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Invited presentation

**Infectious diseases and nutritional deficiency in birds
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Abstract

Mycoplasma infections in poultry are generally more severe than those reported for house finches. The prominent field signs are puffy or swollen eyes and crusty appearing eyelids. Initial field signs observed during a natural outbreak of mycoplasma infection in a backyard gamebird operation included foamy eyes, excessive tearing and severely swollen sinuses. Routine cleaning and disinfection of bird feeders with household bleach is recommended to prevent mycoplasmosis and other diseases that can be transmitted at bird feeders. A 10 percent solution of household bleach applied weekly for feeders with high bird use will reduce the potential for contaminated surfaces to transmit disease. Invariably birds that have signs of a single nutritional deficiency problem. Calcium and phosphorus should be present in the diet in a 1.5-2: 1 ratio. Seed diets have low calcium and phosphorus levels. Vitamin D precursors are present in vegetarian diets but require metabolism by ultraviolet light to be converted to the usable form vitamin D3. Calcium and vitamin D3 deficiencies will lead to egg-binding and osteodystrophy in growing and breeding birds. Unobstructed egg-binding may be relieved by injecting calcium solution or administering it orally. Oxytocin may or may not be useful in these cases, as the bird is more likely to be calcium deficient than oxytocin deficient. Vitamin A is essential for growth, optimum vision and maintaining the integrity of the mucous membranes. Vitamin A deficiency predisposes to upper respiratory and alimentary tract disease by causing the mucous membrane's simple epithelium to become stratified squamous keratinized epithelium. The keratin plugs the ducts of the mucus-secreting and salivary glands, causing pustule formation and even salivary gland abscesses. In breeding birds there is decreased egg hatchability and in (poultry) chicks it prevents the kidney from excreting uric acid which remains visible in the kidney and ureters (this is commonly seen in post-mortem examination of grey parrots, the most vitamin A deficient birds).