NATIONAL PORK BOARD

INDUSTRY RESEARCH COMPENDIUM

Pork Checkoff-Funded Research in Swine Health and Sustainability, 2023–2025

WE CARE® ETHICAL PRINCIPLES

Animal Well-being | Environment | Our People | Food Safety | Community | Public Health

Reference	Research Category	Subcategory	Ethical Principle	Key Message	Link
Swine Health Information Center.	Swine Health			The Swine Health Information Center, launched in 2015 with Pork Checkoff funding, protects and enhances the health of the US swine herd by minimizing the impact of emerging disease threats through preparedness, coordinated communications, global disease monitoring, analysis of swine health data, and targeted research investments.	link
Bowman A. *Refinement of water-based foam procedures for the depopulation of swine.* 2022	Animal Well-Being	Depopulatoin		Water-based foam can effectively depopulate swine during disease outbreaks. Optimized fill rates and depths reduce stress and ensure rapid mortality, though results are specific to tested conditions.	
Ambagala A. *Evaluation of Processing Fluids and Other Novel Sample Types for the Detection and Surveillance of Less-Virulent ASFV Strains.* National Center for Foreign Animal Diseases (NCFAD). 2023	Swine Health	Foreign Animal Disease		Swine processing fluids and skin samples detect ASF early, enabling cost-effective, large-scale surveillance — even before clinical signs appear.	link
Viscardi A. *Evaluation of transmammary-delivered firocoxib and a vapocoolant spray to alleviate pain in piglets after surgical castration and tail docking.* Kansas State University. 2023	Animal Well-being	Pain Management		Sow-given pain relief reached piglets and eased stress behaviors, but not pain; hair and saliva cortisol show monitoring potential.	link
Garcia A. *Validation and Application of a Survey of On-Farm Hispanic Worker Attitudes Towards Pig Euthanasia.* Texas Tech University. 2023	Animal Well-being	Euthanasia		Improving caretakers' mental health and training can enhance both worker well-being and animal welfare on farms.	link

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Trevisan G. *Swine Disease Management Information Program.* Iowa State University. 2023	Swine Health	General/ Endemic Disease		This study created a platform to track PRRS outbreaks, revealing longer recovery times, increased piglet losses, and laying the foundation for the applied epidemiological usage of next-generation sequencing NGS to detect PRRSV genetic evolution, recombinations, novel strains, and multiple virus strains circulating in herds.	link
Gladue, D. *Evaluation of Lyophilization on Efficacy of African Swine Fever Vaccine Candidate ASFV-G-ΔI177L.* USDA, ARS - Plum Island Animal Disease Center. 2023	Swine Health	Foreign Animal Disease		A freeze-dried version of the vaccine remains stable for months without freezing, enabling vaccination in rural ASF outbreak areas.	link
Rock D. *Identification of Protective Antigens of African Swine Fever Virus.* Universtiy of Illinois. 2023	Swine Health	Foreign Animal Disease		Current ASF vaccines have safety concerns. Scientists found four key parts of the virus that help protect pigs, which could lead to safer, better vaccines in the future.	link
Knox R. *Development of an Integrated Computerized Sensing System for Reproductive Management of the Swine Breeding Herd.* University of Illinois. 2023	Animal Science	Technology		A hand-held intra-vaginal impedance spectroscope linked to a smartphone app has been developed as a tool to quickly predict estrus or farrowing occurring in the next days and early pregnancy.	link
Clavijo M. *Investigation into the Epidemiology of Disease-Associated S. Suis Strains.* Iowa State University. 2023	Swine Health	Endemic Disease		New PCR tests track harmful Streptococcus suis strains, improving detection, control, and vaccine development.	link
Niederwerder M. *Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments. Kansas State University.* 2023	Swine Health	Foreign Animal Disease		ASF virus remains infectious for a longer time in soybean meal compared to complete feed and corncobs; feed storage time to reduce risk depends on temperature and additive use.	link
Stewart K. *An Integrated Approach to Improve While Herd Pig Survivability.* Purdue University. 2023	Animal Science	Technology		Most piglet deaths happen early due to low weight and colostrum intake; farrowing induction and heat lamps help but don't improve survival.	link
Samuel R. *Improving feed efficiency of growing to finishing pigs fed high DDGS containing diet with different branched-chain amino acids to lysine ratio.* South Dakota State University. 2023	Animal Science	Swine Nutrition		Feeding pigs corn-DDGS with adjusted amino acid ratios improves growth and pork quality without extra cost compared to traditional corn-soy diets.	link
Jones C. *Risk Assessment for Importing Non-Animal-Origin Feed and Ingredients from ASFV-Endemic Regions.* Kansas State University. 2023	Swine Health	Foreign Animal Disease		Most imported feed ingredients pose low ASF risk; holding times, heat treatment, or regulations could further reduce disease entry.	link
Bowman A. *Validating Water-Based Foam for the Depopulation of Swine. Ohio State University.* 2023	Animal Well-being			Water-based foam quickly depopulates pigs in emergencies, offering a more effective and readily available option than current methods.	link

