

Organic Feed and Medicinal Plants Enhance Safe Broiler Meat

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Abstract

At the present world's context, people want to take safe food for their healthy longevity. Based on animal protein, poultry is the major, comparatively cheap, and easy source in our daily sets of meal. As sources on this demandable issue for the health concern of people, huge data was helped to promote this positive message for everybody. At the time of poultry farming, it was possible to rear them by providing natural grass and some common medicinal plants for the alternatives of antibiotics. Since, there were some limitations for the production of safe meat but was possible to overcome through the proper management.

Keywords: Broiler Meat; Organic Feed; Antibiotics; Medicinal Plants; Production; Limitations

Introduction

The increased number of consumers is demanding healthy and natural foods have favoured organic livestock farming that is reputed to be environmentally friendly [1]. Consumers prefer products from systems that provide good welfare and health for the birds [1,2]. There is a common belief that organic chicken meat is safer and more nutritious than conventional broilers [3,4]. Grass consumption in the outdoor area in the organic production system was equivalent to 12% of the birds' total feed intake [5]. Livestock must be raised according to organic standards and fed at least 80% organic feed ingredient [6]. Overuse and misuse of antibiotics in animals are contributing to the rising threat of antibiotic resistance. For decades, antibiotics have been utilized in the poultry industry to prevent and treat diseases and promote growth [7]. Antibiotic-free broiler meat production is a growing challenge in many developing countries including Bangladesh, where antibiotics are used injuriously [8]. Commercial poultry farmers of Bangladesh extensively utilize antibiotics without any veterinary advice and often do not follow withdrawal period guidelines [7]. Removing antibiotics from broilers can lower the production cost and thereby decrease the market price of broiler meat [7]. In

Bangladesh, usually from 1 to 1.5 square feet of floor space is assigned to each bird. The objective of this paper is to ensure the overall productivity of safe broiler meat through applying organic feed and medicinal plants with the commercial feed.

Supplied Feed and Water

The poultry farmers provided a mixture of concentrate feed of rice polish, wheat polish, and broken rice to increase the growth, meat, and egg yield of the chickens [9]. Broilers drink approximately two pounds of water for every pound of feed they consume [7].

Available Medicinal Plants

It has been reported that the use of garlic (5 g/kg) and black pepper powder (1 g/kg) in broiler feed could enhance broiler chickens' weight gain and consumption index [10]. Many natural foods also have antibacterial actions, such as broccoli (*Brassica oleracea*), guava (*Psidium guajava*), garlic (*Allium sativum*), and okra (*Abelmoschus esculentus*) [11-14]. A study using a turmeric extract showed improved meat quality without affecting broiler performance (Haque et al., 2020). Apple cider vinegar boosted the immune system of the chickens.

Commercial Antibiotics

Inadequate water availability is a significant obstacle to sustainable antibiotic-free broiler meat production [15]. Producers (88%) did not adhere to the required antibiotic withdrawal time before marketing their chickens [16]. Antibiotics in broiler production enhance the food conversion ratio by 4% [17]. Although removing antibiotic feed additives from the diet would enhance the production cost, this increased cost can be recovered from the expected increase in broiler meat prices [18]. To rearing, antibiotic-free broiler production needs to provide more space than required [7]. After purchasing the day-old chicken, then after 10 days, there will be no residue if they were treated by antibiotics from the source.

Production of Broiler Meat

The performance of the broiler was evaluated in terms of initial body weight, achieved body weight, feed intake, and feed conversion ratio [19]. A small proportion of poultry farms in Bangladesh were found to maintain satisfactory management practices which must be monitored regularly

to increase productivity [20]. Very few mortality rates (2-3%) were found in the organic farm. Local people are very eager to take safe food like an organic chicken with Tk. 250 per kg but commonly this meat is 160-165 taka. Low production costs and rapid economic progress are pivotal in its expansion [21].

Concluding remarks

People always want to take safe food as their daily consumption. Poultry is a major protein item for everybody, comparatively cheap, and easily accessible. High feed cost, diseases, and inadequate supply of vaccines/medicines are the major constraints to poultry farming in Bangladesh [22]. Nonetheless, all poultry farmers could provide some organic feed with the commercial ones, and this management allows them to safe higher feed cost in the market [23]. Free-range chicken could get fresh grass in the field, and medicinal plants for the alternatives of antibiotics [24]. This management system ensures safe broiler meat by lowering production costs will extend the demand of poultry meat [25] (Table 1).

Features	Examples	Sources
Safe Food	People like safe meat always.	Sundrum A [1], Magdeliane P, et al. [3], Crandall PG, et al. [4], Cinar M, et al. [5], Moses [6]
Supplied Feed	In organic farming, supplied feed could be natural at all.	Dutta RK, et al. [9], Haque MH, et al. [7]
Medicinal Plants	In Bangladesh, we can produce lots of medicinal plants for poultry.	Carvalho CCR, et al. [11], Sibi G, et al. [12], Kirubakaran A, et al. [10], Farhana JA, et al. [13], Tijjani A, et al. [14], Haque MH, et al. [7]
Antibiotics	Antibiotic-free poultry is possible to rear.	Gerbens-Leenes PW, et al. [15], Cowieson AJ, et al. [17], Cardinal K, et al. [18], Haque MH, et al. [7], Masud AA, et al. [8]
Meat Production	The production of safe meat is remarkable in farms.	Dutta RK, et al. [19], Dutta RK, et al. [20], Najeeb A, et al. [21], Seraj S [26]
Limitations	Higher feed cost is a major concern.	Islam MS, et al. [22]

Table 1: All about the Safe Broiler Meat.

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