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Incidence of green coloured broiler meat from a market in Calicut district of Kerala



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Abstract

An incidence of green coloured broiler meat was reported from Nadakkavu meat market of Calicut district. The owner suspected that it was due to spoilage and informed Department of Food Safety, Kozhikkode. The case was forwarded to Department of Poultry Science, College of Veterinary and Animal Sciences Mannuthy. Up on investigation, the meat was brought afresh and was obtained from the wet market and chance of any spoilage was ruled out. The unusual green colour in the chicken meat was identified as the condition called Green Muscle Disease. Green muscle disease is becoming common in broiler industry especially in broilers grown to heavier body weights. It is characterized by necrosis and atrophy of the breast tenders and is believed to be associated with increased bird activity and excessive wing flapping. It is a challenge to the industry because it does not affect the health of the bird and often goes unnoticed until birds are deboned after processing. Management practices that lessen or minimize wing flapping in the flock appear to be the best defense against the Green Muscle Disease.

Keywords: Green Muscle Disease, Necrosis, Atrophy

Introduction

An incidence of green coloured broiler meat was reported from Nadakkavu meat market of Calicut district. The owner suspected that it was due to spoilage and informed Department of Food Safety, Kozhikkode. The case was forwarded to Department of Poultry Science, College of Veterinary and Animal Sciences Mannuthy. Up on investigation, the meat was fresh and was obtained from the wet market and chance of any spoilage was ruled out. The unusual green colour in the chicken meat was due to the condition called Green Muscle Disease.

Green Muscle Disease/Oregon Disease/Deep Pectoral Myopathy is a degenerative muscle disease of heavy chicken and Turkey. Green Muscle Disease is not a new disease but a condition which is generally not detected until such birds are deboned. The condition was first described by Dickinson *et al.* (1968) ^[1] in adult Turkeys. It was later observed by Page and Fletcher (1975) ^[3] in broiler breeder hens and finally reported in young broiler chicken by Richardson *et al.* (1980) ^[4].

Green Muscle Disease is characterized by necrosis and atrophy of the deep pectoral muscles, commonly known as breast fillet and tender which are responsible for the up and down strokes of the wings. The condition occurs as a result of restriction in blood supply develops in the tender because tender is surrounded by a tough inelastic muscle covering and sternum. As a result, muscle mass of tender is unable to swell in response to physiological changes that occurs when wings are exercised (Joradan and Pattison, 1998) ^[2]. As these muscles in broilers cannot expand in response to physical activity, a short period of sudden and excessive wing flap can compromise the blood supply and lead to degeneration and cell death in the tissue. The affected muscle has a characteristic swollen reddish-brown lesion that later becomes green and shrunken and then pale green, depending upon the time of induction of the vigorous wing exercise.

No clinical signs are observed. Gross (greenish muscles) and microscopic lesions are characteristic. Microscopically the muscle fibers are swollen and eosinophilic with necrosis. The lesion is not associated with any infectious or harmful substance and thus does not impair the general health of the bird and as a result there is no food safety concern other than affecting the aesthetic appearance of the meat.

Currently, the condition is a major challenge to the Poultry Industry because such birds are not detected in the poultry house but have to be removed during processing. Green tenders have no appeal to the consuming public and as a result industry has to face economic loss. Management practices that minimize wing flapping are the best defense against the disease.

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Avoid any excessive activity that may cause unnecessary wing flapping among broilers. Minimize excessive noise levels both inside and outside the house that could frighten the birds can also be carried out.

**References:**

1. Dickinson EM, Stephen JO, Helfer DH. A degenerative myopathy in Turkeys. Proceedings of 17th Poultry Disease Conference, University of California, 1968 7p.
2. Jordan FTW, Pattison M. Deep pectoral myopathy of turkeys and chicken. Poultry Diseases, London, UK, 1998, 398-399.
3. Page RK, Fletcher OJ. Myopathy of the deep pectoral muscle in broiler breeder hens. Avian Dis. 1975; 19:814-821.
4. Richardson JA, Burgener J, Winterfield RW, Dhillon AS. Deep pectoral myopathy in seven week old broiler chicken. Avian Dis. 1980; 24:1054-1059.