The CORE News
Center for Outcomes Research & Epidemiology
WINTER 2026

Messages from the Previous and New Director

Greetings from CORE. I know many of you have heard the news that I have recently accepted the position of Associate Dean of Research and Graduate Programs. I am looking forward to the challenges and opportunities that come with this new role. It has been a tremendous pleasure to work with each of you, and all the great people and programs that we have built at CORE! I am very pleased that Dr. Natalia Cernicchiaro has accepted the CORE Director position. Natalia possesses the leadership ability to guide the CORE team to new levels of success, and achieve great things with CORE in the future. In my new leadership role within the College, and continued involvement in CORE research, I look forward to working with you in the new year and beyond.

Dave Renter

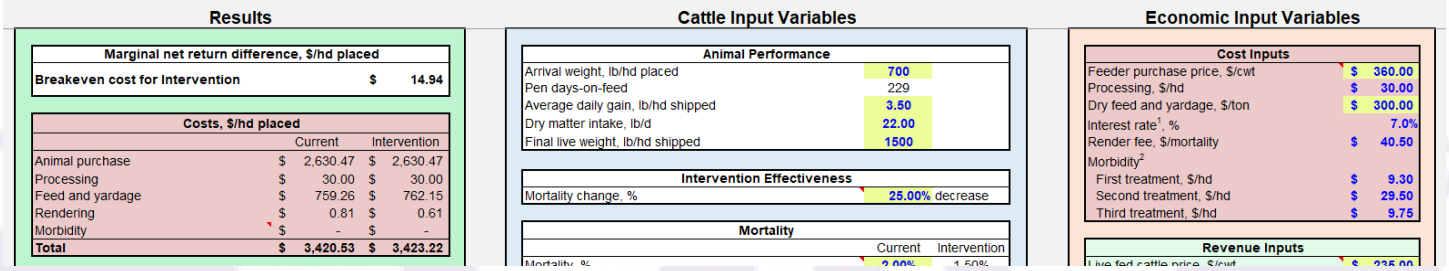
I am honored to step into the role of Director of CORE. I am deeply grateful for the leadership and vision that have shaped CORE to date, and I am committed to building on this strong foundation. In the coming months, my priorities will focus on supporting our talented team, strengthening collaborative research across disciplines, and expanding our impact through rigorous, data-driven outcomes research. I look forward to working closely with our advisory council, collaborators, faculty, students, staff, and sponsors, to advance CORE's mission and to continue delivering science that improves animal and public health.

Natalia Cernicchiaro

Tools of the Trade

Economic Tools for Feedlot Mortality Management – Making Complex Economics Accessible

CORE is developing practical economic decision-support tools to help feedlot producers evaluate the cost-effectiveness of mortality reduction strategies. In collaboration with K-State Agricultural Economists, Dr. Lucas Horton is leading development of the Mortality Breakeven Calculator, which helps producers estimate what they can afford to invest in interventions based on their specific operation and market conditions. This work helps translate complex economic modeling into actionable, real-world management decisions. Below is a screenshot of the calculator.



Results

Marginal net return difference, $/hd placed	
Breakeven cost for Intervention	$ 14.94

Costs, $/hd placed	Current	Intervention
Animal purchase	$ 2,630.47	$ 2,630.47
Processing	$ 30.00	$ 30.00
Feed and yardage	$ 759.26	$ 762.15
Rendering	$ 0.81	$ 0.61
Morbidity	$ -	$ -
Total	$ 3,420.53	$ 3,423.22

Cattle Input Variables

Animal Performance	
Arrival weight, lb/hd placed	700
Pen days-on-feed	229
Average daily gain, lb/hd shipped	3.50
Dry matter intake, lb/d	22.00
Final live weight, lb/hd shipped	1500

Intervention Effectiveness	
Mortality change, %	25.00% decrease

Mortality	Current	Intervention
Mortality, %	2.00%	1.50%

Economic Input Variables

Cost Inputs	
Feeder purchase price, $/cwt	$ 360.00
Processing, $/hd	$ 30.00
Dry feed and yardage, $/ton	$ 300.00
Interest rate[1], %	7.0%
Render fee, $/mortality	$ 40.50
Morbidity[2]	
First treatment, $/hd	$ 9.30
Second treatment, $/hd	$ 29.50
Third treatment, $/hd	$ 9.75

Revenue Inputs	
Live fed cattle price, $/cwt	$ 235.00

Foot-and-Mouth Disease Cattle Movement Risk Models

Supported by Dr. Mike Sanderson's modeling efforts and implemented as a Shiny app by Dr. Andrea Dixon, the FMD Cattle Movement Risk Model is an interactive decision-support tool to estimate the risk of cattle movements between herds or through auction markets during an FMD outbreak. Users enter situation-specific parameters and receive risk estimates to support response decisions. This tool is designed for use by state animal health officials and consulting veterinarians.

Advancing Preparedness for Mosquito-Borne Threats

CORE has developed several publications around mosquito-borne diseases that provide valuable insights for agencies, policymakers, and disease modelers.

- First characterization of mosquito vector abundance and diversity on commercial swine farms in the United States
- Barrier or breach? Assessing swine housing features for mosquito threats
- Mosquito vector competence for Japanese encephalitis virus: A systematic review and meta-analysis update

To stay up-to-date on CORE news, events, and recent publications, please visit our CORE website or follow the Center for Outcomes Research and Epidemiology on LinkedIn.