

Board Research Initiative Request for Proposals

Released – September 13, 2019

Poultry Lighting

Background

Broiler and turkey producers commonly use low level light intensity to improve flock efficiency and welfare outcomes. Welfare benefits associated with reduced light intensity include calm behavior of flocks (less flightiness), reduced injuries due to scratches, and moderated growth rate. Animal welfare groups and some retailers advocate for the use of higher light intensity, arguing that higher light intensity stimulates more natural behavior in flocks. Some groups are also advocating for the use of windows to allow the birds to have exposure to natural light, which may result in areas of a broiler and/or turkey house being illuminated by 4-6 FC of light on a sunny day.

Research Questions

- What are the welfare and performance outcomes in broilers and/or turkeys using different levels of light (0.1 FC, 0.5 FC, 1.0 FC, and 2.0 FC)?
- Can objective measures be used to measure the impact on broiler and/or turkey welfare by various light intensities?
- Are there potential lighting patterns within a broiler and/or turkey house that would allow birds to choose light intensity? For example, is it possible to have brighter light near feed and water lines while leaving the remainder of the house darker?
- Is broiler and/or turkey welfare affected by the type of light source – LED, incandescent, or fluorescent lamps?

Areas of Focus

- Objective measures to evaluate the impact on broiler and/or turkey welfare by light intensity. These objective measures should address bird behavior, mortality, categorization of reasons for culling, leg health, skin health, and cardiovascular health.
- Comparison of objective measures of welfare in broilers and/or turkeys grown with different light intensities.
- Comparison of objective measures of welfare in broilers and/or turkeys grown with different types of light sources.

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.

DEADLINE FOR PRE-PROPOSAL SUBMISSION IS NOVEMBER 1, 2019.

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.