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Perez A. *Evaluation of the performance of ELISA for ASF-antibodies detection and its potential use in the US swine industry.* Universtiy of Minnesota. 2023	Swine Health	Foreign Animal Disease		PCR tests detect ASF early; ELISA works better later. Using both improves herd-level detection and supports disease-free status claims.	link
Vu H. *Assessing the feasibility of the mRNA vaccine technology for use against ASF.* University of Nebraska-Lincoln. 2023	Swine Health	Foreign Animal Disease		Researchers tested mRNA vaccines for African swine fever, but more work is needed to improve delivery and immune response in pigs.	link
Bown-Brandl T. *Assessing the effects of farrowing crate design and mothering phenotype on pre-weaning piglet survival and performance using imaging technologies.* University of Nebraska-Lincoln. 2023	Animal Science	Sow Lifetime Productivity, Technology		Different farrowing crates affect piglet survival and behavior; offset crates reduce crushing in high-risk sows and improve piglet activity. This research provides valuable insights to improve sow and piglet welfare and overall production efficiency.	link
Zimmerman J. *Classical Swine Fever PCR Negative Cohort Study. Iowa State University Veterinary Diagnostic Laboratory.* 2023	Swine Health	Foreign Animal Disease		Three CSF PCR tests showed 100% accuracy on swine oral and processing fluids, improving disease detection and lab testing efficiency nationwide.	link
Van Heugten E. *Evaluation of Late Finishing Space Allowance and Marketing Strategy and the Strategic use of Hyper-Doses of Phytase to Improve Production Performance and Profits.* North Carolina State University. 2023	Animal Science	Swine Nutrition		Reducing floor space decreases pig growth but allows more pigs per pen; high phytase doses do not improve growth or carcass quality.	link
Gebhardt J. *Swine Bioassay to Determine Sample Infectivity for Decontamination of Interior Surfaces (cabs) of Transportation Vehicles.* Kansas State University. 2023	Swine Health	Foreign Animal Disease		Different truck cab surfaces impact disinfectant success against pig viruses; bleach works best, and spinning samples helps detect viruses better.	link
Jones C. *Developing Best Practice Recommendations for Transporting Ingredients or Feed during a Foreign Animal Disease Outbreak.* Kansas State University. 2023	Swine Health	Foreign Animal Disease		Rendering and spray-drying reduce virus in porcine feed ingredients, but risks of post-processing contamination need further research and mitigation.	link
Corzo C. *An Exploratory Study to Characterize Current Oral Fluid Usage in Pig Production Systems in the United States.* University of Minnesota. 2023	Swine Health			Oral fluid sampling is widely used across U.S. swine production for routine disease surveillance and clinical diagnosis. However, sampling frequency, number of ropes and pigs per rope vary, highlighting a need for standardization to improve health monitoring.	link
Contreras A. *An Enzyme Linked Immunoassay (ELISA) to Detect Classical Swine Fever Antibodies and to Differentiate Infected from Vaccinated Animals (DIVA).* BioStone Animal Health LLC. 2023	Swine Health	Foreign Animal Disease		New tests help tell the difference between pigs infected with CSF and those vaccinated, making disease monitoring easier and more accurate.	link

