projects are multifocal in nature, we categorize them below by their driving aim.

Programs

Executive Committee projects have been made possible by AgMission Core & Founding Partners: WFO & McDonald's USA, PepsiCo and TNC.

Contributing Partners and collaborators have enabled AgMission to extend our reach and engage researchers, producers and stakeholders across agricultural ecosystems worldwide.

Executive Committee Project



National Implementation of OpTIS: A Public-private Partnership

January 01, 2022 - June 01, 2024

Principal Investigator: Shamitha Keerthi, TNC

Matching Funders:

- Conservation Technology Information Center (CTIC)
- TNC
- Regrow Ag

This project has supported the development—and public accessibility—of two national remotely-sensed baseline datasets: 1) data on cover crops, tillage and crop rotation for croplands (Operational Tillage Information System or OpTIS), and 2) data on trends in grassland health and productivity. This project is addressing an urgent need to mitigate climate change impacts by providing vital data on adoption trends of climate-smart practices and how they impact soil health and greenhouse gas emissions. Companies, NGOs, scientists and public agencies can use the datasets to report and measure the impacts of programs, track returns on public and private investments, and better understand and tackle barriers to successfully scaling CSA practices.

Highlights

- Multiple datasets and summary metrics generated that span the entire CONUS geography from years 2015-2021. Access the data here: <http://ctic.org/agdata>
- “OpTIS 4.0: New National Baseline Data for Climate-Smart Ag” webinar, featuring speakers from CTIC, ESMC, FFAR, Regrow and TNC.
- “New Satellite-Driven Tool Sheds Light on U.S. Grasslands” webinar, featuring speakers from CTIC, FFAR, Regrow and TNC.

Executive Committee Project



Risk of Climate Disruption

November 01, 2022 - July 30, 2024

Principal Investigator: Tiffany Talsma, International Center for Tropical Agriculture (CIAT)

Matching Funders:

- PepsiCo

The project aims to assess future climate risks and increasing frequency of extreme event impacts on key crops in Brazil, Egypt, Europe, India, North America, South Africa and Turkey. Current climate change analyses overlook short-term crop losses from extreme events, prompting this study to quantify their potential impact and identify effective adaptation strategies. By integrating results into an online climate dashboard, stakeholders can access advanced climate risk assessments and crop specific adaptation strategies, facilitating strategic planning and resilience-building efforts. Producers and supply chain actors will benefit from identifying production areas vulnerable to climate extremes and water stress, enabling informed decision-making for climate-resilient agriculture.

Highlights

- Translating climate research into actionable insights for companies to create a resilient agricultural supply chain and farming system for climate change adaptation with the Climate Resilience Platform:
<https://open.climate-resilient-agriculture.org/>



Executive Committee Project

Global Producers' Consultation

January 01, 2023 - December 31, 2024

Principal Investigators: Natalia Lupi and Luisa Volpe, WFO

Matching Funders:

- PepsiCo
- McDonald's USA

This project is developing and utilizing a novel farmer engagement methodology to help shape the AgMission research agenda and advance CSA priorities. By engaging farmers globally in a scientific consultative process, the project will incorporate practical farming considerations and enable comparability of data across diverse regions. The scope of work has been expanded to elevate the voices, perspectives and contributions of young producers at the 2024 Global Live Dialogue (GLD), scheduled for June 17, 2024 during the WFO Annual Meeting at FAO premises in Rome, Italy.

Through in-person and online interviews and data gathering, the project seeks to benefit farmers worldwide by supporting on-farm resiliency and enabling scaling of both proven and novel CSA strategies. The results will also help shape agricultural research agendas to advance mitigation and adaptation science.

Highlights

- May 2023: WFO hosted the GLD in South Africa to gather input from farmer organizations on CSA implementation, involving 67 National and Regional Farmers' Organisations from 48 countries
- Report launched at COP28: "[Climate-Smart Agriculture: First Global Producers' Consultation](#)" which was then referenced in the World Bank's 2024 publication "[Recipe for a Livable Planet: Achieving Net Zero Emissions in the Agrifood Systems](#)."

