

**FUNDED RESEARCH - 2012**

<u>Program Area</u>	<u>Project Title</u>	<u>#</u>	<u>Primary Contact</u>	<u>Organization Name</u>
ANIMAL SCIENCE\Sow Lifetime Productivity	The impact of the timing of relocation of replacement gilts from pens to stalls on gilt fertility and sow longevity.	12-111	Knox, Robert V.	University of Illinois
ANIMAL SCIENCE\Swine Nutrition	Critical evaluation of a new novel bio-fuels byproduct 'MycMeal' on growth performance body composition and intestinal health in nursery pigs.	12-112	Gabler, Nicholas	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	The effects of disease challenge (PRRS) on pig growth and metabolic pathways	12-113	Gabler, Nicholas	Iowa State University
ANIMAL SCIENCE\Animal Science	Investigating Biological Reasons for Seasonal Infertility	12-115	Keating, Aileen	Iowa State University
ANIMAL SCIENCE\Animal Science	Precision nutrition for pork niche markets: Characterizing feed intake, growth rate, and fat deposition of purebred Berkshire pigs housed in Iowa hoop barns	12-116	Mabry, John	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Development of 'Nutritional Tools' to Estimate ME Content in Rendered Animal Protein By-products for Swine	12-132	Shurson, Gerald	Regents of the University of Minnesota
ANIMAL SCIENCE\Swine Nutrition	The effect of regrinding major feed ingredients to improve pellet quality, pig performance and producer profitability	12-146	Knauer, Mark	North Carolina State University
ANIMAL SCIENCE\Swine Nutrition	Effect of lysozyme or antibiotics in ameliorating the effects of an indirect disease challenge.	12-148	Oliver, William	USDA, ARS, Northern Plains Area
ANIMAL SCIENCE\Swine Nutrition	The effects of PRRSV infection in commercial pigs on growth performance, energy and nutrient digestibility	12-151	Gabler, Nicholas	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Improving production efficiency and carcass weight of finishing pigs housed under heat stress conditions by heat abatement with dietary betaine	12-154	Van Heugten, Eric	North Carolina State University
ANIMAL SCIENCE\Swine Nutrition	A longitudinal assessment of the impact PRRSV has on grow-finisher pig tissue accretion and digestibility in commercial production	12-162	Gabler, Nicholas	Iowa State University
ANIMAL SCIENCE\Swine Nutrition	Reducing feed cost by maximizing dietary byproduct feeding length prior to market	12-167	DeRouche, Joel	Kansas State University
ANIMAL SCIENCE\Swine Nutrition	Comparative utilization of energy and nutrients in feed ingredients fed to growing pigs and gestating sows	12-180	Stein, Hans H.	University of Illinois
ANIMAL SCIENCE\Swine Nutrition	Development of a Nutrition x Health Interaction Model to Study Nursery Pig performance	12-185	Miller, Phillip S.	University of Nebraska-Lincoln
ANIMAL SCIENCE\Reproductive & Growth Physiology	Effect of GnRH-II on reproductive efficiency and productivity of first parity sows	12-184	White, Brett R	University of Nebraska-Lincoln
ANIMAL SCIENCE\Swine Nutrition	Defining the energy content (DE, ME and NE) of drought-stressed corn and identifying risk factors that lower energy.	12-193	Patience, John	Iowa State University
ANIMAL SCIENCE\Sow Lifetime Productivity	Optimal dietary energy and protein for the development of gilts.	12-209	Vallet, Jeffrey	USDA, ARS, Northern Plains Area
ANIMAL SCIENCE\Sow Lifetime Productivity	Dietary effects on sow productivity to three parities	12-210	Vallet, Jeffrey	USDA, ARS, Northern Plains Area
ANIMAL WELFARE\Animal Welfare	Use of bedding in ramp to reduce slipping and falling while loading and unloading weaned and finishing pigs	12-005	McGlone, John J.	Texas Tech University

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ANIMAL WELFARE\Animal Welfare	Translactational analgesia to reduce pain during piglet castration	12-063	Brown, Jennifer	Prairie Swine Centre, Inc.