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Schmidt T. *Utilization of an Advanced Computer Vision Platform to Identify Changes in the Physiological and Behavioral Changes Associated with Illness and Aggressive/Damaging Behavior During the Nursery and Finisher Phase.* University of Nebraska - Lincoln. 2023	Animal Science	Swine Nutrition		New technology using computer vision (NUtrack) can potentially detect early signs of sickness in pigs and, in the future, may serve as a tool to support caretakers in monitoring herd health	link
Calzada G. *Advancement in the development of ASFV vaccine technology for emergency vaccination.* Aptimmune Biologics. 2023	Swine Health	Foreign Animal Disease		Special pig cells (ZMAC-4) can be used to safely make millions of African swine fever vaccines if needed.	link
Gragg S. *Probiotics Pathogens Performance Market Pigs.* Kansas State University. 2023	Swine Health	Swine Nutrition		Feeding market pigs the probiotics BIOPLUS® 2B or Probicon L28 did not reduce Salmonella or STEC, nor improve growth or carcass traits.	link
Miller M., Stasiewicz M., *Harsh B. Foundation for Meat and Poultry Research and Education.* University of Illinois at Urbana Champaign. 2023	Swine Health	Pork Safety		Some antimicrobial compounds, like lactic acid, formic acid, and certain oils, can reduce Salmonella on pork, but combining them doesn't increase effectiveness.	link
Culhane M. *A Literature Review to Gather the Scientific Data Required for an African Swine Fever Virus (ASFv) Exposure Assessment of US Domestic Pigs Raised in Total Confinement and/or Without Door Access to ASFv-Infected Feral Swine.* University of Nebraska. 2024	Swine Health	Foreign Animal Disease		The purpose of this literature review was to identify how feral swine might transmit African swine fever (ASF) to U.S. domestic pigs and describe ways to decrease that potential ASF transmission.	link
Gladue D. *Systematic Discovery of ASFV Determinants of Virulence to Improve the Safety Profile of First Generation Live-Attenuated ASFV Vaccines.* USDA, ARS - Plum Island Animal Disease Center. 2024	Swine Health	Foreign Animal Disease		Researchers identified ASFV proteins that could lead to safer, more effective vaccines — helping protect U.S. pig herds and maintain trade if ASF appears.	link
Radcliffe J. *Increasing Feed Efficiency by Attenuating the Transportation Stress Response in Nursery Piglets through L-Tryptophan Supplementation.* Purdue University. 2024	Animal Science	Swine Nutrition		Supplementing pig diets with tryptophan before and after weaning can boost growth, reduce transport stress and improve market weight.	link
Bowman A. *Characterizing the Distribution of Water-Based Foam and High-Expansion Nitrogen Foam Within the Swine Respiratory Tract Using Computed Tomography.* Ohio State University. 2024	Animal Well-being	Depopulation		This study used CT scans and histopathology to show that water-based and nitrogen foams affect pigs' airways differently than water submersion.	link
Niederwerder M. *Investigating the Use of Novel Antemortem and Postmortem Sample Types for Detection of African Swine Fever Virus Infection after Natural Consumption.* Swine Health Information Center. 2024	Swine Health	Foreign Animal Disease		After infection through natural consumption, ASFV was detected first in oral swabs. On necropsy, ASFV was detected similarly in submandibular lymph nodes and spleen. However, some ocular, reproductive and rectal samples missed the detection.	link

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Gladue D. *Evaluation of Lyophilization on Efficacy of African Swine Fever Vaccine Candidate ASFV-G-DI177L.* USDA, ARS - Plum Island Animal Disease Center. 2024	Swine Health	Foreign Animal Disease		Researchers found a way to freeze-dry a promising ASF vaccine, making it stable for months without freezing, helping rural outbreak areas.	link
Flory G. *Mass Composting of Swine Slurry.* G.A. Flory Consulting, LLC. 2024	Environment, Mortality Managment	Foreign Animal Disease		In the event of an ASF outbreak, composting swine slurry with carbon material can help retain waste, prevent leakage, and support safe, large-scale disposal.	link
Schmidt A. *Evaluation of Swine Carcass Disposal Benefits and Challenges Using Composting and Shallow Burial with Carbon.* University of Nebraska-Lincoln. 2024	Environment, Mortality Managment	Foreign Animal Disease		Among different techniques tested, Shallow burial with carbon outperformed composting for swine carcass disposal, generating less leachate, higher temperatures, and better biosecurity protection.	link
Wiegert J. *Creating a sustainability index for the United States swine industry through stochastic modeling.* Texas A&M University. 2025	Animal Science	Technology		Computer simulation helps pig farmers test feeding and management strategies virtually, improving efficiency, reducing risk, and supporting better economic and environmental outcomes on their farms.	link
Zimmerman J. *Active environmental surveillance for swine pathogens using continous sampling.* Iowa State University. 2025	Swine Health	Endemic Disease		Environmental sampling is used to detect pathogens, but the detection of PRRSV RNA and PEDV RNA differed among nine sampling materials tested. Further research is required.	link
Bowman A. *Use of water-based foam to achieve rapid depopulation of swine: Assess physiological and behavioral effects in swine exposed to 5 different water-based foam products.* Ohio State University. 2025	Animal Well-being	Depopulation		Recently validated foam-based methods for swine depopulation were favored over carbon dioxide because they were perceived as more humane for both animals and people.	link
Neumann E. *Pathogen Management and Prevention: Porcine Epidemic Diarrhea Virus - Development of a PEDv focused literature review that focuses on transmission, biosecurity interventions and elimination techniques.* Epi-Insight USA, LLC. 2025	Swine Health	Endemic Disease		This PEDv literature review emphasizes the need for strong biosecurity, feed safety, vaccines and surveillance to reduce losses.	link
Leonard S. *Impact of Finishing Facility Environment on Feed Efficiency.* North Carolina State University. 2025	Animal Science	Swine Nutrition, Technology		Sensors in finishing barns revealed how barn conditions and management affect pig performance, highlighting key areas for improvement.	link
Zimmerman J. Trevisan G, Wang C, De-Sousa-E-Silva G, Main R. *Participatory regional surveillance to establish regional FAD status within the U.S. and improve swine movement decisions.* Iowa State University. 2025	Swine Health	Foreign Animal Disease		Active surveillance based on testing samples from a few poor-doing pigs on each of many farms is a highly sensitive and cost-effective method for regional disease detection.	link