Executive Committee Project



Co-development of Innovative Prairie Cover Crop Strategies to Drive Adoption of Regenerative Climate Smart Agriculture in Key Sourcing Regions

September 01, 2023 - August 31, 2024

Principal Investigator: Lana Shaw, South East Research Farm

Matching Funders:

- PepsiCo

This project aims to adapt regenerative CSA practices for the Canadian Prairies, emphasizing the role of plants in building healthy soils. Through small plot, field scale and on-farm experiments in Manitoba's Red River Valley and southeastern Saskatchewan, the study will evaluate regionally adapted CSA practices and their impact on crop yield, soil health and environmental services.

CSA practices will be co-developed with on-farm trial participants and integrated with stakeholder perspectives to drive adoption across Manitoba and Saskatchewan, supported by traditional and novel knowledge transfer activities. Environmental modeling, including GHG emissions estimation through the Cool Farm Tool (<https://coolfarm.org/>), will provide insights into the impact of CSA practice adoption, ensuring improved climate resiliency of farms and food value chains in the region.

Executive Committee Project



Accelerating the Adoption of Climate-resilient Regenerative Agricultural Practices across the Wheat and Maize Value Chain in the Mexican Bajío

October 01, 2023 - September 30, 2026

Principal Investigator: Sieglinde Snapp, International Maize and Wheat Improvement Center (CIMMYT)

Matching Funders:

- PepsiCo

This project aims to promote regenerative agriculture in the Mexican Bajío region to enhance climate resilience, reduce GHG emissions and boost productivity. Seeking to provide evidence for responsible supply chain sourcing, efforts focus on assessing climate stressors, developing farm advisory tools and quantifying the benefits of implemented practices. Leveraging CIMMYT's expertise, the project employs a multidisciplinary approach to identify adaptation options, scale regenerative practices, understand adoption drivers and barriers and quantify the impact of regenerative agriculture through field measurements.

Overall, the project aims to provide valuable tools and strategies for improving climate resilience, soil health and reducing GHG emissions in the Bajío region and beyond, with potential applications for sustainable agricultural growth in North America.

Executive Committee Project



Fast-track On-farm Impact from the Cool Soil Initiative to Enhance the Climate Resilience of Australia's Grain Producers

December 01, 2023 - November 30, 2026

Principal Investigator: Cassandra Schefe, Charles Sturt University

Matching Funders:

- Charles Sturt University
- PepsiCo

The Cool Soil Initiative (CSI) focuses on driving innovation and climate-smart practices among wheat, oat, canola and corn farmers in Australia to enhance economic, agronomic and environmental outcomes. This multiyear project aims to baseline CSA practices, conduct innovation trials, and measure adoption and impact across Australian cropping regions, emphasizing resilience in varying climatic conditions.

The project will leverage the existing relationships CSI has with four farming systems groups which have over 1,200 members to expand participation in the research and innovation trials. Through intensive on-ground support and leveraging existing data, the project will expand its focus to Western Australia, conducting relational analysis to understand CSA innovation and drivers of resilience.

Executive Committee Project



Determinants of Persistent Cover Crop Adoption and Dis-adoption to Inform More Effective Farmer Incentives for Durable Adoption

December 01, 2023 - June 01, 2025

Principal Investigator: Randy Dell, TNC

Matching Funders:

- TNC

Properly managed cover crops are an important CSA practice, providing a multitude of climate resiliency and mitigation benefits. Various forms of financial and technical assistance are available to support farmers in their cover crop adoption journey. These incentives are presumed to contribute to the increasing trend of cover crop adoption over time in certain geographies. A growing body of research is demonstrating that regional trends obfuscate adoption trends when analyzed at the field-scale over multiple years, where persistent adoption, which is critical in realizing soil health and resiliency benefits that build over time, is much less likely. Incentive efficacy can be greatly improved by better understanding the motivations and experiences of farmers that have adopted and dis-adopted cover crops, including what role various incentives have or do not have on these decisions.

This project proposes a multi-state social science evaluation of representative Midwestern row crop farmers, using both qualitative and quantitative approaches, to identify factors contributing to the dis-adoption of cover crops that can provide defensible and invaluable insights to support the more rapid and durable adoption of cover crops.

