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ECONOMICS OF BROILER REARING UNDER INTENSIVE AND BACKYARD SYSTEM OF MANAGEMENT IN MIZORAM*

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ABSTRACT

Rearing of commercial broilers up to 3-4 months of age till they attain 4-5 kg body weight is common in backyard system in Mizoram. The study was conducted to compare the performance of broiler under Intensive and Backyard System of management, for which 300 commercial broilers were reared in three replicates (100 birds in one replicate) under Intensive System in the College farm and another 300 birds were reared at farmers level under Backyard System in 10 replicates (30 birds / farmers). Cost of production/kg broiler was significantly lower in intensive system (Rs.54.15 and Rs.63.26) compared to backyard system (Rs. 65.05 and Rs. 106.49) system of rearing both at the end of 6th and 13th week of age. It was observed that the gross margin in broiler rearing up 6 weeks of age was quite satisfactory in both intensive and backyard system, however rearing of broiler up to 13th weeks of age reduced the margin, especially under backyard system rearing in state of Mizoram, which might be due to poor growth, higher feed consumption and because of higher mortality rate as compared to intensive system of rearing.

Key words: Broiler, cost of production, Intensive System, Backyard System, Mizoram

Rearing of commercial broiler birds in the backyard is a traditional occupation of many families of the Mizo people. In Mizoram, broiler birds are reared in 20-30 numbers in small raised housed constructed in the backyard with locally available materials. These birds not only satisfy their animal protein source, but also act as source of valuable income for the rural poor. Due to consumer preference for yellowish colour carcass

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of higher fat with tougher meat in the local market, broilers are usually reared up to 3 to 4 months of age, till they weigh around 3 to 5 kg. However, commercial broilers are best for marketing at 5 to 6 weeks of age, weighing between 1.5 to 2 kg body weights with soft tender meat with lesser amount of fat content. Numerous studies have so far been conducted on relative economics of broiler reared to this age. However, no such study is so far been reported on these parameters on broilers reared up to 4-5 kg weight under the backyard system of Mizoram. Considering the importance and potential of broiler farming in the state, the present study was undertaken to compare the relative economics of broiler birds reared under intensive and backyards system of management at different age.

For the study, six hundred day old broiler chicks *(Vencobb)* were randomly selected and were identified by wing band. They were divided into two groups consisting of 300 chicks in each group and one group of chicks were reared in three replicates (100 birds in one replicate) under Intensive System in the College farm. The other 300 broiler chicks were reared at farmers level under Backyard System in 10 replicates (30 birds / farmers). Commercial broiler feeds available in the local market was used for feeding and routine managemental practices were followed for the birds reared under intensive system. However no intervention was made in the broilers reared under backyard system in terms of feeding and other managemental procedure. Under backyard system, broiler birds are reared in small raised house constructed in the backyard with locally available materials. Usually, commercial feeds available in the local market were used for feeding of birds reared under backyard system. Use of left over kitchen waste and grains for feeding of broilers reared under backyard system is quite common. All the records pertaining to the cost of production and sale proceeds were recorded for economic analysis. The cost of production / kg broiler, gross profit / kg broiler, share of feed in production cost were calculated for day old to to 6th week and day old to 13th week under both the system of rearing. To simplify calculations, depreciation of poultry shed and equipments, cost of labour, value of land etc. were not taken in to account to estimate the gross profit.

During first six weeks (day old to 6th week age) of rearing, cost of production (per kg live weight) of broiler under intensive system of rearing was found to be Rs.54.15, which was comparable with the findings of [3] who had reported a production cost of Rs.51.38 / kg live weight. On the other hand, cost of production was comparatively higher under backyard system (Rs.65.05), which might be due to improper management and feeding practices. The gross profits (per kg live weight) during the same period were recorded as Rs. 55.85 and Rs. 44.95 for the intensive and backyard system respectively. In both the system of management, the gross profit (per kg live weight) was found to be comparatively higher than the report of various workers ([1, 2, 5, 6, 7 and 8]) which could be due to higher market value of broiler meat in Mizoram compared to other parts of the country. During the same period (day old to 6th week age), the share of feed in production cost under intensive and backyard system were 73.31% and 75.14% respectively, which were comparatively higher than reports of other workers[1, 4 and 7] who had reported an average of 63.96 to 68.28 %. The higher share of feed in production cost in the present study might be due to higher cost of feed as compared to other parts of India.

Rearing of broilers from day old to 13th weeks of age (day old to 13th week), caused considerable increase in the cost of production (per kg live weight) in backyard system (Rs.106.49) compared to intensive system (Rs.63.26), which might be due to poor growth caused by improper feeding and health management with higher mortality under backyard system of rearing. The gross profits (per kg live weight) during the said period were recorded as Rs.46.74 and Rs. 3.51 under intensive backyard system respectively. The lower gross profit under backyard system could be attributed to improper

feeding and health management and also due to higher mortality rates of broiler (4.76 % in intensive and 22.00 % in backyard system). The shares of feed in production cost were recorded as 78.09 % and 91.55 % under intensive and backyard system respectively. Higher share of feed in production cost in backyard system again might be due to poor growth and higher mortality rate of broiler as discussed earlier. No such reports are available to compare performance of broiler reared up to 13th weeks of age.

Overall, it was observed that the gross margins in broiler rearing up 6 weeks of age were quite satisfactory in both intensive and backyard system, however rearing of broiler up to 13th weeks of age reduces the margin, especially under backyard system of broiler rearing in Mizoram, which might be due to poor growth, higher feed consumption and because of higher mortality rate as compared to intensive system of rearing. Study revealed that there may be a room to reduce the mortality rate of broiler under backyard system of rearing in Mizoram, which may be helpful to improve the profit margin.

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