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Pairis-Garcia M. *Refining sample size recommendations for PQA Plus and CSIA audit tool.* North Carolina State University. 2025	Animal Well-Being			Current sampling methods provide useful insights into pig welfare, but further refinement is needed to improve accuracy and better represent animal-based measures across entire farms.	link
Lessons from EU Farrowing Housing Policies for US Industry.	Animal Well-being			Expected completion: 2025	
Comparative Evaluation of an Alternative Farrowing Housing System: Welfare, Productivity, Labor, and Economic Outcomes in U.S. Swine Production.	Animal Well-being	Housing		This is a multi-year research project beginning in 2026.	
Rosero, D., et al., *An integrated approach to improve whole herd pigs survivability 2.0* Ongoing	Animal Science	Animal Science		This is an ongoing, multi-year project initiated in 2024. The consortium consists of SMEs in swine nutrition, genetics, management, health, modeling, and precision agriculture. Their goal is to conduct research, training and outreach that will reduce pig mortality in all phases of production.	link
Webb S. *Development and validation of a research protocol to assess the efficacy of interventions intended to mitigate pain associated with surgical castration in neonatal piglets.* AASV. Ongoing	Animal Well-Being	Pain Mitigation		Recommended pain indicators include behavior, activity, infrared thermography, and cortisol, but all measures require further validation for assessing castration pain in neonatal piglets.	link
Reducing lameness in commercial group-housed sows using rubber flooring. Expected 2026	Animal Well-Being	Sow Housing		Expected Completion January 2026.	
Culhane M. *Can carcasses of pigs euthanized with foam be rendered?* 2023	Animal | Well-Being	Depopulatoin		Rendering is a safe, effective option for foam-depopulated animals, allowing residue reduction, cost recovery, and negligible contamination after standard processing and rinsing.	link
Hutchinson M. *ASFv inactivation in compost, shallow burial with carbon ad persistence of ASFv in swine slurry.* 2023	Swine Health, Mortality Management	Foreign Animal Disease		Composting of ASFv-infected swine showed ASFv was not detected using live cell culture by day 3 in rice hulls and day 7 in sawdust. Shallow burial with carbon was shown to inactivate ASFv at day 11.5.	link

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Rozeboom D. *MSU Carcass Management via tub grinder demonstration.* 2023	Environment	Mortality Management		A twin screw tubgrinder was able to run 5,000 pounds of carcass per 10 minute batch load blended with a 1:1.2 and 1:1.3 ratio of carcass to carbon.	
Rozeboom D. *Shelby County Iowa Carcass Management Grinder Research Project.* 2023	Environment	Mortality Management		An animal tissue density of 25lb/cubic foot of carbon could be used to manage carcasses using a horizontal belt grinder in the composting system. A significant reduction in carbon vs. traditional composting.	
Owen S. *Evaluation of scavenger mitigation at animal mortality management sites.* 2024	Environment	Mortality Management		Vulture effigies were effective at deterring turkey vultures and black vultures. A portable electric fence was effective at reducing terrestrial scavengers.	
Flory G. *Virginia Depopulation and Disposal Exercise – Composting Research.* 2024	Environment	Mortality Management		This project demonstrated that composting of whole market hogs can be completed within 21 to 28 days with the use of a compost turner early in the composting process.	
Flory G. *Proof of concept: use of a compost turner to improve mortality compost completion time and product quality.* 2024	Environment	Mortality Management		A compost windrow turner can be successfully employed to manage sow and boar mortality in a compost pile as soon as 7 days after construction. Both particle reduction and early windrow turning reduced the management time of large swine from 6-12 weeks to 2-4 weeks, without an increase in carbon resources, and poses little risk of disease spread.	
Flory G. *African Swine Fever Research in Vietnam*. 2025	Environment, Mortality Management	Foreign Animal Disease		Composting safely inactivates ASFV in carcasses, and the virus survives only short periods in manure or slurry—helping guide practical on-farm disease control and disposal decisions.	

