



COVID-19 Impacts

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Understanding and mitigating COVID-19 impacts on health and nutrition

The COVID-19 pandemic has had serious impacts on human health and nutrition. The disease has caused sickness and death in millions of Americans. Food insecurity has risen in many communities as a result of loss of income, school closures and supply chain issues, and many Americans have struggled with mental health issues. Land-grant universities responded quickly to the pandemic, providing communities with science-based information on safe, easy-to-access virtual platforms. Information about health and nutrition and practical tools and strategies to protect against COVID-19 are ensuring the health and vitality of communities nationwide.

Here are a few examples of that work:

- **Iowa** researchers tested a portable platform to detect COVID-19 without the need to send samples to a medical laboratory, which would improve convenience and reduce costs to individuals and the healthcare system. The test can identify viral particles in saliva or blood samples and has potential to detect the virus in the air or on surfaces, facilitating quick action to protect public safety.
- **Pennsylvania** researchers helped quantify the prevalence of loss of taste and smell due to COVID-19 and determine that these symptoms can serve as an early indicator of infection.
- Scientists in **Ohio** are developing a new antibody test that would determine whether someone has previously had COVID-19 even if they were asymptomatic. This information could be important in identifying workers who might safely return to work and could also be useful in creating a blood plasma treatment option.
- Scientists in **Connecticut** in collaboration with Yale University developed protocols for monitoring sewage sludge for COVID-19 and for extraction-free mass testing of saliva samples for COVID-19.
- **Pennsylvania** researchers quantified the level of COVID-19 in wastewater from the Penn State University campus and the surrounding community. Wastewater sampling could alert decision makers

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Prepared by the National Impacts Database Communications Subcommittee, supported by ESCOP, ECOP and USDA/NIFA.

02/2021

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to a potential outbreak by as much as a week to 10 days before individual test results show an increase in COVID-19 in the community. The team is also examining wastewater concentrations of pharmaceuticals used to treat COVID-19, such as pain medications, fever reducers and antidiarrheals, which could potentially pose a threat to ecosystems.

- **Ohio** researchers are testing nanoparticle vaccines for their ability to elicit protective immune responses. This work could lead to the development of a new, safe vaccine for COVID-19.
- Hand-washing is critical during the COVID-19 pandemic but finding suitable hand-washing facilities is not always easy on farms, at farmers markets and at other outdoor venues. University of **Vermont** Extension created portable, hands-free hand-washing stations, including an ADA-compliant version
- A team of scientists, designers and engineers from **Minnesota** produced more than 50,000 face masks during the summer of 2020, helping protect frontline healthcare workers when N95 respirators were not available.
- **Ohio** researchers are developing a new polymer face mask, which may be a more effective and more comfortable option to protect against COVID-19.
- **Oregon** Extension educators collaborated with community partners to create radio and video programs in Spanish and an Indigenous language, Mam, to reach these communities with COVID-19 information.
- In **Arkansas**, Extension produced videos in English and Spanish to explain practical, common-sense safety precautions for agricultural workers, helping farmers protect themselves and co-workers from COVID-19 and prevent the spread of the virus.
- Farmers are facing a lot of stress due to COVID-19. **Colorado** Extension partnered with the Colorado Fruit and Vegetable Growers Association to develop simple self-help tools like simple meditations, breathing exercises and muscle stress release exercises to help farmers, who are often resistant programs related to mental health.
- **California** researchers worked with Kaiser Permanente to better understand the challenges facing schools during the COVID-19 pandemic, such as access to technology and concerns about student food and housing when schools are closed. Surveys suggested that schools need to focus on ensuring student and teacher physical and mental well-being upon reopening. Researchers developed a playbook that provided schools and districts practical strategies and actionable guidance for schools that are virtual, in-person or following a hybrid model.
- During the 2020 farmers market season, **Georgia** Extension educators provided fresh produce to over 4,000 residents experiencing food insecurity, saving them an estimated total of about \$50,000 on grocery bills.
- Extension educators in **Tennessee** are using apps such as Snapchat and Remind to provide virtual health and fitness programming that's increasing the physical activity, improving eating habits, reducing stress levels and improving sleep of participants. Other programs taught people about canning, drying, freezing and preserving food as a way to deal with food insecurity. A video series helped over 9,400 adults learn about mindfulness, stress management and relaxation strategies.

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- Nutritional advice via Spanish-language radio programs led by **Connecticut** Extension educators is helping the community improve their health and well-being by learning about healthy eating, shopping on a budget, cooking and physical activity.
- Through virtual platforms, **Missouri** Extension specialists helped older adults make safety modifications in their home to reduce the risk of falling and talk to family members, health providers and friends about how to reduce their risk of falling.
- In **North Carolina**, Extension distributed nutritional information and healthy recipe ideas to people who picked up food from food banks, food pantries and other emergency sources.