



Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION - OCTOBER 2002

GREEN TENDERS?

Green muscle disease, or Deep Pectoral Myopathy, basically refers to the necrosis of minor breast muscle (i.e., tenders) of poultry. The condition was first recognized in turkeys, but has been detected in spent broiler breeders and more recently in heavy broiler flocks. The necrotic tenders may appear swollen or dry-friable and often range in from pale with bloody surface (early stages) to yellow-green in color (24 hours or older). The lesions are usually limited to the middle portion of the affected muscles and are undetectable on whole carcass and cut-up parts (unless de-boned), although sunken appearance of the breast is reported in severe cases.

The green muscle disease results from vigorous activity of both major and minor breast muscles, but only the tenders are affected. During contraction, muscles normally swell with increased blood flow (to supply needed oxygen and nutrients). The tenders, compared to other muscles, have a rigid muscle cover and are located in a tight chamber (keel on both sides and fillet on top) such that they can't expand to accommodate this increased flow (as much as 20% in weight). The net result is self-strangulation and suffocation of the muscle, and eventually necrosis.

The incidence of green muscle disease increases with market weight in broilers, with more cases reported higher yielding strains and in males. Increased bird activity (flock nervousness, flightiness, struggle and wing flapping) induced by factors such as feed or water outages, lighting programs and intensity, human activity and excessive noises in and around chicken houses, should be looked as a trigger for the development of green muscle disease in broilers. The selection for breast meat yield will continue, because of demand for white meat production in the US. Given the economics of processing heavier broilers to maximize breast meat yield, we will likely to see more green tenders in the future.



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