

# WOAH Collaborative Centre Reports Activities 2025

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## CENTRE INFORMATION

<b>*Title of WOA Collaborating Centre</b>	Collaborating Centre of the Economics of Animal Health - Americas Region
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<b>*Name Director of Institute (Responsible Official):</b>	Allen Featherstone
<b>*Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):</b>	Dustin Pendell, Professor
<b>*Name of the writer:</b>	Dustin Pendell

## TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOA

Category	Title of activity	Scope
Economics (true)	CCEAH-Americas Outcomes	The CCEAH-Americas has continued to promote the use of economics in animal health decision making. It has done this by developing and using innovative methods and tools to estimate animal disease burden. Associated work with other Collaborating Centres have included efforts to improve economic data literacy, standardization of data collection, and consultation with users of the information provided to assess its value.
Economics (true)		Kansas State University, Washington State University, and the University of Arkansas worked with USDA-APHIS's CEAH to evaluate alternate prevention and control strategies as the current HPAI H5N1 outbreak has lasted almost four years since the first confirmed detection in the United States. This project is to help inform emergency preparedness and response activities by generating economic analyses measuring the impact of alternative poultry management practices and vaccination strategies on

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	HPAI Vaccine Project	<p>outbreak severity, duration, and cost during simulations modeling the introduction and spread of HPAI. To quantify the economic impacts to the U.S. broiler, egg layer, and turkey industries, an epidemiological disease spread model – partial equilibrium economic model framework was developed. In addition, a Response Cost model was developed to calculate surveillance, vaccination, virus elimination, indemnity payments, and depopulation and disposal costs.</p>
Economics (true)	African Swine Fever	<p>Kansas State University worked with Colorado State University and Texas A&amp;M University to develop economic models to evaluate the economic impact of African swine fever on the U.S. swine supply chains. These impacts could be devastating for the United States' agricultural economy, where swine production and international trade are key components. In recent years, the United States has consistently ranked among the top two global exporters of pork and pork products, with a global export share averaging over 30%. To quantify the welfare implications of ASF on each of the agents in the swine supply chain, we developed a partial equilibrium model, which is based on the underlying supply and demand relationships of the United States swine industry. Additionally, impacts to the U.S. swine industry, allied industries, and non-agricultural industries were evaluated utilizing a general equilibrium model and database describing the whole economy and interactions among economic agents.</p>

## TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable Area

3. In exercising your activities, have you identified any regulatory research needs\* relevant for WOA?H?

No

4. Did your Collaborating Centre maintain a network with other WOA?H Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOA?H CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
CCEAH Europe	UK	Europa	CCEAH Americas has worked with the Director of CCEAH

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			Europe on the GBADs program. Additionally,
CCEAH Asia Pacific	Australia	Asia y el Pacífico	CCEAH-Americas has supported the scoping of a new CCEAH in the Asia Pacific region.
CABI	UK	Europa	Washington State University collaborated with UoL/CCEAH-Europe and CABI on the One Food project (i.e., align animal and crop health economic methodologies to evaluate the burden of diseases on food systems).

## TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAHA Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAHA CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
CEAH	Fort Collins, Colorado, USA	Americas	CCEAH-Americas collaborated with the Center for Epidemiology and Animal Health (CEAH) at the USDA in the United States, evaluating the economic impacts of alternate vaccine scenarios in HPAI outbreaks in the U.S.
IIAD	College Station, Texas, USA	Americas	CCEAH-Americas collaborated with The Institute for Infectious Animal Diseases (IIAD) at Texas A&M University in the United States, to evaluate the U.S. supply chain impacts of African Swine Fever in the U.S.

## TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAHA?

Yes

Name of expert	Kind of consultancy	Subject
Dustin Pendell	National - USA	Support to IIAD's work on the economic impact of a potential ASF outbreak in the USA

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Dustin Pendell Tom Marsh	National - USA	Support to CEAH on the economic impact of HPAI control strategies
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## TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

*The USDA and DHS has benefitted from advice provided by members of the consortium, broadly on the use of economics in animal health to support domestic response to increasing cases of Highly Pathogenic Avian Influenza and a possible African Swine Fever incursion.*

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOA, to personnel from WOA Members?

