

**FUNDED RESEARCH - 2013**

<b>Program Area</b>	<b>Project Title</b>	<b>#</b>	<b>Primary Contact</b>	<b>Organization Name</b>
ANIMAL SCIENCE\Animal Science	Impact of in utero heat stress on subsequent growth, composition and reproduction	13-022	Safranski, Tim	University of Missouri - Columbia
ANIMAL SCIENCE\Animal Science	Improving reproductive efficiency of sows housed under heat stressed conditions by heat abatement with dietary betaine	13-052	Van Heugten, Eric	North Carolina State University
ANIMAL SCIENCE\Animal Science	The impact of pad cooling on barn environment, finishing pig performance and producer profitability	13-062	Knauer, Mark	North Carolina State University
ANIMAL SCIENCE\Animal Science	The Effects of Increasing Niacin Supplementation on Growth Performance, and Pork Quality of Finished Pigs Raised in Seasonal Heat Stress	13-093	DeRouchey, Joel	Kansas State University
ANIMAL SCIENCE\Animal Science	Understanding the Biology of Seasonal Infertility to Develop Mitigation Strategies for Swine	13-129	Ross, Jason W.	Iowa State University
ANIMAL SCIENCE\Animal Science	Ventilation improvements for controlling swine production systems	13-213	Hoff, Steven J.	Iowa State University
ANIMAL SCIENCE\Sow Lifetime Productivity	Dietary effects on sow productivity to three parities - Year 2-3 of NPB #12-210	13-259	Vallet, Jeffrey	USDA, ARS, Northern Plains Area
ANIMAL SCIENCE\Swine Nutrition	Evaluation of an in vitro digestibility procedure for dietary fiber in high fiber feed ingredients fed to growing pigs	13-014	Shurson, Gerald	Regents of the University of Minnesota
ANIMAL SCIENCE\Swine Nutrition	Understanding the effects of increased fiber from corn origin on the supply of energy and nutrients to the pig	13-015	Patience, John	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Enhancing feed utilization and nutrient digestibility through management of particle size and feed processing options	13-037	Patience, John	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Effects of pelleting and extrusion on energy and nutrient digestibility in diets fed to pigs	13-041	Stein, Hans H.	University of Illinois
ANIMAL SCIENCE\Swine Nutrition	Evaluating Moderate to Severe Feed Processes in Light of Increasing Use of Wheat in Swine Diets	13-069	Tokach, Mike D.	Kansas State University
ANIMAL SCIENCE\Swine Nutrition	Impact of disease on amino acid requirements of growing pigs	13-082	Rakhshandeh, Anoosh	Texas Tech University
ANIMAL SCIENCE\Swine Nutrition	Improving milk production efficiency and mitigating feed costs in lactating sows through dietary crude protein abatement and crystalline amino acid supplementation under thermo neutral and thermal stress environment model	13-120	Trottier, Nathalie L.	Michigan State University
ANIMAL SCIENCE\Swine Nutrition	An Integrated Evaluation of the Nutrient Uplift Provided by Xylanase in Finishing Diets	13-158	Lindemann, Merlin D.	University of Kentucky
ANIMAL SCIENCE\Swine Nutrition	Improving nutrient utilization and biological and financial performance through the use of super-dosing of phytase in grow-finish diets	13-167	Patience, John	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Applying Enzyme Technology to Optimize the Utilization of Fibrous Feed Ingredients in Swine Diets	13-191	Van Heugten, Eric	North Carolina State University
ANIMAL WELFARE\Animal Welfare	Evaluation of Transportation Conditions on Performance of Weaned and Feeder Pigs	13-010	Harmon, Jay	Iowa State University
ANIMAL WELFARE\Animal Welfare	Weaned pig transport: animal welfare impact of duration of trip, and provision of feed and water.	13-061	McGlone, John J.	Texas Tech University
ANIMAL WELFARE\Animal Welfare	Weaning sows directly into group housing: effects on aggression, physiology and productivity	13-091	Brown, Jennifer	Prairie Swine Centre, Inc.
ANIMAL WELFARE\Animal Welfare	Nitrous oxide for piglet euthanasia: validation by electroencephalography (EEG)	13-109	Lay, Donald	USDA, ARS, Midwest Area
ANIMAL WELFARE\Animal Welfare	A Comprehensive Literature Review on the Development, Treatment and Prevention of Shoulder Lesions in Sows	13-173	Brown, Jennifer	Prairie Swine Centre, Inc.