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Greiner, L., et al., *A systems approach to understanding the nutrient cycle across the pork ecosystem.* Expected 2026	Animal Science	Swine Nutrition		This multi-year project, initiated in 2022 and expected completion in 2026, brings together pork producers and experts in soil science, agricultural engineering, economics, and animal science. The consortium conducts research, training, and outreach to better understand nutrient flow from pigs to manure to soil to crops—and back to pigs.	link
Johnson A. *How Can Euthanasia Training Modules Based on the DiSC® Personality Test Reduce Caretaker Euthanasia-related train?* Iowa State University. 2023	Animal Well-being	Euthanasia		New training for swine caretakers, based on personality and learning styles, helped reduce stress around euthanizing pigs and improved mental wellbeing.	link
SES, Inc. *A Summary report LCA for US Pig Production utilizing primary data for production* years 2017-2019, 2022, and 2023.	Envronment	Environmental Footprint		The objective of this LCA was to quantify Environment impacts of pork production in the midwestern, southeastern and western regions of the U.S utilizing primary data (as availbale).	
Levine J. *Correctly Classifying the Source of Fecal Waste in Surface Waters.* North Carolina State University. 2023	Environment	Water Quality		New DNA tests identify species that contribute to the presence of fecal waste in surface waters, and help track and manage sources.	link
Levine J. *Correctly Classifying the Source of Fecal Waste in Surface Waters.* North Carolina State University. 2023	Environment	Water Quality		New DNA tests identify species that contribute to the presence of fecal waste in surface waters, and help track and manage sources.	link
Stein H. *Use of Hybrid Rye in Diets for Growing and Reproducing Pigs: A Literature Review and Determination of Green-House Gas Emissions.* University of Illinois at Urbana Champaign. 2024	Animal Science	Swine Nutrition		Hybrid rye reduces water and fertilizer needs, captures manure nutrients, provides swine feed, and allows double manure application while lowering emissions.	link
Weaver E. *Best practices in reducing feed waste in swine production.* 2025	Environment	Environmental Footprint		Intentional management and control of processes to minimize feed loss is the highest-order factor in reducingfeed waste. Swine farms do not record or estimate feed waste.	
Burns R. *Evaluating draft EPA swine emission models-Part I: Facilities.* 2025	Environment	Environmental Footprint		Draft EPA swine-emission models showed poor accuracy, unexpected sensitivity to herd size and climate, and need revision before they can be reliably used by the industry.	link
Burns R. *Evaluating draft EPA swine emission models-Part II: Open-Source Manure Storage.* 2025	Environment	Environmental Footprint		Draft EPA manure-emission models showed poor accuracy, unexpected climate sensitivity, and need significant revision before they can be reliably used by the swine industry.	link

