

EFFECT OF TYPE OF FLOORING ON GROWTH RATE OF BROILER RABBITS

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Abstract: Rabbit production in tropical countries is gaining importance. But scientific rearing of rabbit has been neglected. In the present study, two systems of flooring namely cage system and deep litter system were compared to assess their effect on growth rate of rabbits. 12 rabbit bunnies weaned at six weeks of age were divided into two groups with each group comprising six animals each. Group 1 was housed on deep litter system with ragi straw as bedding material and group 2 was housed in wire mesh bottom cage. The group wise ADG (g) in group 1 was 12.25 and group 2 it was 10.75 statistical analysis revealed with significance difference between the two groups. Hence it could be concluded that on deep litter system the rabbits performed equally with wire mesh floor system.

Keywords: Flooring, Broiler Rabbits, Growth Rate, Average Daily Body Weight Gain.

Introduction

The exotic broiler rabbit, such as Russian Grey Giant, New Zealand white and chinchilla weight about 3.5 to 5 kgs and produce 6 to 10 litters and 3 to 4 times a year with daily weight gain of 15 to 20 gms from weaning (6 weeks) to slaughter age (i.e., 12 weeks). The feed efficiency is quite high and dressing percentage range from 55 to 65 percent yield large quantity of good quality meat which is tender and delicious.

Most of the small and marginal farmers, vegetable growers, landless laborers, women folks are striving hard to improve their socioeconomic status in rural area. They need new avenues which will utilize their spare time without much capital or land to improve their income.

The rabbit raising do not require high investment or whole time labour. Small scale rabbit raising can also provide enough manure of high NPK for their holdings. The rabbit skin can provide raw material for cottage industry in rural area provided the rabbit are profitably reared.

Rabbits require minimum care, management and space for raising compared to other meat animals. The commercial rabbitry is usually in cage system on wire mesh floor. Construction of such cages involve heavy capital investment. If rabbits perform equally well on deep litter,

back yard rabbit rearing can be popularized. This can substantially increase the family income of marginal farmers.

The main objective of the study was to compare the performance of broiler rabbits, brought up on deep litter and wire mesh floor. It is important to study the performance on deep litter and compare it with wire mesh floor before popularizing the species.

Materials and methods

Three broiler breeds Russian Grey Giant, New Zealand white and Chinchilla are used in the present study. From each kindling weaned bunnies at 6 weeks will be divided into two groups. One group was reared on wire mesh floor and the others on the deep litter. Uniform feeding and environmental conditions were provided. Body weights were recorded from 6 weeks up to 12 weeks.

Result and discussion

Comparative evaluation of broiler rabbits managed under deep litter and wire mesh (cage) systems indicated that the rabbits raised on deep litter system had the daily body weight gain ranged from 11.00 to 13.57 gm/day and that of wire mesh floor system had the daily body weight gain ranged from the 8.21 to 12.74 gm/day. Statistical analysis of data using paired t-test revealed that the weight gain achieved in the deep litter system and wire mesh floor system was found to be non significant ($P<0.5$).

Table 1: Daily body weight gains of Broiler Rabbits under deep litter and cage system of rearing.

| Flooring system | Sex | Average Daily Body Weight Gain | | | | | |
|-------------------|--------|--------------------------------|--------------|--------------|--------------|--------------|--------------|
| | | Weeks | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Deep Litter floor | Female | 5.71 | 8.57 | 11.43 | 10.71 | 10.00 | 8.57 |
| | | 14.29 | 11.43 | 13.00 | 12.43 | 13.57 | 16.43 |
| | | 10.00 | 13.57 | 10.71 | 10.71 | 11.43 | 12.14 |
| | Male | 18.57 | 18.57 | 12.86 | 13.57 | 15.71 | 11.43 |
| | | 7.14 | 10.00 | 10.00 | 9.29 | 13.57 | 11.43 |
| | | 12.86 | 10.71 | 14.29 | 9.29 | 17.14 | 18.57 |
| Average | | 11.43 | 12.14 | 12.05 | 11.00 | 13.57 | 13.33 |
| Wire Mesh Floor | Female | 8.57 | 7.14 | 10.00 | 12.14 | 10.00 | 8.57 |
| | | 7.14 | 7.14 | 11.43 | 9.29 | 9.29 | 12.86 |
| | | 7.86 | 9.29 | 12.14 | 12.86 | 11.43 | 12.86 |
| | Male | 7.14 | 12.14 | 15.00 | 11.43 | 11.43 | 12.86 |
| | | 7.14 | 10.00 | 15.71 | 10.00 | 11.43 | 12.86 |
| | | 11.43 | 12.86 | 12.14 | 9.29 | 10.00 | 14.29 |
| Average | | 8.21 | 9.76 | 12.74 | 10.83 | 10.60 | 12.38 |

