



PROTECTING THE HEALTH AND SAFETY OF MICHIGAN'S AGRICULTURE AND FLORICULTURE INDUSTRIES

OVER 75

pieces of education outreach material developed addressing human health and safety for agriculture and floriculture industries

OVER 25,000

website visits to COVID-19 related educational resource

PRIORITY

A R E A S

Ensuring a healthy workforce that can complete the daily activities and tasks required for agriculture and floriculture businesses is key to the success of these operations in Michigan. With various operations relying on each other to fulfill components for raising crops, producing plants and growing animals, a missing link in the operational chain disrupts far more than the businesses that are directly affected. Michigan State University (MSU) Extension focuses on enhancing human health safety for the workforce dedicated to our farms and operations, helping to provide continuity for our agriculture and floriculture industries.

IMPACTS

MSU Extension serves the agriculture and floriculture industry by engaging in research, education and outreach that enhances the quality of life of Michigan residents. This includes providing resources and information in areas that directly affect human health for those involved in these industries, which are some of the fastest growing sectors of the Michigan economy.



OVER 47,000

livestock and crop farms in Michigan



49.7 MILLION

square feet of greenhouse space dedicated to the floriculture industry in Michigan



\$104.7 BILLION

contributed from Michigan's food and agriculture industry annually

FOR MORE INFORMATION:

Melissa Millerick-May: milleric@msu.edu

Beth Ferry: franzeli@msu.edu

Jeremy Jubenville: jubenvi3@msu.edu

Paola Bacigalupo Sanguesa: paolabs@msu.edu



DEVELOPMENT OF CHAMP TOOL ASSISTED IN ASSESSING RISK FOR SPREAD OF COVID-19



Farmers with direct sale market channels implemented health practices to ensure the safety of their customers.

With the convergence of major weather events, depressed economic conditions, catastrophic infrastructure failures and a pandemic that affected every country in the world, 2020 was a staggeringly unfortunate year for the United States agriculture and floriculture industries. The government-led response to the outbreak of COVID-19 in Michigan required agriculture and floriculture businesses to develop and implement a pandemic-preparedness plan that reduced the risk of exposure and disease transmission for their operation. MSU Extension created a set of resources to help these businesses find answers to questions regarding exposure mitigation techniques and develop a pandemic-preparedness plan tailored to their operation.

The COVID-19 Hazard Assessment and Mitigation Plan (CHAMP) is a Microsoft Excel-based tool developed to assist Michigan agriculture and floriculture businesses in assessing risk for spread of COVID-19 in their operations. The tool identifies and implements appropriate and meaningful exposure control strategies consistent with business operations to protect workers and the public. It also provides business owners with methods to comply with state requirements. When paired with accompanying how-to guides, a frequently-asked-questions page and educational outreach activities such as webinars and consultations, it provided members of the agriculture and floriculture industries current and timely assistance and guidance.

The overarching goal of these combined resources was to assist farmers, along with agriculture and floriculture businesses, in providing a safe work environment for their employees. This not only enhanced worker safety but also helped manage the risks that comes with wide-spread human health outbreaks that affect daily operations of farms and other agriculture and floriculture operations. Providing resources and tools that can be incorporated into employee trainings, along with methods to complete hazard assessments, gave farmers and floriculture operators tools to be proactive in managing their operations so that they could mitigate the risks of human health disease outbreaks in the future.

“The CHAMP tool is very comprehensive; it described all necessary information. This is suitable for every workstation not just focusing on farms.”

— MSU Extension CHAMP webinar participant

15

educational webinars presented on the COVID-19 Hazard Assessment and Mitigation Plan (CHAMP) generator

2

national safety meetings at which content experts presented CHAMP tools developed by MSU Extension

EDUCATIONAL RESOURCES FOR MICHIGAN'S DIVERSE AGRICULTURAL WORKFORCE

With more than 300 commodities grown and raised across the state, Michigan has the second most diverse agriculture industry in the nation. Crops represent 60% and livestock 40% of the commodities produced in Michigan (Michigan Farm Bureau, n.d.). Of all agricultural commodities, the dairy industry has the highest economic impact with \$1.8 billion in cash receipts (Knudson, 2018, p. 4). Michigan is among the national leaders in milk quality and production efficiency. Over the past several years, the dairy industry along with the rest of the state's agriculture and floriculture industries, have been challenged by labor availability. However, the issue of availability is being addressed with the agricultural workforce becoming increasingly multicultural, employing people from diverse races and ethnicities.



A multicultural workforce helps Michigan's agriculture and floriculture industries address challenges with labor availability.

6

educational videos developed for Michigan's multicultural workforce

This workforce allows operations to meet the labor demand, but it also provides some unique challenges for owners and operators. One of those challenges is a language barrier. The 2020 pandemic situation exacerbated the need for educational resources to assist Hispanic workers. The MSU Extension Animal Agriculture Team developed short educational videos in Spanish for agriculture and floriculture workers about COVID-19 and COVID-19 prevention. Although educational materials in Spanish are available in the form of fact sheets or as articles on websites, they only reach a portion of the Spanish-speaking workforce. The videos eliminated some of the literacy challenges present in this workforce population and provided information about COVID-19 to workers with multiple cultural backgrounds and various levels of education. Each video has a corresponding fact sheet in English and Spanish. They are available online, so they can be viewed on personal devices. The videos also provide farmers and floriculture operators with the means to meet the state requirement for COVID-19 employee training.

MSU EXTENSION ASSISTED WITH THE DEVELOPMENT OF DRY HEAT DECONTAMINATION SYSTEM FOR N95 RESPIRATORS

In the early stages of the COVID-19 pandemic, MSU Extension partnered with Sparrow Health to devise a system to decontaminate N95 masks using dry heat in the spiral oven at the MSU Food Processing and Innovation Center (FPIC). Over the course of a few weeks, 6,798 N95

masks were decontaminated at FPIC, in the development of the protocol and submission of a pre-emergency use authorization (EUA) for the process through the Food and Drug Administration (FDA). The project has international implications for use in decontaminating N95 masks as this technology can be replicated in countries across the world. The ability to decontaminate N95 masks also has an environmental impact as it reduces the amount of waste sent to landfills. The MSU Extension Dry Heat Decontamination System for N95 Respirators is pending approval from the FDA for a EUA.

6,798

N95 masks decontaminated at the MSU Food Processing and Innovation Center

“At Michigan State, a team of truly dedicated people have been working on reprocessing masks using a variety of methods including vaporized hydrogen peroxide and high heat over a specific amount of time. Their efforts to render N95 masks safe can be replicated around the world, extending the life of N95 masks. In turn, hundreds of thousands of healthcare workers reduce their own chances of contracting COVID-19. The effort led by MSU will save an untold number of lives. These teams led by Claire Hankenson, DVM, and Jeff Dwyer, PhD, are as tenacious, dedicated and selfless as anyone I’ve met. They are heroes.”

— Alan Vierling, president, Sparrow Hospital, Sparrow Health System, from a daily update to staff

REFERENCES

Knudson, W. (2018, July). *The economic impact of Michigan's food and agriculture system* (Working Paper 01-0518). Michigan State University Product Center: Food, Ag, Bio. https://www.canr.msu.edu/miim/uploads/kundson_william_economic_impact_food-ag_system_201807.pdf

Michigan Farm Bureau. (n.d.). *Michigan ag facts*. <https://www.michfb.com/mi/agfacts/>

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