

## Board Research Initiative Request for Proposals

Released – September 10, 2020

### Salmonella in Turkey Production Systems

#### Background

Salmonella Reading was not a serotype of foodborne illness concern associated with turkey products until 2018. The emergence of the serotype in the turkey industry through the production and processing chain suggests the serotype has evolved with increased persistence. Salmonella can enter a turkey production system by multiple routes and may persist in flocks through slaughter and processing. The transmission of Salmonella from breeders to progeny is poorly understood as are the factors which allow Salmonella Reading to persist in a production system once it is introduced. A greater understanding of Salmonella Reading will assist the turkey industry in mitigating the serotype and could potentially be helpful in reducing future evolved Salmonella serotypes.

#### Research Questions

- Can specific Salmonella isolates be traced from breeder flocks to progeny at hatch?
- Can methods be identified or developed to more accurately identify flocks which harbor specific Salmonella isolates prior to slaughter?
- Can factors be identified which are critical for the survival and maintenance of Salmonella Reading isolates in a turkey production system?
- Can specific interventions be identified which can facilitate the elimination of Salmonella Reading isolates from a turkey production system?

#### Areas of Focus

- Improve the understanding of the transmission of Salmonella from turkey breeders to progeny.
- Improve methods used to identify flocks which likely harbor specific Salmonella isolates prior to slaughter.
- Identify the critical factors which allow Salmonella Reading isolates to persist in a turkey production system.
- Investigate factors that make Salmonella Reading potentially less susceptible to traditional processing interventions.
- Develop strategies to reduce Salmonella Reading colonization in turkeys and reduce prevalence of Salmonella Reading in turkey products.

#### 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 Geraldine Dew at [gdew@uspoultry.org](mailto:gdew@uspoultry.org). **DEADLINE FOR PRE-PROPOSAL SUBMISSION IS NOVEMBER 2, 2020.**

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](http://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.