Executive Committee Project



Reducing the Carbon Footprint of U.S. Beef Cattle Production – A Texas Pilot Program

January 01, 2024 - December 31, 2028

Principal Investigator: Jason Smith, Texas A&M AgriLife Research

Matching Funders:

- Golden State Foods
- McDonald's USA

The establishment of sustainability initiatives across the beef value chain has catalyzed efforts to reduce GHG emissions and achieve net-zero carbon emissions. Given the diverse production practices among U.S. cow-calf and stocker operations, tailored programming and educational resources are necessary to drive adoption of climate-smart beef cattle management practices.

This project aims to provide Texas beef cattle producers with knowledge and tools to reduce the carbon footprint of beef production while promoting sustainability through six primary activities, including developing an e-learning certificate program and benchmarking current production practices. The project will track changes in practice adoption and outcomes to quantify the impact on the carbon footprint of beef production, while also disseminating consumer-focused educational resources. Ultimately, the project seeks to demonstrate a meaningful reduction in the carbon footprint of beef production and serve as a pilot program for broader adoption at regional and national levels, promoting transparency in the beef supply chain's journey towards carbon neutrality.



Contributing Partner Project

Carbon Farming Alliance for Research & Management (C-FARM)

March 01, 2022 - March 01, 2027

Principal Investigator: Rattan Lal, The Ohio State University (OSU)

Matching Funders:

- Bayer U.S. - Crop Science
- Corteva
- Cotton Incorporated
- Fontagro
- Inter-American Institute for Cooperation on Agriculture
- Michigan State University
- Microsoft
- Ohio - Corn & Wheat; OSU, Soybean Council
- Kansas Corn; Kansas State University
- National Sorghum Producers
- Sandia National Laboratories
- United Sorghum Checkoff Program
- Utah - Dept. of Agriculture and Food; Utah State University
- U.S. Geological Survey
- USDA Agricultural Research Service



This project addresses critical knowledge gaps in soil carbon sequestration for U.S. and Latin America agriculture by conducting on-farm evaluations across croplands, grasslands and rangelands. With research occurring across Major Land Resource Areas, large areas important to agricultural planning, the study assesses traditional and enhanced carbon-farming methods' impact on soil organic carbon (SOC) sequestration, soil health and agronomic productivity. This work aims to establish connections between SOC stock, climate change adaptation and management practices utilizing portable devices and remote sensing. Socioeconomic factors, policies, and outreach activities are investigated to evaluate their roles in promoting adoption.

Highlights

- Carbon Academy: Tailored half-day workshops focused on issues around carbon for diverse groups from undergraduates interested in soil to farmers looking to apply the principles in a practical setting
- Graduate Students are conducting in-depth basic research on themes emerging from the on-farm practical research on carbon farming in diverse agro-ecoregions of the United States and South America.



Contributing Partner Project

CSA: An Assessment of Trends, Incentives and Policies to Equitably Support Smallholder Farmers

September 15, 2022 - September 15, 2024

Principal Investigator: Andrew Shepherd, ODI

Matching Funders:

- Syngenta Foundation for Sustainable Agriculture
- World Vision

World Vision, the Institute of Development Studies and ODI are collaborating to explore the adoption and implementation of CSA practices in low- and middle-income countries. By examining the CSA policy ecosystem and implementation dynamics, the project aims to strengthen evidence-based research on trends, incentive mechanisms and initiatives for CSA uptake. Employing a bottom-up approach, the study considers farmers' needs and constraints, including education, access to resources and regulatory support, while also assessing top-down influences from stakeholders in global/national agricultural value chains. The project will produce comparative analyses of CSA trends in climate financing and food value chains globally, with country-specific reports for Indonesia, Bangladesh and Kenya, offering insights into policy, private sector involvement and grassroots initiatives, thus informing strategies for equitable support and widespread adoption of CSA practices.

Highlights

- Stakeholder inclusion: 200+ farmers and 50+ key informant interviews conducted



Contributing Partner Project

Mapping Trees in Future Climates: Integrating Knowledge, Data and Tools to Enhance Agroforestry Adoption for Climate Resilience

January 01, 2023 - December 31, 2025

Program: FFAR Seeding Solutions

Principal Investigator: Monika Shea, Savanna Institute

Matching Funders:

- Canopy Farm Management
- Grantham Foundation
- Great Lakes Protection Fund
- Savanna Institute
- University of Illinois at Urbana-Champaign

Agroforestry, the intentional integration of trees and shrubs into agricultural systems, holds promise for mitigating climate change and supporting adaptation efforts in the Midwest. This project aims to identify the most promising tree and shrub crops for food, fuel and timber production throughout the region, considering both current conditions and future climate scenarios. High-resolution suitability maps will be generated, informing evidence-based climate-smart agroforestry adoption through user-friendly tools co-created with industry professionals.

