

**Board Research Initiative
Request for Proposals**

Reduced Fertility in Broiler Breeders

Background

Maintaining high fertility in broiler breeder flocks is essential for maximizing hatchability, chick production, and overall production efficiency. However, many operations experience declines in fertility due to a combination of factors, including flock age, male reproductive performance, hen fertility, body weight management, nutrition, environmental conditions, health status and mating behavior. As genetic progress continues to improve broiler growth and feed efficiency, additional research is needed to better understand the causes of reduced fertility and identify practical management strategies that sustain reproductive performance throughout the production cycle.

Research Areas

Evaluate the effects of breeder management practices, including male-to-female ratio, feeder space allocation, feed distribution, feeder design and male grading strategies, on reproductive performance in broiler breeder flocks. The research should identify science-based management practices that optimize mating success, fertility, hatchability, reproductive longevity and overall flock productivity while supporting bird welfare and economic sustainability.

Research Questions

- What is the optimal male-to-female ratio across different genetic strains, housing systems, and flock ages to maximize fertility, hatchability and overall reproductive performance?
- How does feeder space allocation influence body weight uniformity, body condition, sexual behavior, mating frequency and fertility outcomes in both male and female broiler breeders?
- What is the impact of feed distribution uniformity and feeder design on male competition, feed access, body condition, mating success, semen quality and overall flock fertility?
- How do male grading and management practices, including selection criteria, culling strategies and physical condition scoring, affect reproductive longevity, mating activity and sustained fertility throughout the production cycle?

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 electronically at: <https://www.uspoultry.org/programs/research/>.

DEADLINE FOR PRE-PROPOSAL SUBMISSION IS NOVEMBER 2, 2026.

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 to 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 <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.