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New Research Provides Insights to Improve Broiler Breeder Fertility and Chick Output

Broiler breeder flock social dynamics may play a much greater role in reproductive success than previously recognized, according to new research funded by USPOULTRY and the USPOULTRY Foundation. The research is part of the Association's comprehensive research program, which encompasses all phases of poultry and egg production and processing, and is made possible in part through proceeds from the International Poultry Expo, part of the International Production & Processing Expo.

Project # BRU-16: Investigation into the Contributions of Roosters, Hens and Social Dynamics on the Reduced Hatchability in Broiler Breeders

(Dr. Charlene Hanlon, Department of Poultry Science, Auburn University, Auburn, Ala.)

A recent study conducted by Dr. Charlene Hanlon and colleagues at Auburn University evaluated the effects of group size, mating system, male spiking and body weight variation to identify management strategies that improve egg production, fertility, hatchability and overall chick output while maintaining flock uniformity and reproductive efficiency in commercial broiler breeder flocks. The study found that group size, male spiking and flock uniformity all influenced reproductive performance, with smaller groups producing more eggs, larger groups achieving higher fertility and male spiking improving reproductive outcomes. Researchers also determined that traditional measures of reproductive capacity and individual male or female reproductive traits were poor predictors of fertility and age-related declines. Instead, flock social dynamics emerged as a key driver of reproductive success, particularly female reproductive performance, highlighting the important role of flock management in optimizing fertility, hatchability and overall chick output.

This research highlights flock social dynamics as an important and often overlooked factor in broiler breeder reproductive success. The findings provide the poultry industry with valuable opportunities to refine management practices that enhance reproductive efficiency, improve egg production, fertility and hatchability and ultimately increase chick output.

The research summary can be found on the USPOULTRY website. Information on other Association research may also be obtained by visiting the USPOULTRY website.

About USPOULTRY
U.S. Poultry & Egg Association (USPOULTRY) is the All Feather Association progressively serving its poultry and egg members through research, education, communications and technical services.Founded in 1947, USPOULTRY is based in Tucker, Georgia.

About USPOULTRY Foundation
The USPOULTRY Foundation's mission is to support the recruitment and training of the brightest students, seek and fund scientific research, foster student scientists and promote careers in the poultry and egg industry.