



Effect of age on the production performance of commercial broilers

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Abstract

A study was carried out to analyze the impact of age on production performance of broilers. The data on the performance of broilers pertaining to 32 contract farmers with the average flock size of 4,000 birds per batch in and around Puducherry was chosen. The data pertaining to a total of 1,28,836 birds was collected with respect to body weight and FCR at 28, 35 and 42 days of age. It was found that on an average the body weight and FCR were 1.27, 1.73 and 2.12 kg and 1.52, 1.68 and 1.87 at 28, 35 and 42 days, respectively. As the age advances, FCR value decreases which indirectly indicate early marketing age. Early marketing age increases number of batches to be reared which may increase the volume of operation and overall farm profit.

Keywords: Body weight, FCR, Age, Broiler, Batches.

Introduction

The most important factors affecting income in the broiler industry are body weight and FCR. For a long time, it is believed that broilers slaughtered at 2 kg live weight is economically profitable. This concept of slaughtering the broiler at 2 kg of body weight was determined by considering the weight of birds attained without a decrease in the weight gain per day. But after the birds reach a weight of 1.25 kg, which on Indian conditions is achieved by 28 days of age, though there is a gradual increase in the body weight, the feed consumption increases exponentially thereby increasing the production cost.

Materials and Methods

Farmers who were doing integration with various poultry integrators across Puducherry were identified. The system of rearing followed is intensive system on deep litter houses with the feed provided by the

integrators. The study was mainly focused on the age of slaughter and the corresponding body weight obtained, the birds taken under study belonged to different broiler strains. The data was collected when there was no major outbreak of any diseases in Puducherry so that the results won't be influenced by that. Vecerek *et al.*, (2006) and Elsayed (2014) stated that the effect of season on mortality rate is the highest in summer (June, July and August) and winter (December, January and February). It was also made sure that on the period of study the climatic conditions were optimal for broilers so that growth rate and survivability won't be affected by the climatic conditions. Fifty contract broiler farmers were identified, of which only 32 farmers who maintained good management practices and also proper maintenance of records were taken for the study. The data obtained from these 32 farmers were body weight, feed intake and FCR for every week. The body

weight attained every week was measured by taking the body weight of 10% of the total birds in the farm. The birds were slaughtered only after they attained the slaughter weight of 2 kg or by 42 days of age on an average. The 32 farmers had a total of 1,28,836 birds i.e. on an average a farmer had 4,026 birds from the range to a maximum of 8000 birds and a minimum of 1600 birds. Feed was provided ad libitum till the date of lifting for slaughter. The integrators followed feeding with 4 phase of feed for broilers based on their age, i.e. Pre Broiler Starter (PBS) from 0th day to 10th day, Broiler starter (BS) from 11th to 20th day, Broiler

Grower (BG) from 21st day to 30th day and finally Broiler Finisher (BF) from 31st day till lifting / catch. Some of them followed only 3 phase of feed in any combination i.e. either BS, BG and BF or PBS, BG and BF. The nutrient content of these feed types were varied according to the age group of the birds and also based on the specific breed (Hubbard, Cobb, etc.,) or strain of birds that they use.

Results and Discussion

The data on body weight and feed intake are presented in the table 1 and depicted in the figures 1 and 2.

Table 1: Effect of slaughter age at various factors

Parameters	Age at Lifting / Catching		
	28 days	35 days	42 days
Body weight (g)	1271	1730	2122
Feed conversion ratio	1.52	1.68	1.87
Survivability (%)	96.46	94.73	91.65
Cumulative feed consumption (g)	1931	2906	3968

Figure 1: Weekly Body Weight (g) and feed intake (g)