ANIMAL WELFARE\Animal Welfare	Improving the welfare of group housed sows fed via electronic sow feeding	12-083	Parsons, Thomas	University of Pennsylvania
ANIMAL WELFARE\Animal Welfare	Identifying best operating procedures for CO2 gas euthanasia of suckling and nursery age pigs -- effects of stocking density	12-100	Millman, Suzanne	Iowa State University
ANIMAL WELFARE\Animal Welfare	Development of a practical, cost-effective pain mitigation technique for castration of piglets	12-107	Fierheller, Erin	University of Calgary
ANIMAL WELFARE\Animal Welfare	Proposal to the National Pork Board to host a workshop on: Pain Management for the Neonatal Piglet	12-186	O'Connor, Annette	Iowa State University
ANIMAL WELFARE\Animal Welfare	Comparing Heat Lamp vs. Heat Mat for Farrowing Crate Heating	12-191	Xin, Hongwei	Iowa State University
ANIMAL WELFARE\Animal Welfare	Designer Diets Decrease Aggression and Increase Welfare	12-196	Lay, Donald	USDA, ARS, Livestock Behavior Research Unit
ANIMAL WELFARE\Animal Welfare	Optimized minimal floor-space for group-pen system using feeding stalls and diet strategy to improve wellbeing	12-200	Salak-Johnson, Janeen L.	University of Illinois
ENVIRONMENT\Air	Air Management Practices Assessment Tool - A Producer Guide to Comparing Mitigation Strategies	12-006	Harmon, Jay	Iowa State University
ENVIRONMENT\Air	Meta-Analysis of H2S, NH3, VOC, PM10 and PM2.5 Emissions from Swine Productions in North America	12-022	Powers, Wendy	Michigan State University
ENVIRONMENT\Air	Removal of Volatile Organic Compounds from Swine Facilities via Adsorption: Technical and Economic Evaluation	12-072	Kolar, Praveen	North Carolina State University
ENVIRONMENT\Air	Testing soybean peroxidase for swine manure treatment and mitigation of odorous VOCs, ammonia, hydrogen sulfide and greenhouse gas emissions.	12-108	Koziel, Jacek	Iowa State University
ENVIRONMENT\Air	Identifying the Cause and Subsequent Remediation of Foaming in Swine Manure Management Systems	12-114	Hoff, Steven J.	Iowa State University
ENVIRONMENT\Air	Evaluating nutrient (nitrogen and ortho-phosphate) export with subsurface drainage water from manure applied sub-watersheds planted to soybeans.	12-117	Arora, Kapil	Iowa State University
ENVIRONMENT\Air	Quantification of Greenhouse Gas Emissions from A Production Scale Midwestern Breeding / Farrowing / Gestation Facility	12-118	Xin, Hongwei	Iowa State University
ENVIRONMENT\Air	Feeding amino acids to reduce air emissions and the carbon footprint of swine production	12-119	Powers, Wendy	Michigan State University
ENVIRONMENT\Air	Determining PM and Odor Emission Reductions of a Geothermal Heating/Cooling System in a Grow-Finish Building	12-128	Jacobson, Larry D.	Regents of the University of Minnesota
ENVIRONMENT\Greenhouse Gas Emission/Carbon Footprint	Life Cycle Assessment for Swine Management Practices	12-207	Thoma, Gregory J.	University of Arkansas

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HUMAN NUTRITION\Human Nutrition	The effect of increasing the protein content of breakfasts on satiety and cognitive function in undergraduate students	12-147	Hollis, James	Iowa State University
HUMAN NUTRITION\Human Nutrition	An evidence-based review of meat consumption and Type 2 diabetes	12-159	Stettler, Nicolas	Exponent, Inc.
