



“It is increasingly important that we have a high-quality swine research capability in Ohio. We, as swine producers, need this information as soon as possible to help us manage diseases such as PEDv the best we can to limit severe economic losses.” — Pat Hord, owner, Hord Livestock Company, Bucyrus, Ohio

“PEDv is not likely to just go away. We need to develop vaccines that can protect pigs that have never been exposed to the disease before.”

— Qihong Wang, virologist, OARDC

Young pigs are the most vulnerable to PEDv. Because new virus strains continue to appear, research to develop effective vaccines is crucial to fight the disease.

ESSENTIALS

- PEDv has killed more than 7 million piglets in the U.S., reducing pork production and threatening to impact the availability of pork products as well as prices.
- OARDC is one of the few facilities nationwide that has been able to grow PEDv in the lab, allowing researchers to have enough virus material to develop diagnostic tests and vaccine candidates.
- Ohio State University researchers are collaborating with a large animal health company to develop PEDv vaccines.
- OARDC animal disease research is supported by its unique germ-free animal labs, where new diseases and treatments can be tested in isolation; and by its Plant and Animal Agrosecurity Research facility, the only lab in Ohio and one of only two nationally with capacity for plant and animal disease research at the BSL-3 biosafety level.

Tackling a new swine disease and its economic impact

In 2013, a new swine disease showed up in the U.S. Very quickly, porcine epidemic diarrhea virus (PEDv) spread across the country, killing 50–100 percent of piglets at hundreds of farms in at least 30 states, including Ohio. With funding from the National Pork Board, Ohio Agricultural Research and Development Center scientists are conducting research to answer crucial questions about and develop effective tests and vaccines against PEDv.

“Our studies show that the PEDv strains circulating in the U.S. are more aggressive than the strains from Europe,” OARDC virologist Qihong Wang said. “In the U.S., it doesn’t look likely that PEDv will stop mutating and that herds will become endemic and experience little mortality.”

Scientists in Wang’s and Linda Saif’s labs grew the virus in cell culture and are using this material to develop a “booster” vaccine that can protect pigs previously exposed to PEDv. The end goal is to develop a stronger vaccine that can also protect swine with zero immunity to the virus.

More: go.osu.edu/nkx



Qihong Wang

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OARDC: A Leader in Agbioscience

ag·bi·o·sci·ence (ăg'bt'ō-sī'ens) *n.* the integration of scientific disciplines to address critical needs of food security, safety and health; environmental sustainability; and biobased energy, fuel and products



**Food Security, Production,
and Human Health**



**Environmental Quality
and Sustainability**



**Advanced Bioenergy
and Biobased Products**

Ohio Agricultural Research and Development Center

As the research arm of The Ohio State University's College of Food, Agricultural, and Environmental Sciences (CFAES), the Ohio Agricultural Research and Development Center (OARDC) employs nearly 650 scientists and staff members throughout the state.

Ohio State's Wooster campus is the largest agbioscience research facility in the U.S. OARDC scientists work closely with researchers in Ohio State's Colleges of Education and Human Ecology, Medicine, Public Health, Veterinary Medicine, Biological Sciences and Engineering.

At any given time, OARDC researchers are engaged in nearly 400 research projects. Primary focus is in three signature areas:

- Advanced Bioenergy and Biobased Products
- Environmental Quality and Sustainability
- Food Security, Production, and Human Health

The Ohio General Assembly established OARDC as the Ohio Agricultural Experiment Station in 1882. It is supported by a line-item appropriation from the Ohio General Assembly, competitive grants, gifts, contracts, federal grants and other sources. OARDC uses these funds to provide direct research support and economic development for Ohio's annual \$100+ billion agbioscience industry. OARDC is not funded by student tuition or any other general funds of The Ohio State University.

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