



Center for Poultry & Livestock Excellence

~ **Annual Report 2025/2026** ~



CENTER FOR
**POULTRY
LIVESTOCK
EXCELLENCE**
PENNSYLVANIA



Building a Stronger Future for Pennsylvania Animal Agriculture

Pennsylvania's livestock and poultry industries play a vital role in the Commonwealth's economy, rural communities, and food supply. The state's poultry, swine, sheep, lamb, and goat sectors contribute to a thriving animal agriculture industry valued at more than \$12 billion and growing.

At the center of this momentum is Pennsylvania's Center for Poultry & Livestock Excellence (CPLE).

Livestock producers face a rapidly changing landscape. Labor shortages, animal health threats and rising production costs require practical solutions and forward-thinking leadership. The Center responds by investing in initiatives that address real-world challenges and create opportunities for long-term growth.

To help these industries remain competitive and resilient, the Center for Poultry & Livestock Excellence was established

through the 2019 Pennsylvania Farm Bill. With guidance from the Pennsylvania Department of Agriculture and financial support through state funding, the Center serves as a catalyst for innovation and growth in the state's poultry, swine and small ruminant industries.

The Center supports projects that deliver measurable value to farms across the Commonwealth. From innovative research and workforce development programs to disease response planning, mental well-being initiatives, producer education and industry outreach, every investment is designed with one purpose: helping Pennsylvania agriculture succeed.

This report highlights the Center's work. Each initiative is focused on delivering practical solutions to the challenges producers face every day.

Your investment in the Center for Poultry & Livestock Excellence helps ensure that Pennsylvania remains a national leader in animal agriculture. As Pennsylvania's animal agriculture industries continue to grow, continued investment in the Center will help ensure that farmers have the resources and support they need to meet tomorrow's challenges and opportunities.

**Pennsylvania's
livestock and poultry
industries generate
over \$12 billion in
economic impact
every year.**



Guided by Industry Experts

The Center is led by a Board of Directors representing livestock and poultry producers, along with experts from animal health, universities and allied industries. Their combined expertise helps ensure the Center fulfills its mission as established by the Pennsylvania Department of Agriculture while addressing the evolving needs of Pennsylvania's animal agriculture industry.

The Center's work focuses on four key areas:

Biosecurity Planning

Helping producers prepare for and respond to animal health threats.

Animal Agriculture Infrastructure

Supporting projects that strengthen the physical, structural and systemic framework for the livestock and poultry industry.

Research

Funding practical, producer-driven research on new and emerging issues facing livestock producers.

Food Safety & Quality Assurance

Promoting best practices that protect animal health, food safety and consumer confidence.

CPLE Board of Directors

Name	Company/Business	Area of Knowledge
Jim Shirk <i>President/Chair</i>	Ceva U.S.	Poultry
Tom Pastor <i>Vice Chair</i>	Central Life Sciences	Swine, Small Ruminants*
Chris Pierce <i>Treasurer</i>	Heritage Poultry Management Services	Poultry
Dr. Alex Hamberg	PA Dept of Agriculture – State Vet	SME**
Dr. Gary Althouse	University of Penn Veterinary Medicine	SME**
Dr. Cori Robinson	Best Veterinary Solutions	SME**
Dr. Rebecca Krisher	Penn State University Department of Animal Sciences	SME**
Greg Hostetter	PA Dept. of Agriculture - Executive Deputy Secretary	
Mark Martin	Longenecker's Hatchery	Poultry
Ben Junkin	PA Farm Bureau Designee	Swine, Turkey, Small Ruminants*
J. Mac Magee	Commercial Concepts AI	Swine, Small Ruminants*
Phil Wise	Murray's Chicken	Poultry, Small Ruminants*

*Small ruminants include sheep, lambs, goats. **SME = Subject Matter Expert

CPLE 2025-2026 At a Glance

2025-2026 Allocation		\$1,000,000
Line Item	Expenditure	
Applied Research	\$844,900	
Sponsorships	\$55,100	
Administration	\$100,000	
Total	\$1,000,000	

Center for Poultry & Livestock Excellence

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Center for Poultry & Livestock Excellence

Research That Delivers Results

Investing in solutions for today's challenges and tomorrow's opportunities.