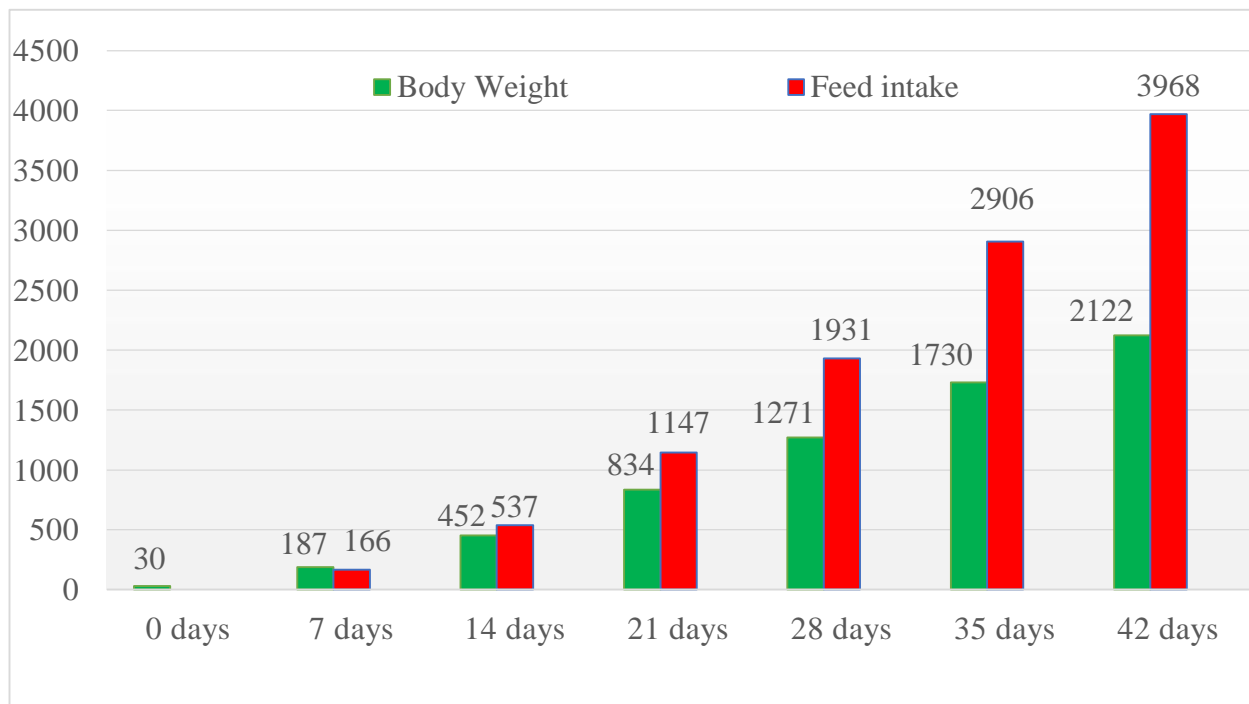
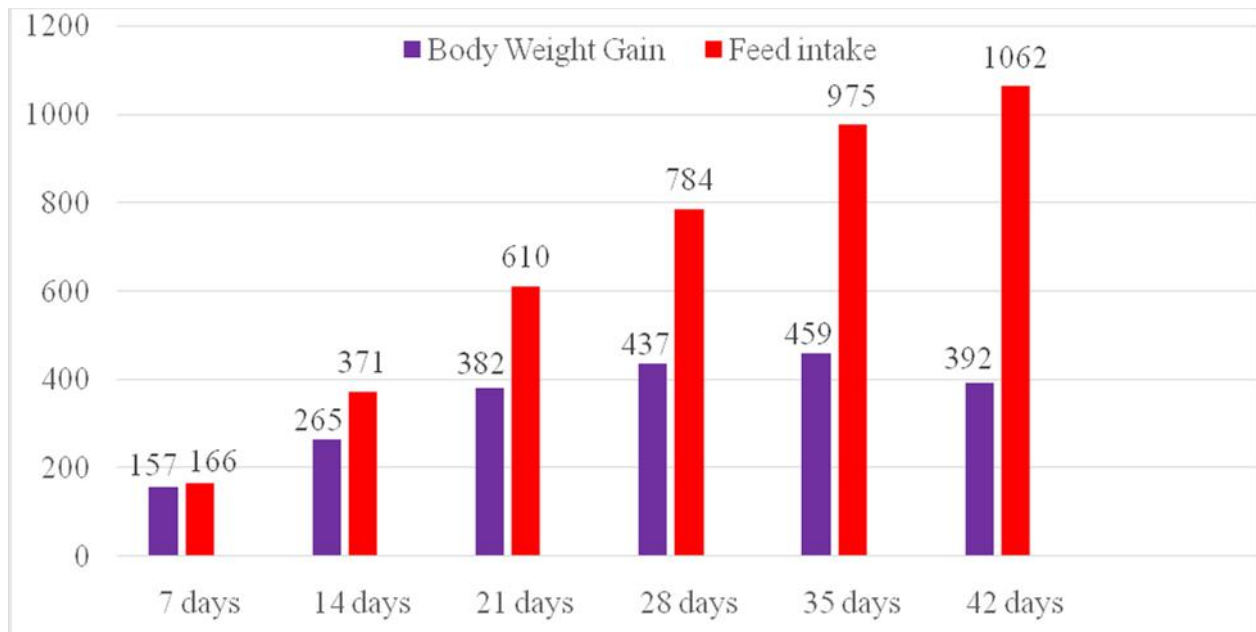


Figure 2: Weekly Body Weight Gain (g) and Feed Intake (g)

The broilers raised up to the age of 28, 35 and 42 days attained a body weight of 1.27, 1.73 and 2.12 kg, respectively. They consumed 1.93, 2.91 and 3.97 kg of feed to attain this body weight, respectively. The FCR per batch was 1.52, 1.68 and 1.87 at 28, 35 and 42 days of age, respectively. After 35 days of age, the growth of bird and weight gain is reduced. On the contrary, feed consumption increases drastically which in turn may affect farm profitability (Figure.2.).

From these data we opined that broilers may be marketed from 28 to 35 days of age for more profit and to increase volume of operation. The present study is in agreement with Arikan *et al.*, (2017) who stated effect of early slaughter age, lower total losses in broilers slaughtered at a younger age than that in those slaughtered at an older age, independently of season and transportation distance and lower slaughter losses were observed in broilers slaughtered at the younger age than the older age. Moran and Bilgili (1995) reported that average live weight losses of 39 and 53 day old broilers were 5.8% and 6.2%, respectively. Mevlut Karaoglu *et al.* (2004) observed that broilers had good weekly weight gain up to 5 weeks of age after which the daily weight gain reduces in accordance with the amount of feed consumed. Baéza *et al.* (2012) reported that the litter moisture and ammonia content increased above 35 days resulting in decreased walking ability of the birds which in turn may reduce the body weight gain.

Conclusion

Feed consumption increases exponentially after 35 days of age which is increasing the production cost. The present study shows that slaughtering the birds from 28 to 35 days of age (1.25 to 1.73 kg of live weight) may be more economical than the conventional one.

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