

Science & Solutions



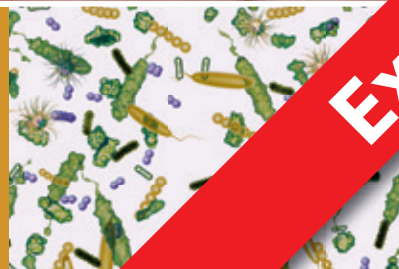
Oral lesions

What's wrong with my birds?



Fighting *Campylobacter* in broilers

The proven efficacy of probiotics in controlling enteric pathogens



Antibiotics and microflora

Prevent intestinal dysbiosis and promote gut health in young chicks

Excerpt

What's wrong with my birds?

Part 1: Oral lesions

Cut & Keep
Checklist

Science & Solutions presents a handy checklist for diagnosing poultry mycotoxicosis.

Cut this out and take it along with you to the farm!

Diagnosing common poultry ailments correctly and precisely can be a challenge even for experienced vets, nutritionists or farm managers. Differential diagnosis is especially difficult in the case of mycotoxin-related problems as symptoms vary greatly and may be further complicated by the synergistic effects caused by the co-occurrence of more than one type of mycotoxin in the feed.



	Potential cause	Description of problem	Check list	Corrective actions
MYCOTOXINS	T-2 toxin (T-2) Diacetoxyscirpenol (DAS)	T-2 and DAS have a dermatotoxic action, thus causing lesions to the epithelium, increasing the speed of epithelial cell renovation.	<input type="checkbox"/> Positive for T-2 and/or DAS in raw materials (ELISA) or feed (HPLC) <input type="checkbox"/> Origin of raw materials from supplier/region with history of T-2/DAS contamination <input type="checkbox"/> Histopathology: Proliferating epithelial cells and hepatic vacuolization <input type="checkbox"/> Overall decrease in flock performance	<input type="checkbox"/> Check average contamination levels <input type="checkbox"/> Use Mycofix® at a correct dosage level <input type="checkbox"/> Avoid feed bins or feed/water lines that have become contaminated by stale, wet or moldy feed
NUTRITION	Feed granulometry	Small particles of feed block saliva ducts, which may result in oral lesions.	<input type="checkbox"/> Pelletized feed: Fine particles >20% <input type="checkbox"/> Mashed feed: Check mean particle diameter <input type="checkbox"/> Histopathology: Presence of inflammatory cells and bacteria <input type="checkbox"/> No overall decline in flock performance	<input type="checkbox"/> Adjust the pelleting process <input type="checkbox"/> Increase the sieve diameter <input type="checkbox"/> Use pellet binders to improve pellet quality
MANAGEMENT	Liquid methionine	Methionine dripping in the application system produces points of high methionine concentration in the feed.	<input type="checkbox"/> Methionine injector dripping inside masher <input type="checkbox"/> Histopathology: Infiltration of inflammatory cells and necrotic lesions <input type="checkbox"/> No overall decline in flock performance	<input type="checkbox"/> Clean/replace methionine injectors
	Organic acids	Excessively high concentrations of organic acids in the feed lead to caustic lesions in the oral mucosa.	<input type="checkbox"/> Acids injector dripping inside masher <input type="checkbox"/> Histopathology: Infiltration of inflammatory cells and necrotic lesions <input type="checkbox"/> No overall decline in flock performance	<input type="checkbox"/> Clean/replace acid injectors <input type="checkbox"/> Adjust dosage of organic acids
	High temperatures	More frequent drinking during hot periods increases feed residues in beaks.	<input type="checkbox"/> Histopathology: Infiltration of inflammatory cells and necrotic lesions <input type="checkbox"/> Possible decline in flock performance <input type="checkbox"/> Increased mortality	<input type="checkbox"/> Apply vitamins in water <input type="checkbox"/> Apply organic acids in water <input type="checkbox"/> Increase chlorine level in water
	Copper sulphate	Concentrations between 0.05 to 0.2% in feed and drinking water can promote oral lesions.	<input type="checkbox"/> Check concentration of CuSO ₄ in premix <input type="checkbox"/> Check concentration of CuSO ₄ in water <input type="checkbox"/> Check if water dosing system is working correctly (if applicable)	<input type="checkbox"/> Apply group B vitamins and K ₃ vitamin in water <input type="checkbox"/> Correct set-up of the water dosing system
PATHOGENS	Candida albicans (Candidiasis)	The yeast <i>C. albicans</i> can lead to lesions in the crop that can extend to other parts, including the mouth. More common in birds with longer lifespans, such as layers and breeders.	<input type="checkbox"/> Histopathology: Fungal hyphae present in affected mucosa	<input type="checkbox"/> Nystatin or diflucan or imidazoles such as ketoconazole, fluconazole, etc. as treatment
	Fowl pox (Avian pox)	Viral disease caused by Poxviridae (Avipoxvirus) often leads to cutaneous lesions on head, neck, legs and feet. • Dry pox: Raised, wart-like lesions on feathered areas (head, legs, vent, etc.) which heal in about 2 weeks. • Wet pox: Canker-like lesions in the mouth, pharynx, larynx, and trachea.	<input type="checkbox"/> Flock history and presence of typical lesions <input type="checkbox"/> Laboratory diagnosis by tissue or transmission studies	<input type="checkbox"/> Use preventive vaccination depending on prevalence and season (typically fall) <input type="checkbox"/> Treat affected birds with antibiotics to reduce secondary infection, although the disease has to run its course
	Protozoans	Protozoans are more prevalent in birds with a longer lifespan, such as layers, breeders and turkeys, game birds and/or free-range birds.	<input type="checkbox"/> Histopathology: Microscopic examination of a smear of mucus or fluid from the throat demonstrates the presence of trichomonads	<input type="checkbox"/> Separate chronically infected birds from breeding birds
	Trichomonas gallinae	First lesions appear as small, yellowish areas on the oral mucosa.	<input type="checkbox"/> Cankers, also known as "yellow buttons" — yellow, rounded areas with central caseous necrotic foci	<input type="checkbox"/> Use nitroimidazoles (not approved in US by FDA and prohibited in the EU)
	Histomonas meleagridis	Also known as histomoniasis or blackhead disease. Common in commercial turkeys and chickens.	<input type="checkbox"/> Cecal inflammation, ulceration, thickening of wall, ceca containing yellowish cheese-like exudate	<input type="checkbox"/> Use nitroimidazoles (not approved in US by FDA and prohibited in the EU)

Read the complete issue here: www.biomin.net/en/magazines/science-solutions-no-07/

*DISCLAIMER: This table contains general advice on poultry-related matters which, most commonly affect poultry and may be related to the presence of mycotoxins in feed. Poultry diseases and problems include, but are not confined to the ones present in the table. BIOMIN accepts no responsibility or liability whatsoever arising from or in any way connected with the use of this table or its content. Before acting on the basis of the contents of this table, advice should be obtained directly from your veterinarian.