ANIMAL WELFARE\Animal Welfare	Validation of EEG and behavioural measures for pain assessment in piglets aged 0 to 10 days	13-188	Johnson, Craig	EpiCentre, Massey University

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ANIMAL WELFARE\Animal Welfare	A study to develop and validate assays to measure and compare four circulating neuropeptides as objective pain biomarkers in piglets	13-198	Coetzee, Johann	Iowa State University
ANIMAL WELFARE\Animal Welfare	Caring for compromised swine - an assessment swine marketed through buying stations and development of fitness for transport guidelines	13-261	Millman, Suzanne	Iowa State University
ENVIRONMENT\Air	Testing the effectiveness of a naturally occurring adsorbent to improve mitigation of multiple air emissions from swine buildings	13-026	Janni, Kevin	Regents of the University of Minnesota
ENVIRONMENT\Air	Effectiveness of vegetative environmental buffers to reduce swine facility emissions	13-084	Liu, Zifei	Kansas State University
ENVIRONMENT\Air	Mitigation of Air Emissions from Swine Buildings through the Photocatalytic Technology Using UV/TiO2	13-088	Liu, Zifei	Kansas State University
ENVIRONMENT\Air	(VEBBER) Vegetative Environmental Buffer Builder and Economic Review: A Decision Support Tool for the Pork Industry	13-243	Tyndall, John	Iowa State University
ENVIRONMENT\Greenhouse Gas Emission/Carbon Footprint	Defining Pork Sustainability Metrics and Goals through the Sustainable Pork Advisory Council	13-132	Matlock, Marty	University of Arkansas
ENVIRONMENT\Greenhouse Gas Emission/Carbon Footprint	Quantifying the Land Footprint for US Pork Production Using Life Cycle Analysis	13-208	Thoma, Gregory J.	University of Arkansas
ENVIRONMENT\Manure Storage/Application	A Meta-analysis of best practices for management and land application of swine manure in the Midwestern United States	13-046	Andersen, Daniel	Iowa State University
ENVIRONMENT\Manure Storage/Application	Identifying the Cause and Subsequent Remediation of Foaming in Swine Manure Management Systems (12-114 YR 2)	13-237	Hoff, Steven J.	Iowa State University
HUMAN NUTRITION\Human Nutrition	Effects of dietary protein patterning on weight loss and resistance training-induced changes in body composition, skeletal muscle, and indices of metabolic syndrome	13-117	Campbell, Wayne W.	Purdue University
HUMAN NUTRITION\Human Nutrition	Comparison of red meat versus high carbohydrate diet as a means of preventing tissue-specific down-regulation of insulin receptors	13-177	Berg, Eric P.	North Dakota State University
HUMAN NUTRITION\Human Nutrition	High protein consumption from meat vs. dairy as complementary foods on infant growth, body composition and gut microbiome: a controlled feeding study	13-197	Krebs, Nancy	University of Colorado School of Medicine
HUMAN NUTRITION\Human Nutrition	A High Protein Weight Loss Treatment for Sarcopenic Obesity: Using Pork as a Meal Supplement to Improve Muscle Mass and Functional Status in Women	13-207	Bales, Connie	Duke University Medical School
INTERNATIONAL TRADE\International Trade	An evaluation of the suitability of porcine lung tissue for human consumption	13-250	Woerner, Dale	Colorado State University
INTERNATIONAL TRADE\International Trade	Enhanced safety and shelf life of US pork organ meats destined for international trade.	13-251	Mikel, William Benjy	WPF Technical Services
INTERNATIONAL TRADE\International Trade	Extending the shelf life of Livers, Lungs, Kidneys, and Hearts	13-253	Dickson, James S.	Iowa State University
INTERNATIONAL TRADE\International Trade	Aseptically Packaged Pork Products Preserved by Advanced Thermal Processing - Feasibility Study	13-255	Hanson, Dana	North Carolina State University
PORK QUALITY\Pork Quality	The development of equations to predict the iodine value of various swine carcass fat depots.	13-077	Gonzalez, John	Kansas State University
PORK QUALITY\Pork Quality	Impact of seasonal heat stress on fatty acid composition and pork fat quality	13-080	Baumgard, Lance	Iowa State University
PORK QUALITY\Pork Quality	Developing equations for rapid and accurate prediction of carcass fat quality	13-101	Knauer, Mark	North Carolina State University
PORK QUALITY\Pork Quality	Influence of salt content and iodine value on shelf life of bulk aerobically packaged bacon slices.	13-127	Houser, Terry	Kansas State University
PORK SAFETY\PS-Pre-Harvest	Evaluating strength, sharpness, and detection of swine-use hypodermic needles	13-055	Hoff, Steven J.	Iowa State University

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PORK SAFETY\PS-Pre-Harvest	Assessing the Applicability of Salmonella source attribution modesl to U.S. Data	13-Singer	Singer, Randall	Regents of the University of Minnesota
PORK SAFETY\PS-Pre-Harvest	A study to assess the tissue residue depletion profile of 2 ampicillin trihydrate doxing regimens in cull sows and its association with plasma, oral fluid and urine ampicillin concentrations.	13-249	Coetzee, Johann	Iowa State University