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Levine J. *The source of fecal waste in multi-use livestock intensive watersheds.* Expected 2026	Environment	Water Quality		Fecal waste is a common surface water contaminant in Ohio, Indiana, and North Carolina. Utilizing mitochondrial DNA , fecal materal can be speciated. Multiple species contribute to the presence of fecal waste in multi-use watersheds. Efforts to reduce surface water contamination of multi-use watersheds should include a thorough review of potential sources of contamination from both humans and animals.	
Thaler R. *National Swine Manure--Soil Health Research & Discovery Project.* Expected 2026	Environment	Soil Health		This is an ongoing 5-year, 12-state project looking at the impact of swine manure fertilizer on soil health.	
Houser T. *Using Clean Label, Natural Antioxidants to Prevent Lipid Oxidation in Frozen, Food-Service Bacon Made from Bellies with Three Iodine Value Ranges.* Iowa State University. 2023	Pork Quality			This study shows that bacon spoils faster when stored frozen in packaging that lets oxygen in.	link
Use of interventions for pork quality: Increasing storage life and safety of fresh head meat and tongues destined for export markets	Pork Safety	Pre-Harvest		Expected completion: 2025	
Exploring the use of Probicon as a direct-fed microbial to reduce the Salmonella burden in market hogs. Kansas State University, USDA-ARS-U.S. Meat Animal Research Center, Triumph Foods.	Pork Safety			Ongoing project with The Meat Institute Foundation for Meat & Poultry Research & Education.	
Understanding the impact of the farm and lairage environments on Salmonella contamination in market hogs. University of Wisconsin-Madison, Kansas State University, Texas Tech University, USDA-ARS.	Pork Safety			Ongoing project with The Meat Institute Foundation for Meat & Poultry Research & Education.	
Summarizing the current knowledge and existing knowledge gaps for pre-harvest and postharvest Salmonella contamination in pork. Kansas State University, Triumph Foods.	Pork Safety			Ongoing project with The Meat Institute Foundation for Meat & Poultry Research & Education.	
Revealing mechanisms for internal Salmonella colonization and persistence in porcine lymphoid and fat tissue. USDA-ARS-NADC - Food Safety and Enteric Pathogens Research Unit.	Pork Safety			Ongoing project with The Meat Institute Foundation for Meat & Poultry Research & Education.	
Torremorell M. *Evaluation of hand hygiene procedures as interventions to decrease the risk of influenza transmission between pigs and people.* University of Minnesota. 2023	Public Health	Influenza		Influenza can stay on hands for hours after handling infected pigs — sanitizer and gloves are best to reduce transmission risk.	link

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Amachawadi R. *Metagenomics approach to delineate the impact of antibiotic administration route on gut microbial changes and antimicrobial resistome in nursery piglets.* Kansas State University. 2023	Public Health	Antibiotics & Resistance		Administering antibiotics through either feed or water improved growth performance in nursery piglets. Water-based delivery may offer a more flexible and practical option for antibiotic use without contributing to antimicrobial resistance concerns.	link
Liu Z. *Determine the respiratory health risks associated with swine production using the QMRA approach.* Kansas State University. 2023	Public Health	Community Health		Swine barn dust often exceeds safe levels and may impact lung health — especially for smokers or during high-exposure tasks. Reducing airborne dust through feed changes, ventilation, or protective equipment can lower those risks.	link
Sheridan C. *Self-reported respiratory health symptoms and respiratory protection behaviors of young adult hog producers in the United States.* Ag Health and Safety Alliance™. 2023	Public Health	Community Health		About 37% of young hog producers report respiratory symptoms; most use respirators, with males more likely to use and buy respiratory protection.	link
Moreno-Madriñán M. *Risk assessment model to reduce bi-directional interspecies influenza transmission in an indoor hog grower unit.* DePauw University. 2023	Public Health	Influenza		Swine influenza spreads between pigs and workers; combined vaccination, masks, and biosecurity reduce transmission risks on farms.	link
Wyatt T. *Impact of Inhaled Swine CAFO Dust on COVID-19 Pathogenesis.* 2024	Public Health	Community Health		Breathing in dust from swine barns may increase the risk of COVID-19 infection by making lung cells more vulnerable to the virus. Using respirators can help protect workers.	link
Torremorell M. *Evaluation of face masks as a means to decrease the risk of influenza transmission between pigs and swine farm workers.* University of Minnesota. 2025	Public Health	Influenza		Wearing face masks, especially N-95 or surgical masks, reduces flu exposure for swine workers, protecting both humans and pigs on farms.	link

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Risk factors associated with the adaptation of influenza viruses between humans and pigs	Public Health	Influenza		Expected completion: 2025	
Kanankege K. Improved spatial analysis to understand swine CAFOs and the surrounding environment and public health concerns. 2023	Public Health	Community Health		Researchers developed improved exposure indexes for large hog farms, showing links with social vulnerability and health outcomes, helping inform more accurate, evidence-based public health and agriculture decisions.	link
Production Analysis Summary for U.S. Pork Industry: 2019-2023. MetaFarms. 2024	Animal Science			This resource helps producers compare farm data, identify productivity improvements, and guide impactful research priorities.	link
Production Analysis Summary for U.S. Pork Industry: 2020-2024. MetaFarms. 2025	Animal Science			This resource helps producers compare farm data, identify productivity improvements, and guide impactful research priorities.	link
Pig Livability Consortium	Animal Science			This multi-year project aims to reduce mortality in the U.S. commercial swine industry through research, education, and outreach, funded by the National Pork Board and FFAR.	link

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