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Pre-Weaning Growth Performance of Pure and Crossbred Pigs under Organized Farm Condition in Assam

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ABSTRACT : *The study was undertaken on a total of 600 animals comprising of 170 Duroc, 230 Hampshire and 200 H.S. x Ghungroo pigs maintained at National Research Centre on Pig, ICAR, Rani, Guwahati, Assam in duration of 2007 to 2011 with a objective to study the growth performance in terms of body weight gains in preweaning stage. The preweaning growth is very important in case of pig production. The overall Least squares means for body weight for all the breeds at 0 days,15 days, 30 days and 45 days of age was 3.568 ± 0.230, 15.04 ± 0.22, 350.11±0.01 and 980.14±1.33kg respectively. The overall growth rate in 0-15 days, 15-30 days and 30-45 days were found to be 0.024±0.002, 0.579±0.002 and 1.599± 0.006 gm/ day respectively. The birth weight in case of Duroc is highest (1.367±0.024) followed by Hampshire (1.279±0.016) and crosses between Hampshire and Ghungroo (1.117±0.021) maintained in the farm. For 15 days body weight shows similar records in Duroc (4.036±0.051) and Hampshire (4.011±0.036) and slightly lower records in Crossbreds (3.555±0.05). For 30 days body weight Duroc (7.698±0.09) shows highest records followed by Crossbreds (5.757±0.61) and Hampshire (5.699±0.05). For 45 days body weight Duroc (12.467±0.21) shows highest records followed by Hampshire (7.965±0.04) and Crossbreds (7.281±0.07).*

KEYWORDS*: Pig; preweaning; growth*

I. INTRODUCTION

Pig is one of the most important livestock species reared by rural tribes, especially in Assam and north-eastern India. Due to very poor performance of the local pigs, the need for importing improved pig breeds like Hampshire, Duroc from outside the region became inevitable. Before importing in a large scale, it is better to assess the growth performance of existing and proposed breeds. The present investigation was envisaged to study the pre-weaning growth performance of Hampshire, Duroc and Hampshire crosses with indigenous (Ghungroo) pigs under the intensive system of rearing in Assam.

1.1.Materials and Method

The study was carried out in piglets of Duroc, Hampshire and Crossbreds maintained in National Research Centre on Pig, ICAR, Rani, Guwahati, Assam during 2007 to 2011. All the piglets of Hampshire and Duroc were weaned at 35 days of age and 42 days in case of crossbreds. The average creep feed offered per piglet/day was 0.2 kg. The details of the existing methods of housing, feeding and other management practices were recorded. The piglets were also monitored for their health status regularly. Body weights of pigs were taken at birth and then at 15 days and up to weaning period. The data were analyzed using multivariate analysis in SPSS statistical package (SPSS, 2010).

