

Agricultural Climate Resiliency Program

(Formerly known as SEEDSS)

March 12, 2024



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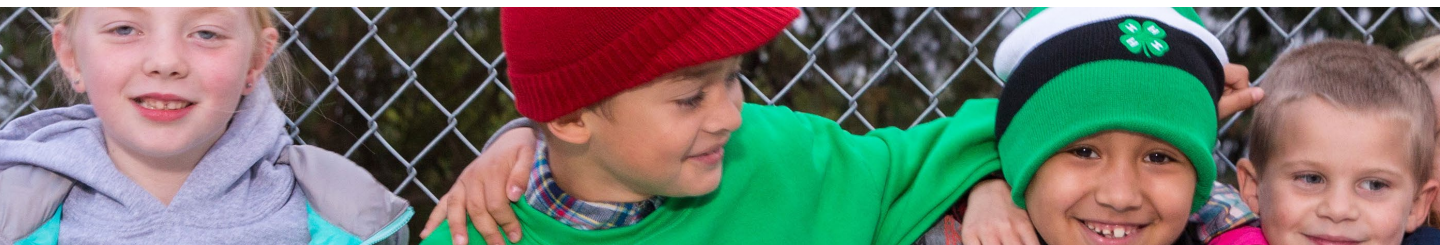
Climate change is the single greatest threat to a sustainable future but, at the same time, addressing the climate challenge presents a golden opportunity to promote prosperity, security and a brighter future for all.

Ban Ki-Moon
Former Secretary-General of the United Nations

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About MSU AgBioResearch and MSU Extension

- Trusted for more than 100 years by Michigan agriculture and beyond to deliver science-based information.
- MSU AgBioResearch supports roughly 300 faculty in six colleges discovering economically feasible, scientifically based solutions to global challenges such as climate change, water issues, invasive species, and food safety and security.
- MSU Extension delivers educational information to all 83 Michigan counties — bringing the vast knowledge resources of MSU directly to individuals, communities and businesses — from agriculture to child and family development.



Agricultural Climate Resiliency Program

- Partnership among MSU, the Plant Coalition, and the Michigan Department of Agriculture and Rural Development to address long-term climate- and water-related issues in Michigan plant agriculture.
- Supports research and outreach focused on environmental sustainability and protection of Michigan's water resources.
- Established in 2024 through MDARD's budget:
 - \$1 million in recurring funding to support faculty and Extension positions.
 - A one-time \$5 million allocation for a competitive grants program.



Agricultural Climate Resiliency Program

History

- Concept was created by Plant Coalition leaders interested in a mechanism that could benefit all of Michigan plant agriculture.
- Plant Coalition invited MSU to participate due to successful history of research and Extension programs across the state.
- Program positions MSU at the forefront of climate and water research, while delivering practical solutions to growers.



Agricultural Climate Resiliency Program

Competitive Grants: \$5 million in 2024

- MSU researchers and Extension educators and specialists may submit proposals for three-year grants of up to \$1.25 million.
- Research will be multidisciplinary and emphasize sustainable approaches such as regenerative agriculture.
- Proposal deadline was March 1, and an announcement on funded projects will be made in April.



Agricultural Climate Resiliency Program

Cluster Hire Initiative

- With \$1 million from the State of Michigan, MSU will hire six new faculty and two Extension educators.
- Faculty will be housed in the MSU College of Agriculture and Natural Resources.
- \$1.5 million from the MSU Office of Research and Innovation will help support startup costs for these positions.
- To ensure research is relevant to industries and has on-farm applications, faculty will hold research (60%) and Extension (40%) appointments.
- An additional six faculty members will be hired with support from the MSU Office of the Provost.



Agricultural Climate Resiliency Program

Cluster Hire Initiative: Position Descriptions

Faculty:

- Studying groundwater use and availability for agriculture.
- Investigating water quality with emphasis on nutrient flow and retention in surface water and soil.
- Determining the economic impact of climate change on Michigan farms and programs focused on climate change adaptation and mitigation.
- Exploring lifecycle analysis of agricultural systems — greenhouse gas emissions, impact of management, cost of inputs — with the goal of identifying return on investment for farmers.
- Modeling the impact of climate change on pest emergence and management.
- Modeling climate-smart agricultural management practices using remote sensing, climate data, soil information and more.

Extension educators:

- Developing programming on conservation-focused crop production that improves soil health and carbon sequestration.
- Leading educational efforts on how precision agriculture approaches such as remote sensing and statistical models can improve soil health and reduce input costs.



Agricultural Climate Resiliency Program

Long-term Funding

- Time is of the essence to combat the grand challenges of climate change, ensure food security, and foster environmentally sustainable Michigan plant agriculture industries.
- A \$10 million recurring investment in this program, preferably in AgBioResearch and MSU Extension's Higher Education base budgets, would provide secure funding to address environmental and agricultural sustainability research and educational needs, while having a lasting impact on Michigan farms.
 - An additional \$1 million for faculty and Extension educators on top of the initial \$1 million, and \$8 million for the competitive grants program.