PA PRRS Surveillance for Guiding Improved Biosecurity Infrastructure Investments

Meghann Pierdon, VMD, DACAW (U Penn/NBC)
\$101,153

Dr. Meghann Pierdon, a veterinarian and researcher at the University of Pennsylvania's School of Veterinary Medicine, leads a statewide disease monitoring effort called the Pennsylvania Regional Control Program (PRCP), which has been especially valuable in tracking PRRS, a costly and common viral disease of pigs that affects reproduction and respiratory health.

Instead of waiting for disease to spread silently from farm to farm, Dr. Pierdon's team collects and uses real-time reports from participating pig farms to map where PRRS is present or emerging. They use geospatial information systems (GIS) -- like digital mapping tools -- to show where infected animals are located and where disease risk is higher.

By spotting incidents of PRRS early and telling farmers where they are, Dr. Pierdon's research helps farmers strengthen their defenses exactly when and where they need to, protecting animals, saving money, and keeping farms running more smoothly.

Pennsylvania's livestock and poultry producers face constant challenges, from emerging animal diseases and biosecurity threats to changing markets and rising production costs. Through targeted investments in research, the Center for Poultry & Livestock Excellence is helping producers stay ahead of those challenges with practical, science-based solutions.

By investing in innovation and collaboration, the Center is helping Pennsylvania producers improve productivity, protect herd and flock health and reduce risk. The result is research that not only advances scientific knowledge but also strengthens the profitability and long-term viability of livestock and poultry farms across Pennsylvania.

Inactivation of the ILT Virus Using Dry Heat

Gino Lorenzoni, DVM, MS, PhD (Penn State)
\$38,527

Infectious Laryngotracheitis (ILT) is a contagious respiratory virus that can cause coughing, sneezing and significant losses in chicken health and production.

ILT virus is hardy in the environment and can spread easily within and between flocks. Because it can linger on surfaces and in barn materials, understanding how to kill or inactivate the virus safely and effectively is critical for controlling outbreaks. Research in this area explores how dry heat (increasing the temperature of poultry house materials and equipment) can destroy the virus so it no longer causes infection.



Building Capacity for Emerging Virus Identification Using Long-Read Sequencing

Mathias Martins, DMV, MS, PhD (Penn State)
\$39,848

Penn State researcher Mathias Martins is building laboratory capacity to quickly identify new and emerging animal viruses using advanced long-read sequencing technology. This approach allows scientists to read large sections of a virus's genetic material at once, making it easier to accurately identify known viruses and detect new or changing strains.

For farmers, this means faster and more reliable disease detection. Early identification helps veterinarians and producers respond sooner, strengthen biosecurity and limit the spread of disease, protecting animal health, and reducing losses.



Establishing Direct Whole-Genome Sequencing and Molecular Characterization of Avian Metapneumovirus from Clinical Samples in PA

Eman A. Anis, PhD, DACVM (U Penn/NBC)
\$35,955

University of Pennsylvania researcher Eman Anis is improving how avian metapneumovirus (aMPV), a respiratory disease affecting poultry, is identified in Pennsylvania. By using advanced whole-genome sequencing, her work allows scientists to read the virus's complete genetic "blueprint" directly from samples taken from sick birds.

This means faster and more accurate answers when birds get sick. Better identification helps veterinarians choose the right response, strengthens disease control and biosecurity efforts, and reduces the risk of ongoing outbreaks.

Evaluation of a Next-generation Sequencing Assay and Cell-free DNA Quantifications for Diagnosis of Neurologic Disease in Small Ruminants

Daniela Luethy, DVM, DACVIM (U Penn/NBC)
\$23,465

Researchers in veterinary medicine are increasingly using next-generation sequencing (NGS) and cell-free DNA (cfDNA) tools to help diagnose diseases that are otherwise hard to identify quickly, including neurologic (brain/spinal) diseases.