PORK SAFETY\PS-Pre-Harvest	Further Characterization of Salmonella and Campylobacter isolates from NARMS Study	13-258	McKean, James D.	Iowa State University
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Evaluate the dissemination of Salmonella in the environment following land application of swine manure	13-006	Thakur, Siddhartha	North Carolina State University
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Alternatives to antibiotics? Effects on MRSA prevalence in swine production systems	13-021	Scott, H. Morgan	Kansas State University
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Evaluation of the electrostatic particle ionization technology to decrease the risk of zoonotic infections	13-025	Torremorell, Montserrat	Regents of the University of Minnesota
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Occurrence and Movement of Antibiotics, Antibiotic Resistant Bacteria and Resistance Genes in Tile-Drained Agricultural Fields Receiving Swine Manure Application	13-051	Soupir, Michelle	Iowa State University
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Prevalence and characterization of Staphylococcus aureus isolates in pigs in the USA	13-056	Davies, Peter	Regents of the University of Minnesota
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Effect of manure application rate and timing on the leaching and runoff potential of antibiotic resistant bacteria and their associated genes.	13-113	Bolster, Carl	USDA, ARS, Mid South Area
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Strategy to preserve efficacies of antimicrobials against important swine pathogens	13-116	Anderson, Robin C.	USDA, ARS, Southern Plains Area
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	A study to correlate procaine penicillin G in tissues, plasma and oral fluids of sows and determine environmental transfer of penicillin to untreated sows.	13-236	Karriker, Locke	Iowa State University
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	Systematic Review of Antibiotic Resistance of Public Health Importance in Environments near Swine Operations	13-260	Singer, Randall	Regents of the University of Minnesota
PUBLIC HEALTH\Producer/Public Health, Workplace Safety and Zoonotic Disease	A systematic review of hte association between proximity to animal feeding operations and community health, an update and addition	13-265	O'Connor, Annette	Iowa State University
SWINE HEALTH\Foreign Animal Disease	Development of African swine fever diagnostic assays for oral fluids	13-048	Zimmerman, Jeffrey	Iowa State University
SWINE HEALTH\Foreign Animal Disease	Identification of protective antigens of African swine fever virus	13-102	Rock, Daniel	University of Illinois
SWINE HEALTH\Foreign Animal Disease	A Cell-free Synthesis Approach for the Rapid and Cost-Effective Production of Foot and Mouth Disease Vaccines.	13-104	Bundy, Bradley	Brigham Young University
SWINE HEALTH\Foreign Animal Disease	Animal welfare implications resulting from movement restriction for foreign animal disease outbreak management in the pork industry	13-153	Weng, Hsin-Yi	Purdue University
SWINE HEALTH\Foreign Animal Disease	Evaluating immunogenicity of a Novel Live-vectored Prototype ASFV Vaccine	13-176	Mwangi, Waithaka	Texas A&M University
SWINE HEALTH\General Swine Disease	Determination of the virulence of a mutant PCV2b (mPCV2b) recently identified in cases of apparent vaccine failure and the ability of commercial PCV2a vaccines to protect against mPCV2b	13-003	Opriessnig, Tanja	Iowa State University

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SWINE HEALTH\General Swine Disease	Determination of the virulence of an emerging porcine parvovirus (PPV2) and its possible interaction with PCV2 in PCVAD	13-004	Opriessnig, Tanja	Iowa State University
SWINE HEALTH\General Swine Disease	Development of modified live attenuated virus vaccine expressing porcine IL-18	13-031	Ma, Wenjun	Kansas State University
SWINE HEALTH\General Swine Disease	Understanding and searching for immune protection against group C rotavirus in piglets	13-065	Yoon, Kyoung-Jin	Iowa State University
SWINE HEALTH\General Swine Disease	Advances in Vaccine Design: Developing A Cross-conserved Influenza Vaccine for Swine	13-121	De Groot, Anne	University of Rhode Island
SWINE HEALTH\General Swine Disease	Live-animal assay for identifying correlates of protection/cross-protection for intranasal swine influenza virus vaccines.	13-122	Loving, Crystal	USDA, ARS, Midwest Area
SWINE HEALTH\General Swine Disease	Porcine Epidemic Diarrhea (PED): Development of tests and reagents for diagnosis and disease management	13-209	Yoon, Kyoung-Jin	Iowa State University
SWINE HEALTH\General Swine Disease	Neuropathogenesis of a brain-derived Porcine teschovirus type 11 strain or a brain-derived Porcine sapelovirus strain in 3-week-old CDCD pigs.	13-211	Stevenson, Gregory W.	Iowa State University