Yes

a) Technical visit : 0

b) Seminars : 4

c) Hands-on training courses: 0

d) Internships (>1 month) : 2

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
B	Scenario Analysis and Economic Impact of Highly Pathogenic Avian Influenza Control Strategies.	USA	2
B	The Role of Vaccination in Managing HPAI in the U.S. Egg Industry	Taiwan	25
B	Evaluating The Economic Impacts of African Swine Fever on the U.S. Pork Supply Chain	Taiwan	25
D	Fellowship - building various models in regard to HPAI in the poultry industry	Taiwan	1
D	Fellowship - building a partial equilibrium model for FMD modeling	Bangladesh	1
B	HPAI issues in the USA	United Arab Emirates	20

## TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOA?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants

Internationally	ISESSAH (International Society for Economics and Social Sciences of Animal Health) annual conference	ISESSAH	2025-10-14	Utrecht, Netherlands	90
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## TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAHP that may be useful to Members of WOAHP

a) Articles published in peer-reviewed journals:

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Shakil, G., D.L. Pendell, J. Rushton, T.L. Marsh. 2025. "Economic Burden of Livestock Diseases: A Vertically Integrated Partial Equilibrium Livestock Model." *Agricultural Economics*. 2025;00:1–14.

Clough, H.E., G.L. Chaters, A. H. Havelaar, K.M. McIntyre, T.L. Marsh, E.C. Hughes, W.T. Jemberu, D. Stacey, J.S. Afonso, W. Gilbert, K. Raymond, and J. Rushton. 2025. "A framework for handling uncertainty in a large-scale programme estimating the Global Burden of Animal Diseases (GBADs)." *Frontier Veterinary Science, Section Veterinary Epidemiology and Economics Volume 12* – 2025.

de Mendez, T.C., A.M. Countryman, and D.L. Pendell. 2025. "Livestock Tango: U.S. and Latin America dance together, but who will lead?" *Applied Economic Perspectives and Policy*.

Chen, N., D.L. Pendell, and C. Chang. 2025. "Price Transmission and Long-Term Effects of Avian Influenza on Taiwan's Egg Market." *Preventative Veterinary Medicine*.

Michel, K., N.M. Ioege, A.M. Ake, S.M. Hettenbach, C. Olds, D.L. Pendell, J. Stack, S. Higgs, and D.L. Vanlandingham. 2025. "Understanding the Burden of Agriculturally Significant Vector-Borne and Parasitic Diseases in Kansas." *Vector-Borne and Zoonotic Diseases* 25(7), 429-443.

Heinen, L., R. Larson, D.L. Pendell, D. Kopp, B.J. White. 2025. "Predictive Models to Determine Best Strategy for *Metaphylaxis* Application in Cattle at Arrival to a Feedyard." *Preventive Veterinary Medicine* 242.

Day, M.E., D.L. Pendell, B.J. White, P.A. Lancaster, and R. Larson. 2025. "Economic outcomes associated with acute interstitial pneumonia in Central U.S. High Plains feedyards." *Translational Animal Science* 9.

Xirui Zhang, Danqin Li, Michael D. Apley, Locke Karriker, Joseph F. Connor, Corinne Bromfield, Jordan T Gebhardt, Brian Lubbers, Hatem Kittana, Dustin Pendell, Rachel Madera, Nina Muro, Aidan Craig, Brooke Shenkenberg, Yuzhen Li, Lihua Wang, Jishu Shi. "Challenges and Opportunities of Bacterial Vaccines as Alternatives to Antimicrobials in Swine Health Management: Insights from U.S. Veterinarians." *Pathogens* 14(2025).

Danqin Li, Xirui Zhang, Michael D. Apley, Jordan T Gebhardt, Locke Karriker, Joseph F. Connor, Corinne Bromfield, Brian Lubbers, Hatem Kittana, Dustin Pendell, Rachel Madera, Nina Muro, Aidan Craig, Brooke Shenkenberg, Yuzhen Li, Lihua Wang, Jishu Shi. "Viral vaccines as an alternative to antimicrobials: A perspective from swine veterinarians on challenges, opportunities, and future directions." *Pathogens* 14(2025).

b) International conferences:

2

Ning Chen - *Understanding Consumer Preferences for Layer Hen Welfare: A Cluster-Based Analysis of Egg Purchasing Behavior*

Ning Chen - *Mapping the Risk: Spatial Links Between Poultry Farming, Wild Birds, and Avian Influenza Outbreaks in Taiwan*

c) National conferences:

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Golam Shakil - *Estimating the Global Burden of Livestock Diseases: A Time Series Approach*

Merri Beth Day - *Predictors of First Treatment Failure and Failure to Finish for Feedyard Cattle Treated for Acute Interstitial Pneumonia*

Tais de Menezes - *Economic Consequences of African Swine Fever: Strengthening U.S. Preparedness and Resilience*

d) Other (Provide website address or link to appropriate information):

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

The CCEAH-Americas has built a vibrant and expanding network that has supported new research funding and facilitated the training of graduate students (MS and PhD)

*as well as a post-doctoral fellow in animal health economics.*

12. Additional comments regarding your report: