



Joint National Pork Board (NPB) and Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD) Request for Proposals – Spring Call 2016

DEADLINE: Tuesday, May 17th – 5:00 pm CST

The National Pork Board’s (NPB) Swine Health Committee and Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD) are soliciting research proposals dealing with:

SWINE HEALTH – FOREIGN ANIMAL DISEASE

Please read carefully the individual solicitation descriptions for project proposals. If you have questions related directly to the description of a specific solicitation, contact the staff member listed in charge of the program area. For questions on the submission process, contact Bev Everitt at beveritt@pork.org or 515/223-2750.

STAFF MEMBERS:

NPB	Patrick Webb	pwebb@pork.org	515-223-3441
CEEZAD	Igor Morozov	imorozov@vet.k-state.edu	785-532-4255

To be considered for committee review, **all proposals must be submitted via the website by 5:00 p.m. CST on Tuesday, May 17th.** See <http://www.pork.org/pork-checkoff-research/research-request-proposal/> for links. Proposals will be reviewed by both technical advisors and pork producers prior to the committee selection meetings. Final funding is subject to approval by the Center of Excellence for Emerging and Zoonotic Animal Disease (CEEZAD), Kansas Bioscience Authority, National Pork Board and USDA.

NOTES:

- Proposal selection will occur in July 2016.
- Notification of grant awards will be done by September 2016.
- Project funding will begin October 1, 2016.
- Requests for second-year funding must be resubmitted.



Purpose:

The National Pork Board's (NPB) Swine Health Committee and Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD) seek Principal Investigators (PIs) for funding from Checkoff and government sources during the financial year that begins October 2016 and beyond. The goal of this joint call is to leverage the research dollars that each organization has available for transboundary animal diseases (TAD) of swine while limiting duplication of efforts and to further the organizations' missions to prevent, detect, and control these diseases. The Pork Board's Swine Health Committee mission is to review and act on the strategic health issues which may affect the productivity of swine herds and global trade issues and collaborate with other animal health related entities and organizations in order to more effectively solve U.S. swine health issues. CEEZAD's mission is to enhance the U.S. Department of Homeland Security's capabilities by developing state-of-the-art countermeasures for high priority transboundary and zoonotic animal disease.

Funding will be considered for listed research topic related to swine either jointly or individually through each organization depending upon the specificity or overlap of research objectives to each organization's program needs. Topic areas include Diagnostics/Detection, Risk Analysis, Biosecurity, Epidemiology/Modeling, Gap Analysis and Education/Outreach. To be eligible for CEEZAD funding, proposals must have a PI, Co-PI or collaborator affiliated with Kansas State University.

The National Pork Board and CEEZAD are especially interested in projects that advance pork industry preparedness and have practical application for detection, response and eradication of trade- and commerce-limiting TAD of swine. In addition, both organizations will consider projects that address the development of swine-specific biosecurity tools or strategies that focus on prevention, intervention, containment and control of TAD through the pork chain or risk analysis of TAD introduction into the U.S. swine herd from animal and non-animal products that are used as inputs for pork production in the U.S.

Priority diseases for both organizations include: Foot-and-Mouth Disease, Classical Swine Fever and African Swine Fever. The performance period is October 1, 2016 through September 30th, 2017. This 2016-2017 request for proposals provides a summary of both CEEZAD's and NPB's current research priorities that shall be addressed through new projects. Project awards range from \$30,000 to \$80,000 per year for a single institution, and up to \$160,000 per year for multi-institutional projects with several collaborative partners.

2016 Foreign Animal Disease Priorities Proposals **must** be submitted in the required format provided with the RFP in order to be considered. Proposals that do not directly address the listed priorities will NOT be considered for funding. All eligible proposals will be reviewed by a panel of peers for scientific soundness and validity. Further enquiries regarding this solicitation can be directed to Patrick Webb (pwebb@pork.org) 515-223-3441 or Igor Morozov (imorozov@vet.k-state.edu) 785-532-4255



Priority will be given to projects of high impact in the area of countermeasure development for transboundary animal diseases of swine that limit trade or commerce; projects already at an advanced stage of development that delineate clear, practical outcomes within one year of completion; projects with high potential to leverage additional matching funds; and those with demonstrated capability to engage stakeholders and end-users. Priority will be given to applied projects with feasible practical outcome, but basic research projects with “state-of-the-art” approaches and high impact potential will also be considered.

FAD Diagnostics:

1. Improved methods for predicting the antigenic match between vaccines and field isolates; Development or validation of DIVA compatible serologic tests with increased sensitivity and specificity
2. Evaluation or improvements of diagnostic performance characteristics (sensitivity and specificity over time post inoculation) for commercially available CSF, FMD, ASF or SVD tests
3. Comparison of analytic sensitivities of commercially available diagnostic kits (FMD, CSF, ASF and SVD) to the standardized protocols approved for used in the National Animal Health Laboratory Network for FAD diagnostics.
4. Improvement of analytic sensitivities of PCR tests for FMD, CSF, ASF and SVD.
5. Antibody, antigen and nucleic acid detection in meat juice and other readily available tissue samples utilizing moderate to virulent FMD, CSF, and ASF strains

African Swine Fever (ASF)-specific areas:

1. Pathogenesis and specific neutralizing antibodies in protection against ASFV infection; Methods of induction of protective serum neutralizing antibodies; Cross-protective immunity between ASFV serotypes; role of Cytotoxic T cells (CTLs) in immunity to ASF and mechanisms of CTL induction; Protective epitopes and cross-protection among genotypes. Characterization of global ASF strains and development of diagnostic signatures
2. Role of individual ASFV genes in virus replication and virus-host interactions; Effects of individual and multiple gene deletions on virus pathogenesis and induction of protective immune responses

Gap Analysis

1. Current barriers, solutions and strategies for development and implementation of a workable, credible, affordable and sustainable national rapid bio-surveillance system for the U.S. Pork Industry.



Novel Technologies for Disease Mitigation

1. Inactivation of airborne pathogens in modern swine production environments

Biosecurity / Transmission of FAD's:

1. Animals/Genetic Material
2. Fomites, including survivability & transmissibility through:
 - a. Transportation of live swine and germplasm
 - b. Fresh or processed meat products
 - c. Diagnostic samples entering the U.S. from other countries
 - d. Other plausible fomites and cross-contamination threats in the pork production chain, including the feed ingredient sourcing chain
3. Feral swine reservoir risks and mitigations

Cleaning and Disinfection

1. Transport Vehicles, Personnel, and Farm Equipment
2. Reassessment of facility downtime requirements post-cleaning and disinfection
3. Swine and Packing Facilities / Equipment including lairage areas
4. Comingling points (fairs, buying stations, exhibitions.)

Risk Analysis (Swine Specific):

1. Agent-specific aerosol transmission risk (area spread) from and to modern large production populations
2. Risk analysis of FAD spread to and from points of concentrations where swine are routinely commingled (e.g. sale barn, consolidators, lairage, fairs, etc)

Modeling

1. Disease spread and consequences to the pork chain post introduction of an OIE listed trade limiting FAD's of swine (FMD, SVD ASF, CSF) into the U.S. domestic swine herd. All proposals should include the use of real time or near real time data when modeling interstate and intrastate movements of swine for breeding, feeding and slaughter purposes.