By assessing agroforestry potential, studying climate impacts on tree suitability and developing decision support tools, this project seeks to accelerate agroforestry adoption and inform stakeholders across the Midwest about this resilient, carbon-mitigating agricultural practice.



Contributing Partner Project

Quantification of Reductions in Volatile Nitrogen Losses from CSA Nitrogen Management in Water-limited Great Plains Crop Production will Create Value throughout the Supply Chain and Increase Lasting Producer Adoption

January 01, 2024 - December 31, 2028

Program: FFAR Seeding Solutions

Principal Investigator: Lucas Haag, Kansas State University (KSU)

Matching Funders:

- Kansas Fertilizer Research Fund
- KSU
- United Sorghum Checkoff Program

This project focuses on improving economic returns for farmers while mitigating environmental impact through CSA practices, particularly nitrogen management. By reducing greenhouse emissions like nitrous oxide and minimizing carbon footprint associated with nitrogen fertilizer production and application, CSA practices aim to enhance nitrogen use efficiency (NUE) for long-term benefits in CO₂ emissions reduction. The study will quantify the effects of various CSA nitrogen management practices on ammonia volatilization, nitrous oxide emissions and carbon intensity across three sites in the Great Plains with diverse climate conditions. Through a comprehensive assessment of nitrogen losses and NUE across different application methods and timings, the project aims to elucidate the nitrogen cycle dynamics and optimize water-limited crop production systems under CSA practices.



Contributing Partner Project

Establishing Viable Organic Orchard Crop Systems for the Northeast U.S.

November 01, 2023 - October 31, 2026

Program: FFAR New Innovator in Food & Agriculture Research Award

Principal Investigator: Leigh Archer, Rodale Institute

Rodale Institute's orchard systems program aims to pioneer impactful research in organic orchard management, emphasizing productivity, profitability, environmental protection, soil health and food quality. By establishing on-farm research trials, the program addresses the needs of farmers, researchers, extension agents and the scientific community, focusing on the environmental and economic benefits of agroecosystems incorporating trees and perennial species.

Recent advances in breeding have enabled successful hazelnut plantings in the Northeastern U.S., offering high economic potential and promoting organic, local and plant-based products to meet consumer demand. The program's goals include establishing best practices for hazelnut production, quantifying environmental benefits and disseminating findings to support sustainable orchard management practices and enhance environmental resilience through crop diversification.



Contributing Partner Project

Evaluating the Use of Calcium Silicate Amendments to Manage the Bioavailability of Organic Carbon in Agricultural Soils

December 01, 2023 - November 30, 2026

Program: FFAR New Innovator in Food & Agriculture Research Award

Principal Investigator: Itamar Shabtai, Connecticut Agricultural Experiment Station Research Foundation Inc.

This research investigates the role of soil calcium in mediating microbial decomposition of SOC and its impact on soil health indicators. While SOC plays a crucial role in supporting soil functions and crop productivity, efforts to increase SOC often face challenges due to incomplete understanding of SOC dynamics.

This project evaluates the effectiveness of two calcium-containing amendments, wollastonite and basalt rock dust, in accruing SOC and improving soil health indicators through laboratory and field experiments. By characterizing the soil microbial community and identifying responsive taxa, the project team aims to enhance current indicators used in soil health assessment and advance the agronomic use of calcium-containing amendments for SOC sequestration and soil health improvement.