The above results shows that the same growth rate was achieved in both the system of flooring, may be due to uniform feeding, and environmental conditions provided. When we compare the cost of rearing, for the fabrication of one cage it cost about thousands rupees and cost of litter material it is only about rupees 2 to 4/Kg. If we rear rabbits under back yard system, litter material is available free of cost to the farmers, the cost towards the fabrication of cages can be avoided. So in back yard rabbit rearing can be practiced with higher economy to the farmers.

In deep litter system of flooring the daily body weight gain of female broiler rabbits is varies from 10.00 to 12.38 gm and that of male is 10.71 to 15.48. But in wire mesh floor system the daily weight gain of female broiler rabbits is 7.86 to 11.43 and that of male is 8.57 to 14.29. Statistically analysis using paired t-test revealed that in deep litter system of flooring the daily weight gain between the sex is significant ($P>0.5$). But in the wire mesh flooring the daily weight grain between the sex is non significant ($P<0.05$). The significant difference in average daily weight gain between sex under the deep litter system may be due to better utilization of the litter material (ragi straw) as the fibre source by male rabbits and this shows that male broiler rabbits will grow better than female rabbits in deep litter system of flooring. In wire mesh floor system the non significant average daily weight gain may be due to the non availability of ragi straw.

Table 2: Daily Body Weight Gain of Broiler Rabbits as influenced Gain

| Flooring system | Sex | Average Daily Body Weight Gain | | | | | |
|-------------------|---------|--------------------------------|--------------|--------------|--------------|--------------|--------------|
| | | Weeks | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Deep Litter floor | Female | 5.71 | 8.57 | 11.43 | 10.71 | 10.00 | 8.57 |
| | | 14.29 | 11.43 | 13.00 | 12.43 | 13.57 | 16.43 |
| | | 10.00 | 13.57 | 10.71 | 10.71 | 11.43 | 12.14 |
| | Average | 10.00 | 11.19 | 11.71 | 11.29 | 11.67 | 12.38 |
| | Male | 18.57 | 18.57 | 12.86 | 13.57 | 15.71 | 12.86 |
| | | 7.14 | 10.00 | 10.00 | 9.29 | 13.57 | 11.43 |
| | | 12.86 | 10.71 | 14.29 | 9.29 | 17.14 | 18.57 |
| | Average | 12.86 | 13.10 | 12.38 | 10.71 | 15.48 | 14.29 |
| Wire Mesh Floor | Female | 8.57 | 7.14 | 10.00 | 12.14 | 10.00 | 8.57 |
| | | 7.14. | 7.14 | 11.43 | 9.29 | 9.29 | 12.86 |
| | | 7.86 | 9.29 | 12.14 | 12.86 | 11.43 | 12.86 |
| | Average | 7.86 | 7.86 | 11.19 | 11.43 | 10.24 | 11.43 |
| | Male | 7.14 | 12.14 | 15.00 | 11.43 | 11.43 | 12.86 |
| | | 7.14 | 10.00 | 15.71 | 10.00 | 11.43 | 12.86 |
| | | 11.43 | 12.86 | 12.14 | 9.29 | 10.00 | 14.29 |
| | Average | 8.21 | 11.67 | 14.29 | 10.24 | 10.95 | 13.33 |

Conclusion

Based on the above results it was suggested that farmers can adopt rabbit rearing in their yards under deep litter system of management, which involves least cost and rabbits can be reared economically by providing naturally available grasses, household left over, crop residues etc., with or without supplemental feeding of grains/pulses.

References

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