

Board Research Initiative Request for Proposals

Combatting Clostridial Diseases in Poultry

Background

Poultry health and well-being is a major focus for the broiler chicken industry in the current era of ‘no antibiotic ever’ farming. Specifically intestinal health has suffered greatly as a result of the restricted use of antibiotics on broiler farms which has resulted in increased mortality, decreased feed efficiency and increased economic costs for broiler farmers. One of the major concerns that has resurfaced is Necrotic enteritis (NE) which is caused by toxin-producing virulent *Clostridium perfringens* bacterium. The global losses due to NE, one of the most devastating enteric diseases, are more than \$6 billion/year and finding ‘alternatives to antibiotics’ is very important.

Gangrenous dermatitis (GD) is a common disease of turkeys and broiler chickens caused by various species of anaerobic and aerobic bacteria, including several clostridial species. The disease is characterized by a sudden increase in mortality and lesions in the skin, subcutaneous tissue, and the underlying muscles, usually over the keel, abdomen, thigh, and wings of the bird. GD is a disease of considerable economic significance in poultry and occurs throughout the world.

The goal of this initiative is to encourage research that will enhance industry efforts to consider non-antibiotic alternatives and to improve understanding about the pathways for clostridial infections in poultry.

Research Areas/Questions

1. Identify non-antibiotic approaches including management practices to prevent, reduce and control:
 - a. Necrotic enteritis in broiler chickens
 - b. Gangrenous dermatitis in turkeys and broiler chickens
2. Define the pathogenesis of:
 - a. Necrotic enteritis in broiler chickens
 - b. Gangrenous dermatitis in turkeys and broiler chickens

Proposal Submission

Researchers should submit only a maximum two-page pre-proposal summary that describes the parts of the objectives they wish to address and what they propose to do. A title, the researcher’s name, affiliation, and email address should be included in the pre-proposal. Details of procedures or specifics of the budget should not be included in the pre-proposal submission. Pre-proposals should be submitted in Microsoft Word format to research@uspoultry.org.

DEADLINE FOR PRE-PROPOSAL SUBMISSION IS NOVEMBER 1, 2023.

The outcome of the pre-proposal review will be one of three responses from USPOULTRY:

- Send a full research proposal for consideration.
- Please make specific modifications in what you are proposing and send a full proposal.
- Do not send a full research proposal.

Full proposals will follow established USPOULTRY guidelines as seen at www.uspoultry.org. Funds can be used for graduate students, technicians, research supplies, and work and meeting travel. Funds cannot be used for

professional (faculty or postdoc) salaries or equipment purchase. Up to 15% overhead is allowed. No budget, including overhead, may exceed \$125,000.