Program Financials

1/4

Project Title	Focus Area	Funding Mechanism	Institution	Principal Investigator	FFAR Funding	Matching Funds	Total Budget
Executive Committee Projects							
National Implementation of OpTIS: A Public-private Partnership		Direct Fund	TNC	Shamitha Keerthi	\$1,784,805	\$1,808,000	\$3,592,805
Risk of Climate Disruption		Direct Fund	CIAT	Tiffany Talsma	\$100,000	\$100,000	\$200,000
Global Producers' Consultation		Direct Fund	World Farmers' Organisation	Natalia Lupe, Luisa Volpe	\$362,447	\$362,446	\$724,893
Co-development of Innovative Prairie Cover Crop Strategies to Drive Adoption of Regenerative Climate Smart Agriculture in Key Sourcing Regions		Request for Applications (RFA: PepsiCo Regen Ag)	South East Research Farm	Lana Shaw	\$749,347	\$749,346	\$1,498,693
Accelerating the Adoption of Climate-resilient Regenerative Agricultural Practices across the Wheat and Maize Value Chain in the Mexican Bajío		Request for Applications (RFA: PepsiCo Regen Ag)	CIMMYT	Sieglinde Snapp	\$750,000	\$750,000	\$1,500,000
continued							

Program Financials

2/4

Project Title	Focus Area	Funding Mechanism	Institution	Principal Investigator	FFAR Funding	Matching Funds	Total Budget
Executive Committee Projects Continued							
Fast-track On-farm Impact from the Cool Soil Initiative to Enhance the Climate Resilience of Australia’s Grain Producers		Request for Applications (RFA: PepsiCo Regen Ag)	Charles Sturt University	Cassandra Schefe	\$748,394	\$3,035,204	\$3,783,598
Determinants of Persistent Cover Crop Adoption and Dis-adoption to Inform More Effective Farmer Incentives for Durable Adoption		Direct Fund	TNC	Randy Dell	\$138,888	\$138,889	\$277,777
Reducing the Carbon Footprint of U.S. Beef Cattle Production – A Texas Pilot Program		Direct Fund	Texas A&M AgriLife Research	Jason Smith	\$713,115	\$713,115	\$1,426,230
Executive Committee Project Total					\$5,346,996	\$7,657,000	\$13,003,996



Program Financials

3/4

Project Title	Focus Area	Funding Mechanism	Institution	Principal Investigator	FFAR Funding	Matching Funds	Total Budget
Contributing Partner Projects							
Carbon Farming Alliance for Research & Management (C-FARM)		Direct Fund	OSU	Rattan Lal	\$5,000,000	\$8,638,853	\$13,638,853
CSA: An Assessment of Trends, Incentives and Policies to Equitably Support Smallholder Farmers		Request for Applications (RFA: SFSA Global Climate-Smart Practices Assessment)	World Vision	Andrew Shepherd	\$150,000	\$249,935	\$399,935
Mapping Trees in Future Climates: Integrating Knowledge, Data, and Tools to Enhance Agroforestry Adoption for Climate Resilience		FFAR Seeding Solutions	Savanna Institute	Monika Shea	\$300,000	\$342,085	\$642,085
Quantification of Reductions in Volatile Nitrogen Losses from CSA Nitrogen Management in Water-limited Great Plains Crop Production will Create Value throughout the Supply Chain and Increase Lasting Producer Adoption		FFAR Seeding Solutions	KSU	Lucas Haag	\$872,560	\$872,565	\$1,745,125

Program Financials

4/4

Project Title	Focus Area	Funding Mechanism	Institution	Principal Investigator	FFAR Funding	Matching Funds	Total Budget
Contributing Partner Projects							
Establishing Viable Organic Orchard Crop Systems for the Northeast U.S.		FFAR NIA	Rodale Institute	Leigh Archer	\$449,840	\$0	\$449,840
Evaluating the Use of Calcium Silicate Amendments to Manage the Bioavailability of Organic Carbon in Agricultural Soils		FFAR NIA	Connecticut Agricultural Experiment Station Research Foundation Inc.	Itamar Shabtai	\$449,607	\$0	\$449,607
Contributing Partner Project Total					\$7,222,007	\$10,103,438	\$17,325,445
AgMission Total					\$12,569,003	\$17,760,438	\$30,329,441

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Funding from AgMission enabled us to extend the OpTIS data to a national range and produce a new national grasslands health dataset, thereby growing our potential to expand and accelerate regenerative solutions on more lands for the benefit of people, climate and biodiversity... Data at this scale, previously unavailable at a reasonable cost, has myriad research applications. We are starting to see it used in policy, program, and incentive evaluation—a critical step in building enabling conditions to scale the adoption of regenerative agriculture practices.