SWINE HEALTH\General Swine Disease	A study to assess the correlation between plasma, oral fluid and urine concentrations of flunixin meglumine with the tissue residue depletion profile in finishing age swine	13-210	Coetzee, Johann	Iowa State University
SWINE HEALTH\General Swine Disease	Investigation of the impact of increased dietary insoluble fiber through the feeding of dried distiller's grains with solubles (DDGS) on the colonic microbiota of pigs with and without Brachyspira-associated colitis	13-212	Burrough, Eric	Iowa State University
SWINE HEALTH\General Swine Disease	Development of an APP oral fluid antibody ELISA based on the detection of antibodies to APP ApxIV toxin in oral fluid specimens	13-214	Zimmerman, Jeffrey	Iowa State University
SWINE HEALTH\General Swine Disease	Environmental stability of PEDv (porcine epidemic diarrhea virus)	13-215	Goyal, Sagar M.	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Epidemiologic investigation on propensity for lateral spread of PED virus	13-216	Morrison, Robert B.	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Propagation of PEDV in tissue culture and development of standardized reference samples for use in diagnostic testing	13-222	Wang, QiuHong	The Ohio State University
SWINE HEALTH\General Swine Disease	Oral fluid testing for cost-effective and efficient surveillance and control of porcine epidemic diarrhea virus in swine population	13-226	Yoon, Kyoung-Jin	Iowa State University
SWINE HEALTH\General Swine Disease	Evaluation of time and temperature sufficient to kill PEDV in swine feces on metal surfaces	13-227	Holtkamp, Derald	Iowa State University
SWINE HEALTH\General Swine Disease	Tissue localization, shedding, virus carriage, antibody response, and aerosol transmission of Porcine Epidemic Diarrhea Virus (PEDV) following inoculation of feeder pigs.	13-228	Hesse, Richard	Kansas State University
SWINE HEALTH\General Swine Disease	Linking veterinary diagnostic laboratory submissions and corresponding PEDV test results to spatiotemporal mapping tools: the future of disease management, control and elimination.	13-233	Main, Rodger G.	Iowa State University
SWINE HEALTH\General Swine Disease	Development and validation of isolation and diagnostic testing detection for PEDv	13-238	Collins, James	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Development and validation fo diagnostic testing for antigen and antibody detection for PEDv	13-239	Collins, James	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Characterization of the pathogenesis of porcine epidemic diarrhea virus (PEDv) in neonates and weaned pigs and generatoin of reference diagnostic specimens	13-244	Madson, Darin	Iowa State University
SWINE HEALTH\General Swine Disease	Evaluation of the efficacy of Stalosan® F for inactivating porcine epidemic diarrhea virus (PEDV) in swine feces on the surface of trailers used to haul live pigs.	13-248	Holtkamp, Derald	Iowa State University

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SWINE HEALTH\General Swine Disease	PEDV feedback protocol optimization to improve immunity and productivity	13-262	Murtaugh, Michael P.	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Duration and level of PEDV neutralizing antibodies cor clinical protection using feedback protocols	13-263	Clement, Travis	South Dakota State University
SWINE HEALTH\General Swine Disease	Defining PEDV maternal humoral immunity and correlates of neonatal protection	13-264	Gimenez-Lirola, Luis	Iowa State University
SWINE HEALTH\General Swine Disease	Feed transmission of PEDV to neonatal piglets.	13-266	Pillatzki, Angela	Iowa State University
SWINE HEALTH\PRRS	Rational design of a broadly protective vaccine against porcine reproductive and respiratory syndrome virus	13-155	Vu, Hiep	University of Nebraska-Lincoln
SWINE HEALTH\PRRS	Development of on-farm PRRSV surveillance guidelines for the modern pork industry	13-157	Zimmerman, Jeffrey	Iowa State University
SWINE HEALTH\PRRS	Efficacy trial of PRRSV modified live DIVA vaccines	13-170	Faaberg, Kay S.	USDA, ARS, Midwest Area
SWINE HEALTH\PRRS	The effect of PRRSV infection on the thymus -- a source of immune dysregulation?	13-175	Loving, Crystal	USDA, ARS, Midwest Area
SWINE HEALTH\PRRS	Use of interferon alpha as an immunomodulator and metaphylactic therapeutic during PRRSV outbreaks	13-185	Brockmeier, Susan L.	USDA, ARS, Midwest Area
SWINE HEALTH\PRRS	Development of a Novel Self-Propagating PRSSV-VSV G Hybrid Replicon as a Vector for Inducing Broad PRRSV Protection	13-186	Pattnaik, Asit	University of Nebraska-Lincoln
SWINE HEALTH\PRRS	The contribution of adaptive immunity to Porcine Reproductive and Respiratory Syndrome virus infection	13-187	Wilkerson, Melinda	Kansas State University
SWINE HEALTH\PRRS	Defining a novel structural component of porcine reproductive and respiratory syndrome virus and its role in disease pathogenesis	13-196	Faaberg, Kay S.	USDA, ARS, Midwest Area