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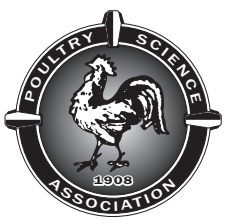

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Organized 1908
http://www.poultryscience.org
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Poultry Science Association
109th Annual Meeting
Abstracts

Presented

July 20–22, 2020

PSA Virtual Annual Meeting

that breeders reared and housed in aviaries may have offspring that produce less CORT and behave more actively in response to a stressor. This data also suggests that maternal housing may have a stronger effect on the analyzed traits than maternal rearing experience.

Key Words: layer breeder, laying hen, maternal effects, housing, behaviour

9 Male familiarity and aggressive behavior: two modulators of female Japanese quail social preferences. Stefania Pellegrini[1, 2], Diego A. Guzman[1, 2], Raul H. Marin*[1,2], *[1]Universidad Nacional de Córdoba, Facultad de Ciencias Exactas, Físicas y Naturales, Instituto de Ciencia y Tecnología de los Alimentos (ICTA), Cordoba, Argentina, [2]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Instituto de Investigaciones Biológicas y Tecnológicas (IIByT, CONICET-UNC), Cordoba, Argentina.*

Sexually experienced female quail that have observed an aggressive interaction between a pair of males prefer the less aggressive male, while females with no previous sexual experience prefer the aggressive one. Although those studies were developed in a setup where birds can only interact through a glass separation (no physical contact), social proximity was discussed in terms of reproductive preferences. Another factor that modulates the birds' choice to interact with conspecifics is the familiarity with other birds. Herein we assessed whether female quail will differentially modulate their social interactions with known or unknown males after observing them taking a high vs. a low aggressive role in a male-male encounter (4 experimental group combinations). Birds were housed in male-female pairs during the rearing period and all females tested were sexually experienced. At 100 d of age, 2 males were tested during up to 2 hs in the presence of their 2 female partners that remained as audience behind a wire partition in two separated compartments (27 total interactions). After the male-male encounters, males were classified as either high or low aggressive. Then (24 hs), the female interactions with those males were individually evaluated during 2 hs in a novel environmental setup that combined the two males fitted with an individual physical barrier (IPB) on their back, the female with no IPB and gated partitions within the apparatus. Thus, only females can freely ambulate through the gates and visit all compartments. This novel social test allows females to choose between remaining separated from each of the 2 males that are restrained in opposite sides of the apparatus, or to enter their environment and physically interact with them. Differences in the time spent with or near each male and numbers of mating and aggressions were analyzed using mixed GLM. Females spent more time ($P<0.003$) near their known male partner than with the unknown male regardless of the male aggressiveness observed, suggesting that familiarity strongly favors female social reinstatement. However, females copulated equally ($P=0.53$) with both males regardless of the male familiarity or aggressiveness shown during male-male encounters. Finally, females behaved more aggressively than males and were even more aggressive towards the unknown males. Furthermore, females were more aggressive ($P<0.001$) towards males that were highly aggressive during the male-male interactions than towards the males that were less aggressive. Taken together, the observed female social behavior suggests that the time spent near a conspecific or the aggressiveness performed against them cannot be used as reliable indicators of sexual preference.

Key Words: Japanese quail, social preferences, bird familiarity, aggressive behavior, reproductive behavior

10 Circadian Rhythm of Dust Bathing in 4 Strains of Laying Hen. Tessa Grebey[GS]*[1], Ahmed B. Ali[2], Janice C. Swanson[1], Tina Widowski[3], Janice Siegford[1], *[1]Animal Science, Michigan State University, East Lansing, Michigan, United States, [2]Animal and Veterinary Sciences Department, Clemson University, Clemson, South Carolina, United States, [3]Department of Animal Biosciences, Animal Science and Nutrition, University of Guelph, Guelph, Ontario, Canada.*

Producers are moving towards tiered aviary systems to house laying hens. These aviaries include multi-level wire enclosures and provide litter areas on the floor. Some aviaries have doors that can confine the hens within the tiered enclosure, in most cases to promote oviposition in nests to prevent eggs being laid in litter. However, there are multiple genetic strains of laying hen used in the egg industry, and some show different circadian patterns for key behaviors. For example, though dust bathing by laying hens typically peaks in early afternoon, there may be variation in timing of dust bathing among strains. Differences in laying hen behavior patterns, coupled with standard aviary set-ups or typical management practices, may make it difficult to suitably allow birds the freedom to perform certain important behaviors, such as dust bathing, while preventing negative behaviors such as laying eggs in litter. This study is a first look at the circadian rhythm of dust bathing in different strains of laying hens. Our objective was to determine if there were strain differences in the behavioral pattern of dust bathing. We examined the circadian rhythm of dust bathing in 4 strains of laying hen (Hy-Line Brown [HB], Bovans Brown [BB], DeKalb White [DW] and Hy-Line W36 [W36]) housed in aviaries and separated by strain. There were 144 hens of each strain in each aviary unit (4 units/strain), and litter access was provided for each unit from 11:30 A.M. to 1:00 A.M. We video recorded hens on the litter at 28 weeks of age from 11:30 A.M., when doors opened, until 8:00 P.M. at lights off. We recorded the number of hens dust bathing and on the litter from this video using instantaneous scan sampling every 2.5 minutes. Descriptive analysis was done by visually evaluating graphs showing number of hens dust bathing superimposed over the number of hens on litter at that time. Hens of white strains were more likely to dust bathe as soon as they gained access to litter compared to the brown strains. In the first