Duroc piglets

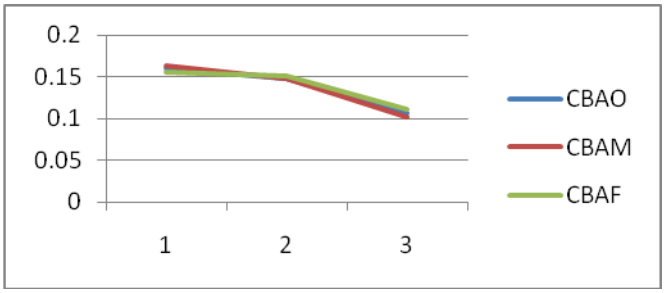
Hampshire piglets

Crossbred piglets Weighing of piglets

Fig 1: The piglets used for the experimental study

1.2.Results and Discussion

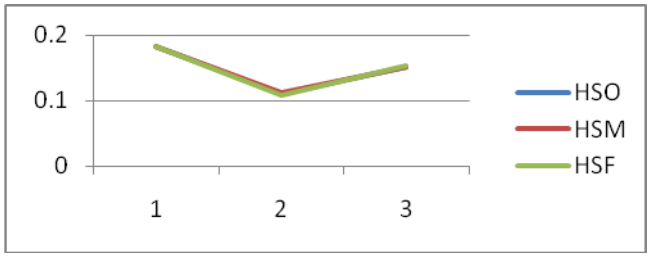
The least-square analysis of variance indicates highly significant (P <0.01) variations among the genetic groups for body weights at 15 days, 30 days and 45 days of age and found significant effect (P<0.05) for 0 days body weight. The overall means for body weight traits at different ages viz., at birth, 15 days, 30 days and 45 days were 1.110± 0.017kg, 3.508 ±0.039kg, 5.735±0.045kg, 7.320±0.051kg for Cross Bred (H.S. x Ghungroo), 1.274± 0.011kg, 4.012±0.026kg, 5.673±0.039kg, 7.953±0.037kg for Hampshire and 1.406 ± 0.065, 3.992± 0.038, 7.618±0.069 and 12.439±0.148kg for Duroc. It was observed that the rate of growth in terms of body weights in the duration of 0-15 days, 15-30 days and 30-45 days were 0.160± 0.003, 0.148±0.003 and 0.106±0.003 for Crossbreed (H.S. x Ghungroo) , 0.183 ± 0.002, 0.111± 0.002, and 0.152±0.003 for Hampshire and 0.172±0.005, 0.242±0.004 and 0.321±0.010 for Duroc. Sharma *et al*., (1990) also found similar observations to the birth weight (1.203 ±0.019kg) of graded interse. Further, the birth weight as recorded by Mishra *et al*., (1989), Sharma *et al*., (1990) and Singh (1994) in half-breeds of indigenous and Large White Yorkshire were also in good agreement with the present findings. Nath (1993) obtained birth weight of 1.22kg in graded Hampshire pigs. The similar average body weight at different ages of growth in crossbred was reported by Kalita (1995). The reported average birth weight of Duroc pigs were 1.406 ± 0.065 and which was similar to the findings of Stewart and Drewry (1983). Johnson and Omtvedt (1973) also reported similar observations with the present findings in case of Duroc birth weight.



0-15 days 15-30 days 30-45 days

CBAO= Crossbred (A) Overall, CB (A) M= Crossbred A Male, CB (A) F= Crossbred A Female

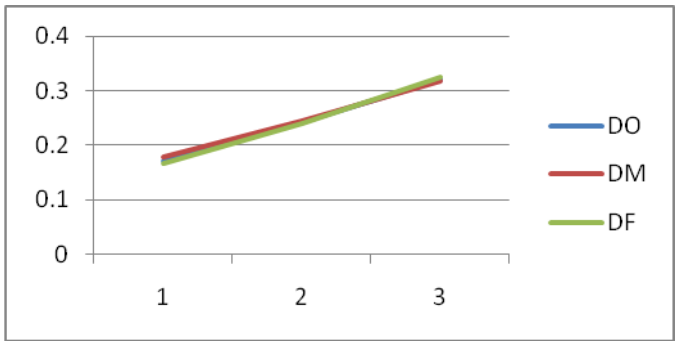
Fig 2: Graph showing the decreasing trend in growth rate with increase in age in Crossbred (Hampshire x Ghungroo)



0-15 days 15-30 days 30-45 days

HSO= Hampshire Overall, HSM= Hampshire male, HSF= Hampshire female

Fig 3: Graph showing the growth rate with increase in age in Hampshire



0-15 days 15-30 days 30-45 days

DO= Duroc overall, DM= Duroc male, DF= Duroc female

Fig 4: Graph showing the increasing trend in growth rate with increase in age in Duroc

II. SUMMARY AND CONCLUSION

Growth is an important economic trait in profitable swine enterprises. It is pronouncedly related to maturity age or slaughter weight and in turn has positive bearing on life time production. Similarly, knowledge on rate of gain in terms of body weight gains in pigs clearly depicts its pork production potential. It can be concluded from the present study that Hampshire and Duroc pigs gained similar body weights under organized farm condition in Assam and their performance was significantly higher than the crossbred pigs especially in respect of growth. However, in case of crossbred pigs the number of litter size is more than the Hampshire and Duroc. The growth rate in case of crossbred is slightly lower than the Hampshire and Duroc because of their large litter size.

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