

# NATIONAL PORK BOARD

## Request for Proposals

### Special Call – Spring 2016

Mitigation of the Impact of Seasonality on Boar Fertility



**DEADLINE: Tuesday, April 26– 5:00 pm CST**

Email proposals to: [chostetler@pork.org](mailto:chostetler@pork.org)

The National Pork Board is soliciting research proposals dealing with:

#### **ANIMAL SCIENCE – Animal Science**

#### **STAFF MEMBERS:**

ANIMAL SCIENCE

Chris Hostetler

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#### **NOTES:**

Proposal selection will occur in early May 2016.

Notification of grant awards will be done in late May 2016.

Project funding will begin as soon as possible after that date.

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#### **ANIMAL SCIENCE – Animal Science**

##### **Mitigation of the Impact of Seasonality on Boar Fertility**

Loss of productivity due to seasonal variation in temperature affects all pork producers regardless of size of operation or geographical location. However, pork producers have few tools to address these losses.

While it affects all phases of production, one area it impacts the most is reproductive efficiency of the breeding herd. Changes in temperature during the summer months leads to substantial variation in productivity of boars used for artificial insemination. This is primarily related to a significant increase in the percentage of collections that are discarded because of compromised semen quality. Publically available research in this area is limited, therefore the Animal Science Committee of the National Pork Board has given it priority and is seeking proposals that address one or more of the following:

- 1) Management strategies of boars including but not limited to vaccination schedule, nutrition, frequency of semen collection, boar training, boar handling and novel methods of fertility evaluation.
- 2) Underlying biological mechanisms that result in impaired testis function under heat stress conditions
- 3) Development of novel post-collection semen handling and evaluation techniques or semen extenders for semen collected from boars under heat stress conditions or for semen shipped during times of elevated temperature.

- 4) Facility design features that lead to heat abatement including but not limited to methods of cooling, optimizing ventilation, monitoring of ambient environment and/or methods of boar housing
- 5) Identification and validation of genomic markers for heat resilience.

Submitted proposals must bring fundamental knowledge to mitigate the impact of seasonality on boar fertility in one or more of these areas. Successful investigation in this area will likely require a variety of disciplines including but not limited to environmental monitoring, nutritional intervention, physiology, biochemistry, mathematical modeling, and analysis of economic impact; **proposals should reference these key concepts**. Proposals utilizing a **multidisciplinary** approach are highly encouraged. Preference will be given for research trials conducted under commercial-like conditions and with sufficient replication to make statistically appropriate conclusions. However, the Committee recognizes that smaller-scale research using environmental chambers may be a necessary approach to answering some of the more basic questions. Submitted proposals **must show evidence of sufficient statistical power** in relation to primary project objectives and clearly define the role of the study in meeting the objective of delivering cost effective technology.

#### **Further Information**

- It is the expectation that the project selected for funding will be conducted **during the summer of 2016**.
- Preference will be given to projects that involve both academic and commercial collaboration, except where discovery is needed to establish principles necessary for additional research
- Projects spanning more than one year are NOT discouraged so that a project is provided sufficient time to deliver desirable outcomes. However, funding of a multi-year project must be justified, with second and third year funding being dependent on sufficient progress of the prior year
- A description of methods to assess the economic impact of the research on the swine industry should be included in each proposal. This may necessitate the inclusion of an agriculture economist on the research team.

For information regarding this solicitation, please contact Chris Hostetler by email ([chostetler@pork.org](mailto:chostetler@pork.org)) or by phone at (515) 223-2006.