When a goat or sheep has neurologic symptoms, time is critical. A fast cfDNA + NGS test could detect disease earlier, allow targeted treatment sooner and reduce guesswork. This is especially useful for conditions where the animal's recovery depends on quick action.



Understanding Determinants of Optimal Ewe Fertility on PA Farms

Camilla H.K. Hughes, PhD, Assistant Professor of Reproductive Biology (Penn State)
\$50,374

Nutrition, ewe health, body condition, breeding management and genetics influence fertility on sheep farms. Understanding the impact of these key factors on fertility will give farmers practical information to increase lamb production and reduce reproductive losses.

Investigating Orthorocovirus as the Cause of Viral Encephalitis in Poultry

Mathias Martins, DMV, MS, PhD (Penn State)
\$49,217

Dr. Martins' research is investigating whether Orthorocovirus may be responsible for cases of viral encephalitis (brain inflammation) in poultry. Understanding the virus and how it causes disease could help farmers and veterinarians identify affected birds sooner, improve prevention and biosecurity practices and reduce illness, mortality and economic losses in poultry flocks.

Systemic Control in Complex Systems: Understanding Exzolt Efficacy, Environmental Fate, and Host-Parasite Interactions in Poultry Facilities

Erika Machintinger, PhD (Penn State)
\$111,450

This project looks at a smarter way to control parasites in poultry houses, especially mites, using a systemic treatment called Exzolt.

Instead of spraying chemicals around the barn, Exzolt is given through the birds' drinking water. The medicine moves through the bird's body, so when mites bite, they're exposed to the treatment and die.

Research Powering PA's Poultry and Livestock Sectors



Do Parity-Microbiome Dynamics Influence Pregnancy Outcomes and Pre-Weaning Growth?

Claire Stenhouse, PhD, Assistant Professor of Reproductive Biology (Penn State)
\$53,852

This research looks at how an animal's reproductive history (parity) can affect the gut microbiome, and how those microbiome differences might play a role in pregnancy outcomes (how well the pregnancy goes, fetal development, birth size), growth before weaning, and how microbes are passed from mother to offspring.

Understanding these microbiome dynamics could help farmers raise healthier animals and make smarter breeding and nutrition decisions.

Making Pennsylvania a Center for Data, Analytics and Technology for Artificial Intelligence in Livestock Animal Behavior (DAT-AI-LAB)

Daniel Foy, Co-Founder & CEO (AgriGates, Inc.)
\$90,500

Daniel Foy is a tech entrepreneur and co-founder/CEO of AgriGates, a company focused on using data, analytics, and artificial intelligence (AI) to better understand livestock behavior and welfare. He's working with researchers at universities and animal science centers to collect and analyze data from animals using sensors and smart tech that can track what animals are doing in real time.

This helps farmers understand their herds better, make faster management decisions, and ultimately run healthier, more productive farms.



Exploring Mental Health Challenges Facing Pennsylvania Farmers

Linda Rose Frank, PhD, MSN, CNS, FAAN (University of Pittsburgh)
\$65,128

Pennsylvania poultry and swine farmers face increasing pressure from volatile markets, tight margins and more frequent infectious disease outbreaks such as highly pathogenic avian influenza (HPAI). When barns are locked down and flocks or herds are depopulated, families can lose months of income and experience grief, anxiety and sometimes suicidal thoughts.

This project partnered with producer groups and statewide stakeholders to hear directly from poultry and swine farmers about the stressors they face before, during, and after disease events; how these affect mental health and farm decisions; barriers to seeking help; and what types of support they view as useful.

Virulence & Antimicrobial Resistance Enterococcus Cecorum Poultry Isolate

Philma Glora Muthuraj, BVSc, MVSc, PhD,
DACVM (Penn State)
\$49,999

This research explores why some strains of Enterococcus cecorum (a bacterium commonly found in poultry) can cause serious diseases, while others do not, and which strains are resistant to commonly used antibiotics. This can help identify disease-causing strains earlier, improve treatment decisions, reduce flock losses, and lead to better strategies for preventing infections.