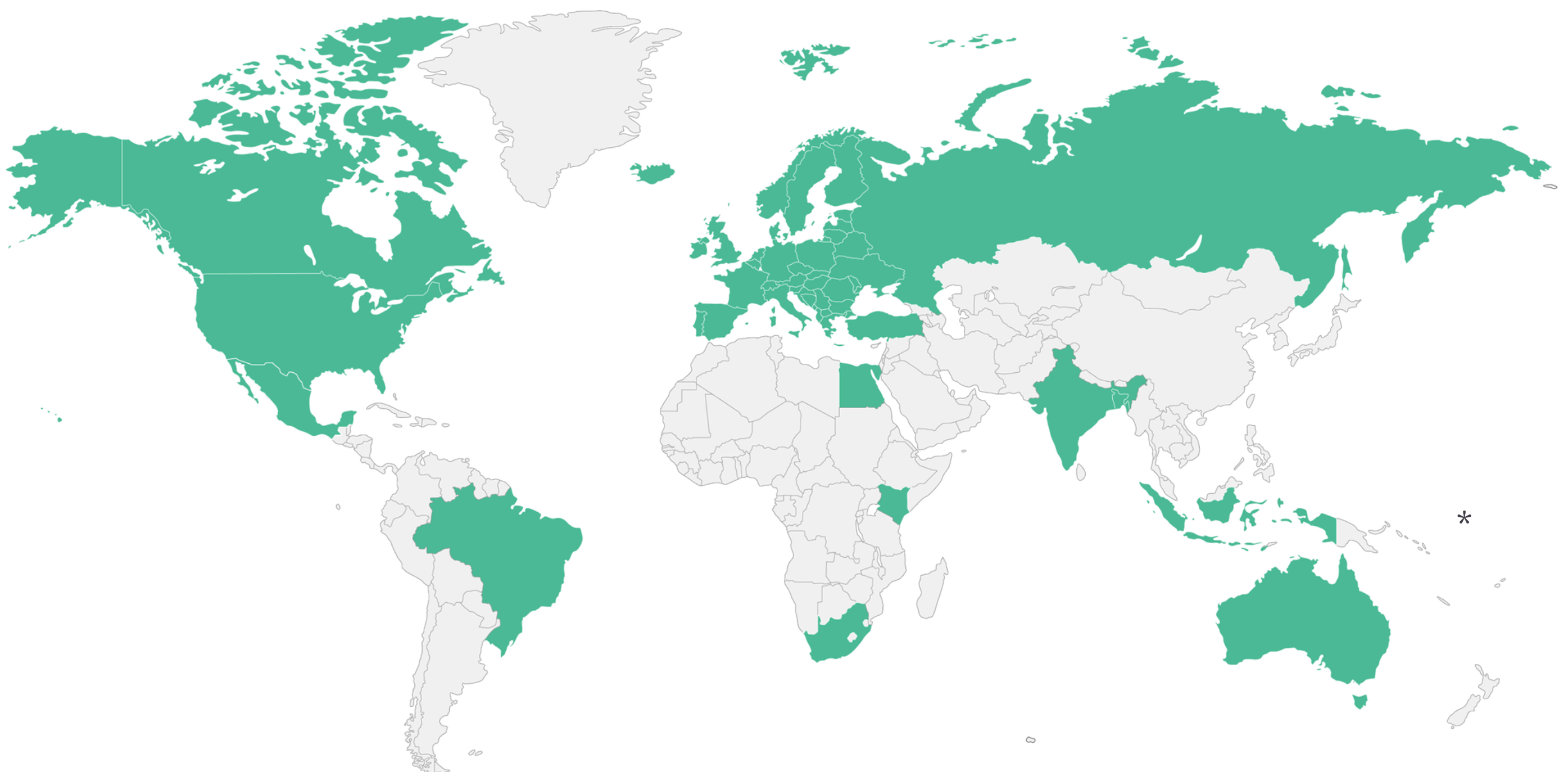
- Shamitha Keerthi, TNC, Science Director for the North American Regenerative Crop System Strategy

Appendix A:

