



STRENGTHENING MICHIGAN'S VEGETABLE INDUSTRY

5,499

participants attended educational programs in person and virtually.

10,505

people were reached by mixed media outputs, including podcasts, trade magazine articles, newsletters and bulletins.

483

one-on-one consultations were held with stakeholders across Michigan.

\$720,000

in federal, state and commodity group funds were leveraged to support research that directly benefits growers.

PRIORITY

A R E A S

Michigan growers farm over 100,000 acres of vegetables across more than 3,000 farms, producing a uniquely diverse set of crops. Michigan is among the top five states in the production of asparagus, beets, celery, cucumbers, parsnips, radishes, snap beans, squash, tomatoes and turnips¹. Michigan State University (MSU) Extension has on-campus vegetable researchers and strategically placed educators who work with local vegetable growers in key regions.

¹USDA National Agricultural Statistics Service. (2022). Quick stats. <https://quickstats.nass.usda.gov/>

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IMPACTS

MSU Extension helps vegetable growers learn about and incorporate new practices to help them reduce the risk posed by pests, improve their efficiency through new horticultural practices and increase revenue through improved product quality and marketing. Of those who attended an MSU Extension vegetable event, surveys revealed:



98%

learned something new and useful to help them manage risks.



79%

reported making a change on their farm related to managing risks.



97%

learned useful information about increasing efficiency on the farm.



73%

reported making a change on their farm related to increasing efficiency.

GREAT LAKES FRUIT, VEGETABLE, AND FARM MARKET EXPO AND MICHIGAN GREENHOUSE GROWERS EXPO

MSU Extension vegetable educators and specialists organized 19 educational sessions for the 2023 Great Lakes Fruit, Vegetable, and Farm Market Expo & Michigan Greenhouse Growers Expo (GLEXP0), Dec. 4-7. The 3,199 attendees came from across the U.S. and world, and saw value in our educational offerings:

- **GLEXP0 sessions reached a wide audience:** Attendees hailed from nine countries, four Canadian provinces, 42 states and the District of Columbia, and 66 Michigan counties.
- **889 of these attendees reported they grow vegetables.**
- **Attendees gained useful knowledge:** Across all vegetable sessions, 99% of survey respondents (n=333) reported learning something useful.

GLEXP0 also provided a unique, one-stop-shop opportunity for professional recertification. This year's show offered 54 Michigan restricted-use pesticide credits and 100 certified crop advisor continuing education credits. New in 2023, MSU collaborated with the Michigan Department of Agriculture and Rural Development to provide an in-person pesticide exam review and test.

“*I cannot say enough good things about this conference. The presence of university information and education (understandable for growers) combined with the industry resources is unmatched for the horticulture industry anywhere else.*”

• *past GLEXP0 participant*

VEGETABLE EXTENSION ACROSS MICHIGAN: A REINVIGORATED REGIONAL REACH

MSU renewed its commitment to the vegetable industry by hiring two new MSU Extension vegetable educators, rounding out a team of five educators and nine specialists. Our new educators serve the Bay and Thumb region as well as southeastern Michigan and northwestern Ohio. MSU Extension specialists are campus-based but work on farms throughout the state, providing support through targeted research and acting as a knowledgeable resource to address key questions. The MSU Extension team works closely with industry partners to accomplish projects, provide education and help growers improve their production systems.

What does this effort look like? Educators work with specialists and partners to answer pressing grower questions during the growing season. These day-to-day learnings provide the focus for our weekly in-season Michigan Vegetable Crop Report, which garnered over 5,000 views in 2023. When more than one farm shares an issue or a question arises but there is no existing solution, we reach out and form teams of specialists and partners to gain research-based answers. We draw on this research and partner knowledge to provide educational events including crop walks, field days and wintertime educational sessions.

We also collaborate on regional, multi-state efforts to strengthen outreach and enhance impact. MSU Extension leads revision and distribution of the Midwest Vegetable Production Guide. This publication is abundant in practical information on many vegetable crops and is relied upon by growers and Extension professionals across the region. Our team also works in close partnership with the Ohio State University Extension through a joint Extension educator appointment that strengthens bonds and collaboration between the two land-grant universities.

WEED CONTROL TECH, BIG AND SMALL

After access to water, controlling weeds is arguably the single biggest prerequisite for successful vegetable production. Weed control is labor intensive and relies on a limited set of herbicides, which weeds may eventually develop resistance to. That's where machines come in.

Mechanical methods remain an effective way to disturb soils to the detriment of weeds, and new technology has improved the accuracy and speed of these techniques. These tools save growers' bodies and pocketbooks, and ease pressure on our limited weed control toolbox. But



The Midwest Mechanical Weed Control Field Day drew on an MSU crew and collaborators to show growers tools of all sizes in action.

there are always limitations and niches for different tools. Growers who are considering investing in these new tools need to see them in action in varying soil types, moisture conditions and crops. The Midwest Mechanical Weed Control Field Day attempts to accomplish this by showcasing as many machines as possible on different farms each year. In 2022, the MSU Southwest Michigan Research and Extension Center was selected to host this annual field day. A broad cast of cooperating characters helped make it happen, including MSU Extension, University of Wisconsin, Land Connection, AgBioResearch and Grow Marketing + Communications.

The result was an event featuring a trade show with 12 exhibitors, two hours of classroom roundtables and a field demonstration showcasing 14 of the different exhibitor's

machines weeding in corn, sugarbeets, kale and broccoli. Machines ranged from walk-behind two-wheeled tools to 32-row pulled tools, and from human-directed tools to fully automated robots. Attendees farmed at different scales in different places across Michigan and beyond. Growers came from 21 Michigan counties, seven states and Canada, and from farms pulling equipment with horses, manpower and tractor power. They gathered around the machines to see them in action, asking on-the-spot questions of the manufacturer and MSU staff. About 40% of attendees returned a post-event survey: 100% reported learning something new, 50% reported they intend to change practices on their farm, and 30% intend to follow up with one of the exhibitors or demonstrators to access products, services or information.