Selected Abstracts From the Literature


Calcium tetany is a poorly defined disease of broiler breeder hens that results from acute hypocalcemia. It is characterized by impaired mobility, increased mortality, and absence of gross lesions that would explain the impaired mobility. To evaluate if hens with impaired mobility had calcium tetany or other abnormalities, blood values from normal and affected hens were determined using the i-STAT® handheld clinical analyzer. Three flocks were evaluated weekly prior to peak production (range 25–30 wk of age) comparing normal hens to hens with clinically apparent calcium tetany. Calcium tetany suspect (CaTS) hens from four additional flocks were also evaluated. Significant hypocalcemia (P < 0.001) was observed in CaTS hens (average = 1.14 mmol/L ionized calcium [iCa]) compared to normal hens (average = 1.53 mmol/L iCa) in only one of three flocks sampled weekly. Clinically affected hens from one of the other four flocks also had hypocalcemia. Blood value abnormalities in mobility-impaired hens without hypocalcemia included hyponatremia. Findings in this study indicate calcium tetany is one cause of impaired mobility in breeder hens, but mobility impairment without hypocalcemia can also occur. Calcium tetany should be confirmed by finding significantly decreased levels of iCa in the blood, as diagnosis based on clinical presentation and necropsy results can be inaccurate. The i-STAT® handheld clinical analyzer is an efficient, relatively low-cost method to determine iCa and other blood chemistry values that may be associated with impaired mobility in broiler breeder hens.


Experiments were conducted to determine whether chukar partridge (Alectoris chukar) chicks would develop protective immunity after inoculation with coccidia. Young chukar chicks in battery cages inoculated with 100 or more oocysts of Eimeria kofoidi or Eimeria legionensis had significant protection at challenge 4 wk later, as measured by greatly reduced oocyst shedding and improved weight gain as compared with unvaccinated, challenged controls. However, when birds were housed in litter pens and vaccinated by various regimens (including 2 species of chukar coccidia at 100/dose), coccidiosis rapidly spread through all treatments and caused significant mortality. Vaccination with Coccivac-T or with 100 oocysts of Eimeria dispersa did not prevent mortality resulting from accidental contamination, and feed treatment with a Lactobacillus competitive-exclusion product had no benefit. Most if not all of the mortality was from E. kofoidi. This study illustrated the natural fecundity of chukar coccidia in a floor-pen environment where multiplication rate and reinfection combine to produce clinical disease from a small original exposure. Further, these results cast doubt on the potential use of low doses of live oocysts as a vaccine in the chukar partridge.


Understanding normal movement patterns and husbandry practices of poultry production systems is important for understanding the dynamics of disease spread, and for controlling outbreaks of highly infectious diseases, such as highly pathogenic avian influenza. To learn about these patterns in the noncommercial or “backyard” poultry-keeping sector, an open-ended questionnaire was administered to 18 backyard-flock owners in British Columbia, Canada, and responses were analyzed descriptively. Six participants reported that they visited premises that were part of the commercial poultry system in the last year; however, bird movements between commercial and noncommercial farms were always unidirectional, from commercial to backyard. Bird movements into and out of participants’ flocks occurred multiple times per month (2 flocks), 3 times per year (5 flocks), once or twice a year (9 flocks) and every 3–5 yr (2 flocks). Visitors had direct contact with three participants’ flocks multiple times per week; for other flocks, visitors had direct contact three times or less per year. Fourteen participants rarely had direct contact with other backyard flocks, three had contact more than once per week, and one had contact every 3 mo. Participants stated that the health of their birds was excellent 7, very good 3, good 6, O.K. 1, and all right 1, and used a median of 2 biosecurity practices to maintain health in their flock. Our findings suggest that bird movements are not likely to transmit disease from backyard to commercial flocks; however, human movements between backyard and commercial premises could transmit diseases. Within the backyard-flock sector,