Matching Funds Organizations

- Bayer U.S. - Crop Science
- Canopy Farm Management
- Corteva
- Cotton Incorporated
- Charles Sturt University
- Conservation Technology Information Center
- Fontagro
- Golden State Foods
- Grantham Foundation
- Great Lakes Protection Fund
- Inter-American Institute for Cooperation on Agriculture
- Kansas Corn
- Kansas Fertilizer Research Fund
- Kansas State University
- McDonald's USA
- Michigan State University
- Microsoft Corporation
- National Sorghum Producers
- Ohio Corn & Wheat
- Ohio Soybean Council
- PepsiCo
- Regrow Ag
- Sandia National Laboratories
- Savanna Institute
- Syngenta Foundation for Sustainable Agriculture
- The Ohio State University
- The Nature Conservancy
- Utah Dept. of Agriculture and Food
- United Sorghum Checkoff Program
- University of Illinois at Urbana-Champaign
- Utah State University
- U.S. Geological Survey
- USDA Agricultural Research Service
- World Vision

We build public-private partnerships to fund bold research and we cannot achieve this mission without our non-federal partners and contributors. We thrive thanks to the strength of these partnerships and the generous support from external stakeholders.



Appendix C:

Scientific Outputs

1/2

Articles & Reports

- Chacón, K. and Gutman D. (2022) Sustainable Agriculture. Milestones in the Americas. Inter-American Institute for Cooperation on Agriculture. <https://repositorio.iica.int/handle/11324/21370>
- Franzluebbers, A.J. (2022). Probing deep to express root-zone enrichment of soil-test biological activity on southeastern U.S. farms. *Agricultural & Environmental Letters*, 7, e20087.
- Franzluebbers, A.J. (2022). Root-zone soil organic carbon enrichment is sensitive to land management across soil types and regions. *Soil Science Society of America Journal*, 86, 79-91.
- IICA. (2022). Policies for soil conservation in the Americas. Factsheets. Inter-American Institute for soil conservation in the Americas. <https://www.livingsoils.iica.int/country-policies>
- Jimenez-Castaneda M. E., Lal R., Mello F. F. C., Witkowski K., St. Martin C. & Villarreal F. (2022). An Overview of Carbon Sequestration in Agricultural Soils of Latin America and the Caribbean, *Critical Reviews in Plant Sciences*, 41:6, 391-405, DOI: 10.1080/07352689.2022.2148923
- Lal, R. (2023). Farming systems to return land for nature: It's all about soil health and re-carbonization of the terrestrial biosphere. *Farming Systems* 1(2023)100002. doi.org/10.1016/j.farmsys.2023.100002.
- Chen, L., Rejesus, R. M., Aglasan, S., Hagen, S., & Salas, W. (2023). The impact of no-till on agricultural land values in the United States Midwest. *American Journal of Agricultural Economics*, 105(3), 760-783.
- Climate-Smart Agriculture: First Global Producers' Consultation. World Farmers' Organisation. (2023).

Appendix C:

Scientific Outputs

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Data

- OpTIS: Data on cover crops, tillage and crop rotation for croplands plus multiple grassland datasets and summary metrics that span the entire CONUS geography from years 2015-2021. The metrics are summarized by HUC 8 and Crop Reporting Districts.
- CIAT: NetCDF climate datasets for nine crops in more than 50 countries.
- CIAT: GeoTIFF files of climate extreme impacts on yield in 2020-2040 average climate.
- CIAT: Microsoft Excel database of adaptation practices specific to crops and countries, ranked by risk mitigation potential and linked to specific regenerative agriculture topics .

Panels

- “Leveraging satellite data to drive and inform climate-smart livestock and dairy agriculture at scale.” Leif Fixen, Dave Gustafson, Matt Jones, William Salas, Greg Thoma. Sustainable Agriculture Summit. 2022.
- “Agroforestry as a Natural Climate Solution.” Fred Iutzi, Nate Lawrence, Monika Shea. Midwest Climate Summit. 2023.

Webinars

- "High Level Insights on Cover Crops: Cover Crop Insights from OpTIS" 2022.
- “OpTIS: Unlocking Water Quality Insights” 2023.
- “OpTIS 4.0: New National Baseline Data for Climate-Smart Ag” 2023.
- “New Satellite-Driven Tool Sheds Light on U.S. Grasslands” 2024.

Websites

- <https://www.ctic.org/agdata>
- <https://www.livingsoils.iica.int>
- <https://open.climate-resilient-agriculture.org>



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