



# HOUSE of REPRESENTATIVES

## STATE OF MICHIGAN

### Appropriations Requests for Legislatively Directed Spending Items

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1. The sponsoring representative's first name:  
Jerry
2. The sponsoring representative's last name:  
Neyer
3. The cosponsoring representatives' names. All cosponsors must be listed. If none, please type 'n/a.' A signed letter from the sponsor approving the co-sponsorship and a signed letter from the member wishing to co-sponsor are required. Attach letters at question #9 below.  
N/A
4. Name of the entity that the spending item is intended for:  
MSU AgBioResearch & MSU Extension – Agriculture Resiliency Program
5. Physical address of the entity that the spending item is intended for:  
Michigan State University College of Agriculture and Natural Resources, 446 West Circle Drive, East Lansing, MI 48824
6. If there is not a specific recipient, the intended location of the project or activity:  
N/A
7. Name of the representative and the district number where the legislatively directed spending item is located:  
Statewide Program/all Districts
8. Purpose of the legislatively directed spending item. Please include how it provides a public benefit and why it is an appropriate use of taxpayer funding. Please also demonstrate that the item does not violate Article IV, S 30 of the Michigan Constitution. A partnership among the Plant Coalition, the Michigan Department of Agriculture and Rural Development, and MSU aimed at addressing long-term plant agriculture challenges related to water and extreme weather. The Agricultural Resiliency Program is driven by grower input and a tremendous partnership among the Michigan Plant Coalition, MSU and the Michigan Department of Agriculture and Rural Development to address long-term climate- and water-related issues in plant agriculture.

we are specifically requesting the same \$1 million ongoing funding approved in FY24, and a one-time \$5.1 million for grants program

9. Attach documents here if needed:

Attachments added to the end of this file.

10. The amount of state funding requested for the legislatively directed spending item.

6000000

11. Has the legislatively directed spending item previously received any of the following types of funding? Check all that apply.

["State"]

12. Please select one of the following groups that describes the entity requesting the legislatively directed spending item:

University/College

13. For a non-profit organization, has the organization been operating within Michigan for the preceding 36 months?

Not applicable

14. For a non-profit organization, has the entity had a physical office within Michigan for the preceding 12 months?

Not applicable

15. For a non-profit organization, does the organization have a board of directors?

Not applicable

16. For a non-profit organization, list all the active members on the organization's board of directors and any other officers. If this question is not applicable, please type 'n/a.'

N/A

17. "I certify that neither the sponsoring representative nor the sponsoring representative's staff or immediate family has a direct or indirect pecuniary interest in the legislatively directed spending item."

Yes, this is correct

18. Anticipated start and end dates for the legislatively directed spending item:

October 1, 2025 - September 30, 2026

19. "I hereby certify that all information provided in this request is true and accurate."

Yes

## Funded Projects

### 2025

- Cropping systems that are resilient to the effects of severe weather, pests and diseases are more essential than ever. Researchers are developing a modeling platform that will equip farmers, as well as food producers and government agencies, with data and predictions to inform management practices. The goal is to increase the probability of positive economic, environmental and social impacts of farming decisions through efficient use of inputs. The principal investigator is Bruno Basso, John A. Hannah Distinguished Professor in the departments of Earth and Environmental Sciences and Plant, Soil and Microbial Sciences, as well as the W.K. Kellogg Biological Station.
- Solutions to farming challenges that are adaptable yet profitable for growers are increasingly needed. MSU scientists are creating an artificial intelligence-based forecasting platform for four major agricultural production systems in the southern portion of Michigan's Lower Peninsula: corn, potatoes, soybeans and wheat. The goal is to provide high-quality information to farmers and land managers to formulate solutions-oriented strategies to increase resiliency. The principal investigator is Jiquan Chen, a professor in the Department of Geography, Environment and Spatial Sciences.
- Nutrient runoff from agriculture is one of the primary contributors to harmful algal growth in Michigan's waterbodies. Working with corn and soybean growers, researchers will develop leading-edge tools to prevent nutrient loss and lessen the environmental consequences. The project will include water quality monitoring, demonstration of nutrient-capturing technology, evaluating conservation practices for water quality and soil carbon sequestration, quantifying socioeconomic benefits of conservation practices, and development of a decision-support tool for farmers. The principal investigator is Subhasis Giri, an assistant professor in the Department of Biosystems and Agricultural Engineering.
- Given weather variability such as increased precipitation or long droughts, there is mounting uncertainty and risks for growers. Current responses to these challenges may strain water resources. Using modeling approaches that simulate the impacts of various practices under projected climate scenarios, researchers are seeking to quantify and predict how regenerative agriculture can enhance soil health and hydrological function. Objectives of the project include

determining the potential for regenerative practices to increase soil water-holding capacity, improving soil nutrient cycling, recharging aquifers, reducing surface runoff and retaining soil and nutrients on the land. The principal investigator is Jeremiah Asher, assistant director of the MSU Institute of Water Research.

## 2024

- Increasing resiliency of tree fruit production to climate change through a holistic approach to water, nutrient and soil management. Researchers will work to develop a climate-smart technology that can optimize irrigation and fertilizer management to make timely decisions, as well as maximize water and fertilizer use efficiency. The principal investigator is Younsuk Dong, an assistant professor in the Department of Biosystems and Agricultural Engineering.
- Creating a decision-support system that promotes sustainable farming by providing insights into climate-smart approaches. The goal of the project is to develop a statewide tool that integrates socioeconomic analysis, groundwater flow, nutrient and pollutant fate and transport modeling, and field observations. The principal investigator is Pouyan Nejadhashemi, an MSU Foundation Professor in the departments of Biosystems and Agricultural Engineering, and Plant, Soil and Microbial Sciences. He is also a director of the Center for Intelligent Water Resources Engineering.
- Providing Michigan field crop farmers the information they need to build climate-resilient cropping systems. Using an innovative and multidisciplinary approach that engages field crop farmers as partners, the research team will assess factors influencing climate adaptation and mitigation of major commodity crops in Michigan. Researchers will explore how regenerative agriculture practices enhance soil health and yield stability, evaluate the relationship between soil health and greenhouse gas emissions, and identify factors that influence farmer adoption of climate-smart practices. The principal investigator is Christine Sprunger, an assistant professor in the Department of Plant, Soil and Microbial Sciences based at the W. K. Kellogg Biological Station. Sprunger is also a faculty member in the MSU Plant Resilience Institute.
- Addressing specific pest management concerns regarding the effects of erratic weather on early season management, bloom prediction and late-season management in apple, blueberry, cherry and grape production systems. The goals of the project are to develop resilient disease management strategies, adaptive insect pest control measures, integrated bloom prediction models and effective outreach strategies for stakeholder engagement. The principal investigator is Julianna Wilson, an assistant professor in the Department of Entomology.

Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Quentin Tyler, Director, MSU Extension, East Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

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