Multi-parity Impact of Pen Gestation on Sow Productivity and Welfare

Tom Parsons, VMD, PhD (U Penn)
\$99,796

Dr. Parson's research examines how pen gestation systems affect sow productivity and welfare over multiple pregnancies. This information aims to help farmers make better decisions about housing systems that support healthier, more productive sows, improve animal welfare, and increase the efficiency and profitability of swine operations.

Case Control Study of Microbial Population and Foot Pad Dermatitis in Broilers

Meghann Pierdon, VMD, DACAW (U Penn)
\$35,726

Dr. Pierdon's research explores the relationship between the microbes living on and in broiler chickens' feet and footpad dermatitis, a painful condition caused by irritation and damage to the footpads. Understanding which microbes are associated with the condition could help identify ways to prevent or reduce footpad problems and improve bird welfare, as well as reduce production losses and treatment costs.

DAT-AI-LAB: Using Artificial Intelligence to Unlock New Insights for Livestock Care

What if animals could tell a farmer when something was wrong before it became a serious health problem?

That's the goal behind DAT-AI-LAB, a new collaboration between University of Pennsylvania School of Veterinary Medicine (Penn Vet) and AgriGates that is using artificial intelligence to better understand livestock behavior and improve animal care

The Center for Poultry & Livestock Excellence (CPLE) has been a key supporter of this work, investing more than \$200,000 over the past three years to help develop the technology and launch the laboratory.

For farmers, the potential benefits are significant.

Every day, livestock producers rely on careful observation to monitor their animals. But as farms grow larger and labor becomes harder to find, it can be challenging to catch subtle changes that may signal illness or stress. AI technology can help fill that gap by continuously monitoring animals and identifying patterns that humans might miss.

Researchers are currently collecting data from swine and dairy cattle, building a knowledge base of animal behaviors that could eventually help farmers detect problems earlier and make more informed management decisions to improve animal well-being.

The long-term vision is simple: give farmers better information, sooner. By turning animal behavior into actionable insights, DAT-AI-LAB could provide producers with powerful new tools to support healthier animals and more efficient operations.



Moving Beyond Research

Research starts the work. Education multiplies the impact.

The Center's work extends beyond research. Thousands of farmers, veterinarians, educators, students, and industry professionals participated in Center-supported educational events and outreach efforts during the past year.

Keystone International Livestock Exposition

KILE | \$5,000

The Keystone International Livestock Exposition is the East Coast's largest livestock show, featuring competitions, educational events and agricultural career development.



Centers of Excellence Outreach

PennAg Industries | \$3,475

These events, held in rural communities throughout Pennsylvania, bring farmers, lawmakers, and community leaders together over breakfast to discuss local agricultural policy and build direct relationships.

On-Farm Animal Science Internships

Penn State | \$16,011

College students receive valuable experience through on-farm food animal internships with large-scale producers, feed manufacturers and farm operations.

PA Marketing Report | Beef Council | \$13,614

The Marketing Report provides unbiased price and sales data to support the marketing and distribution of farm commodities. These reports help farmers, producers, and agricultural businesses evaluate market conditions, identify trends, make informed purchasing decisions, and monitor pricing and product movement.

PASA Conference | PASA | \$5,000

The PASA Conference (officially the PASA Sustainable Agriculture Conference) is an annual conference focused on sustainable farming and food systems. Farmers get hands-on knowledge and real-world information that they can put to work on their farms, whether it's improving soil health, managing livestock better, or selling products more effectively.

EXPO: Poultry, Swine, Manure | PennAg Industries | \$5,000

The PennAg Poultry, Swine, Manure Expo is a one-day, hands-on agriculture event where livestock farmers learn, network, and discover practical tools and ideas to help them run healthier, more efficient operations.

PA FFA Foundation Poultry Education | PA FFA Foundation | \$7,000

The PA FFA Foundation offers hands-on poultry education through the Poultry Evaluation Career Development Event (CDE). This program teaches high school students to evaluate live poultry, grade carcasses and eggs and identify parts, preparing them for careers in poultry management, genetics, food science and avian veterinary care.



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