INTERNATIONAL TRADE\International Trade	Develop a Quantitative Risk Assessment of Toxoplasma Gondii Transmitted from Swine Under Different Production Scenarios	12-211	Cox, Tony	Cox Associates
INTERNATIONAL TRADE\International Trade	Literature Review and Needs Assessment of Processing, Storage and Time Effects on Food Safety for Pork Products	12-212	Dickson, James S.	Dickson Consulting
INTERNATIONAL TRADE\International Trade	Literature Review and Needs Assessment of Pathogen Reduction Technologies (PRTs) for Pork Products	12-213	Woerner, Dale	Colorado State University
PORK QUALITY\Pork Quality	Determining Pork Fat Quality as Measured by Three Methods within an Industry Standard Marketing Plan for Pigs Fed 20% DDGS	12-045	Wiegand, Bryon	University of Missouri - Columbia
PORK QUALITY\Pork Quality	Evaluation of fat quality and its relationship to meat and eating quality traits of pork	12-055	Baas, Tom J.	Iowa State University
PORK QUALITY\Pork Quality	Improving carcass fat quality by manipulating the amount and timing of feeding dietary fats with different iodine values	12-062	Patience, John	Iowa State University
PORK QUALITY\Pork Quality	Influence of commercial deep chilling processes on early postmortem events in muscle that affect ultimate fresh pork tenderness and processing quality	12-086	Loneragan, Steven	Iowa State University
PORK SAFETY\PS-Pre-Harvest	Longitudinal study to determine Salmonella serovars and identify risk factors associated with their dissemination in commercial swine farms	12-001	Thakur, Siddhartha	North Carolina State University
PORK SAFETY\PS-Pre-Harvest	Salmonella serovar distribution and persistence in finisher sites	12-069	Funk, Julie	Michigan State University
PORK SAFETY\PS-Pre-Harvest	National Animal Health Monitoring Survey for Toxoplasma gondii and Trichinella spiralis	12-121	Hill, Dolores	USDA, ARS, Beltsville Area
PORK SAFETY\PS-Pre-Harvest	National Prevalence of Salmonella Contamination in Retail Ground Pork	12-145	Wittum, Tom	The Ohio State University
PORK SAFETY\PS-Pre-Harvest	Determining the incidence and antimicrobial susceptibility of Salmonella serovars isolated from U.S. retail ground pork	12-170	Brooks, J. Chance	Texas Tech University
PUBLIC HEALTH\Public Health	Influence of grass hedges on the transport of antimicrobials, antimicrobial resistance genes, and antimicrobial resistant pathogens after land application of swine manure	12-012	Bartelt-Hunt, Shannon	University of Nebraska-Lincoln
PUBLIC HEALTH\Public Health	Determining Viral Load and Persistence of Influenza A in Aerosols and on Surfaces in Swine Production Facilities	12-073	Rabinowitz, Peter	Yale University School of Medicine
PUBLIC HEALTH\Public Health	Factors driving the emergence and persistence of multidrug resistance-encoding plasmids in the swine environment	12-080	Johnson, Timothy	Regents of the University of Minnesota

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PUBLIC HEALTH\Public Health	Occurrence and Movement of Antibiotics, Antibiotic Resistant Bacteria and Resistance Genes in Tile-Drained Agricultural Fields Receiving Swine Manure Application	12-089	Soupir, Michelle	Iowa State University
PUBLIC HEALTH\Public Health	The Impact of Pig Health on Public Health: Quantitative Data for Risk Assessments	12-092	Hurd, Scott	Iowa State University
PUBLIC HEALTH\Public Health	Characterization of porcine parvovirus (PPV) infection in growing pigs	12-187	Halbur, Patrick G.	Iowa State University
PUBLIC HEALTH\Public Health	The Use of Probiotics as an Aid in the Control of Clostridium difficile Associated Disease in Neonatal Pigs	12-188	Ramirez, Alejandro	Iowa State University
SWINE HEALTH\General Swine Disease	Exploiting the potential of leader proteinase coding sequence of foot-and-mouth disease virus to derive attenuated strains suitable for pathogenesis studies and development of improved countermeasures.	12-023	de los Santos, Teresa	USDA, ARS, North Atlantic Area
SWINE HEALTH\General Swine Disease	Characterization of emerging porcine parvovirus types in the U.S. pig population	12-027	Opriessnig, Tanja	Iowa State University
SWINE HEALTH\General Swine Disease	Strain Variation in Mycoplasma hyopneumoniae	12-036	Minion, F. Chris	Iowa State University
SWINE HEALTH\General Swine Disease	Molecular Characterization and Protective/Diagnostic Application of the Capsular Polysaccharide of Haemophilus parasuis	12-041	Inzana, Thomas	Virginia Polytechnic Institute and State University
