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Poultry Pointers



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NEW EVIDENCE FOR SPIKING MORTALITY SYNDROME IN BROILER FLOCKS

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Many causative factors can result in stunting, runting, and enteritis in broilers. However, the presence of severe hypoglycemia (low blood sugar levels) in birds following a stress, in combination with the above symptoms, may point to a specific disease, for

which researchers have recently found new evidence.

With this type of spiking mortality syndrome (SMS) in broiler flocks, birds begin to exhibit symptoms, most commonly at 12 to 16 days of age. These symptoms include enteritis with accompanying large amounts of orange mucous-like fecal material, severe growth retardation, lethargy, and, following a stress such as feed withdrawal, severe hypoglycemia. The latter can result in tremors, apparent blindness and, in the most severe cases, death.

Recently, researchers at the Georgia Poultry Laboratory and

Penn State University's Animal Diagnostic Laboratory have identified viral particles in fecal and intestinal contents of afflicted birds that resemble Arenavirus particles. These particles have also been identified in intestinal contents from newly hatched, specific pathogen-free (SPF) chicks and from broiler breeder flocks. When used as inoculum for day-old broilers, viral particle-containing intestinal homogenate, both filtered and unfiltered, appeared to produce a persistent infection, and reproduced the symptoms described above.

Collaborative studies with researchers in the Department of Animal Science at Rutgers University and in Poultry Science at Penn State have revealed that circulating levels of key growth-promoting hormones are abnormal in birds

infected with the virus. Further, tissue stores of glucagon, the key hormone responsible for maintaining blood sugar level, are severely depleted, which suggests why infected birds develop such severe

hypoglycemia. Efforts to isolate the virus and verify its identity are planned, which are the first steps toward development of diagnostic tests and, potentially, a vaccine.



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