SWINE HEALTH\General Swine Disease	Characterization of the genetic diversity of Mycoplasma hyorhinis field isolates by multiple locus variable number of tandem repeats analysis (MLVA) and multi-locus sequence typing (MLST)	12-044	Rovira, Alberto	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Early detection of Mycoplasma hyopneumoniae infections in live pigs: Comparison of current methods and development of new assays	12-047	Pieters, Maria	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Generating swine influenza virus (SIV) oral fluid diagnostic Reference Standards for community use	12-052	Zimmerman, Jeffrey	Iowa State University
SWINE HEALTH\General Swine Disease	Development of a genus-specific virulence gene PCR panel for Brachyspira spp.	12-054	Songer, J. Glenn	Iowa State University
SWINE HEALTH\General Swine Disease	PRRS Host Genetics Consortium: A proposal to continue consortium work to study the role of host genetics and resistance to PRRSV	12-061	Lunney, Joan K.	USDA, ARS, Beltsville Area
SWINE HEALTH\General Swine Disease	Evaluation of genetic diversity and dynamics of virus infection in a wean-to-finish pig population.	12-068	Torremorell, Montserrat	Regents of the University of Minnesota
SWINE HEALTH\General Swine Disease	Genogroup A, B and C porcine rotaviruses: Prevalence and implications for effective vaccines	12-094	Saif, Linda J.	The Ohio State University
SWINE HEALTH\General Swine Disease	Evaluation of novel reassortant swine influenza viruses	12-095	Ma, Wenjun	Kansas State University
SWINE HEALTH\General Swine Disease	Sequencing and characterization of genes encoding capsid proteins VP4, VP6 and VP7 from field porcine rotavirus strains	12-099	Bai, Jianfa	Kansas State University
SWINE HEALTH\General Swine Disease	Identification of genetic signatures for African swine fever virus serologic group specificity	12-106	Rock, Daniel	University of Illinois

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SWINE HEALTH\PRRS	Characterization of the neutralizing antibody responses to PRRSV and association with host factors.	12-120	Rowland, Raymond R.	Kansas State University
SWINE HEALTH\PRRS	Development of a broadly protective PRRS vaccine candidate: Application of non-toxic enterotoxin and E. coli as the adjuvant-delivery system	12-127	Fang, Ying	South Dakota State University
SWINE HEALTH\PRRS	Impact of pig farm density on incidence of PRRS in a cohort of sow herds	12-139	Morrison, Robert B.	Regents of the University of Minnesota
SWINE HEALTH\PRRS	Assessment of heterolite-vectored cytokines as a means to increase efficiency of modified live PRRSV DIVA vaccine preparations	12-157	Faaberg, Kay S.	USDA, ARS, Midwest Area
SWINE HEALTH\PRRS	PRRSV protective immunity of broad spectrum: Strategies to induce pan-neutralizing antibodies in a pig	12-158	Osorio, F. A.	University of Nebraska-Lincoln
SWINE HEALTH\PRRS	Development of PRRS virus-like-particles containing nanoparticle vaccine and its evaluation in pigs	12-166	Gourapura, Renukaradhya	The Ohio State University
SWINE HEALTH\PRRS	Identification of Genetic Mutations that Confer Escape from Innate or Adaptive Host Immune Responses During PRRSV Infection In Vivo	12-173	Carpenter, Susan	Iowa State University
SWINE HEALTH\PRRS	Further Development of an integrated mapping service to support regional control & elimination of PRRS virus	12-174	Morrison, Robert B.	Regents of the University of Minnesota
SWINE HEALTH\PRRS	Viral structural components that enable vaccine-induced protective immunity against contemporary high morbidity and high mortality PRRS virus	12-176	Zuckermann, Federico A.	University of Illinois
SWINE HEALTH\PRRS	Development of standard methods to compare surveillance between regional porcine reproductive and respiratory virus control and elimination projects	12-179	Holtkamp, Derald	Iowa State University
SWINE HEALTH\General Swine Disease	Characterization of porcine astrovirus infection in the U.S. pig population	12-189	Opriessnig, Tanja	Iowa State University
SWINE HEALTH\General Swine Disease	Age related changes in the intestinal microbiome protect neonatal piglets from Clostridium difficile infection	12-190	Cornick, Nancy	Iowa State University
SWINE HEALTH\General Swine Disease	Fluorescent in situ hybridization for the detection of novel pathogenic Brachyspira spp. in porcine colonic tissues	12-192	Burrough, Eric	Iowa State University
SWINE HEALTH\Foreign Animal Disease	Disinfectin of foreign animal disease viruses on surfaces relevant to the Pork Packing Industry	12-204	Rodriguez, Luis	USDA, ARS, North Atlantic Area
SWINE HEALTH\Foreign Animal Disease	Development of novel foot and mouth disease virus with multiple mutations for evaluation as live attenuated DIVA vaccine candidates.	12-206	de los Santos, Teresa	USDA, ARS, North Atlantic Area
SWINE HEALTH\General Swine Disease	Detection and characterization of influenza A virus endemic circulation in neonatal and nursery pigs in a farm using routine influenza vaccination	12-208	Gauger, Phil	Iowa State University