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Performances of Ghungroo pigs reared under farm condition

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Abstract

The present study was conducted in Pig Breeding Unit, LRS, AAU, Mandira to assess the productive and reproductive performances of Ghungroo pigs. A total of 10 Ghungroo pigs (5 sows and 5 Gilt) were selected for the study. Information on productive and reproductive performances of these pigs was taken from the available records and under observations. Various performance traits of Ghungroo pigs like age at puberty, sexual maturity, age at first farrowing, farrowing interval, gestation period, piglet weight, litter size and piglet mortality were studied. The mean age at puberty in Ghungroo pig was found to be 6.48 ± 0.24 months while age at sexual maturity was found to be 9.39 ± 0.32 months. The average age at the first farrowing, farrowing interval, gestation period, piglet weight at birth, litter size and piglet mortality were found to be 14.06 ± 0.25 months, 6.93 ± 0.24 months, 113.22 ± 0.49 days, 0.97 ± 0.01 kg, 8.22 ± 0.46 , and 16.21% , respectively. These study is useful in the selection of breeding stock for future parents and to produce healthy and quality piglets.

Keywords: breeding stock, ghungroo pigs, performances, farrowing

Introduction

Now-a-day, pig farming is one of the most valuable farming technique for business purpose. It directly serves as insurance coverage as well as generates employment opportunity. The total livestock population in the country is 535.78 million (20th livestock census). The total Pigs population in the country is 9.06 Million (20th livestock census). Pig population has declined by 12% over the previous Census (19th livestock census). Pig constitutes 1.7% of the total livestock population (20th livestock census). Pork is one of the very important sources of protein in human diet as well as it provides bristles and manure. Pig farming is a promising source of meat production in India.

These Ghungroo pigs have important characteristics like faster multiplication, higher growth rate and feed conversion ability. Pig rearing in India is carried out under diverse social, climatic and environmental conditions. Positive productive and reproductive performances indicate their potential for further improvement. Despite decreasing trends in populations of these indigenous pigs, still Ghungroo pig is a valuable component of local genetic resources. Ghungroo pigs are very much suitable to the low input production system for livelihood and sustainable farming. The evaluation of productive and reproductive parameters of these pigs will be useful in the selection of breeding stock for future parents. Hence, the present study was carried out to elucidate the productive and reproductive attributes of Ghungroo pigs under farm conditions.

Materials and methods

The present investigation was undertaken at Pig Breeding Unit, Livestock Research Station, AAU, Mandira. A total of 10 Ghungroo pigs (5 sows and 5 Gilt) were selected for the study. Information on the productive and reproductive performances of these pigs was taken from the available records and under observations. They were kept under an intensive system of rearing and fed with concentrate ration. Performances like individual piglet weight, litter-size at birth, piglet mortality, age of puberty, age at maturity, age at the first farrowing, farrowing interval, gestation period were recorded.

Statistical analysis

The data were recorded and entered in Excel spread sheet for further analysis. The data was analysed to obtain descriptive statistics of various productive and reproductive traits using SPSS software.

Result and Discussion

Age at puberty

Age at puberty of Ghungroo pigs under the present study was found to be 6.48 ± 0.24 months. It varies from 5-7 months. This is in contrast to Gokuldas, *et al.*, 2015^[1] and Sahoo *et al.*, 2012^[8] (190.38 ± 4.38 days) who reported age at puberty as 7.8 ± 0.41 months and 190.38 ± 4.38 days, respectively. Early puberty in nondescript local pigs of Mizoram was also reported as early as two months of age by Kumaresan *et al.*, 2008.

Age at sexual maturity

The age at sexual maturity of the Ghungroo pig was found to be 9.39 ± 0.32 . It varied from 8-11 months. Borkotoky *et al.*, 2014^[1] reported the age of sexual maturity in Naga local pig as 248.12 ± 34.2 days which is lower than the present study. The age of sexual maturity in indigenous pigs varies from 8-10 months (Wang, 1990; Harayama *et al.*, 1991 and Kumaresan *et al.*, 2008)^[4, 6, 9]. Lower age at sexual maturity than the present study was also reported by Borkotoky *et al.*, 2014^[1] as 6 months in Bangladeshi sow. Similarly, lower age at sexual maturity than the present study was also reported by Gokuldas *et al.*, 2015^[3] in Ghungroo. In contrast, Sahoo *et al.*, 2012^[7, 8] reported higher age at sexual maturity as 10.96 ± 1.09 months and 241.3 ± 2.25 days in Ghungroo and Niang Megha pigs, respectively.

The variation in age of sexual maturity in the present study may be attributed to genetic and non genetic factors such as level of nutrition, social environment, body weight, season of the year, breed, disease, parasitic infestation and other managemental practices.

Age at first farrowing (AFF)

The average age at first farrowing of this precious Desi pig was found to be 14.06 ± 0.25 (Table 1). 12.16 ± 0.13 months It ranges from 13-15 months. The present finding is in contrast to the findings of Borkotoky *et al.*, 2014^[1] and Kumaresan *et al.* 2007^[6] as 12.67 ± 5.51 months in Naga local pig and 12.11 ± 2.51 months in nondescript local pig of Mizoram, respectively.

Farrowing Interval (FI)

The average farrowing interval of these Desi pigs was found to be 6.93 ± 0.24 . It varied from 5-8 months. It almost corresponds to the findings of Gokuldas *et al.*, 2015^[3] (7.2 ± 0.19 months in Ghungroo and 7.18 ± 0.3 months in Niang–Megha) and Khargharia *et al.*, 2014^[5] (213.533 ± 0.396 days in Dome pig). Lower Farrowing Interval than the present finding has been reported by Khargharia *et al.*, 2014^[5], Bujarbaruah, 2006^[2] and Sahoo *et al.*, 2012^[7, 8] as 206.121 ± 0.785 days in Niang Megha, 194.52 ± 9.47 days in Khasi local pig, 169 ± 4.88 days in Ghungroo and 207.05 ± 8.16 days in Niang Megha, respectively.

Gestation Period

The average gestation period in the present study was found to be 113.22 ± 0.49 days. It varied from 112-115 days. It is comparable with Gokuldas *et al.*, 2015^[3] but in contrast to

the findings of Khargharia *et al.*, 2014^[5].

Piglet weight at birth

The average piglet weight at birth was found to be 0.97 ± 0.01 (Table 1). It varied from 0.89-1.1 kg. It is comparable with the findings of Sahoo *et al.*, 2012 as 0.96 ± 0.02 kg in Ghungroo pig. But lower weight than the present study has been reported by Bujarbaruah, 2006^[2], Sahoo *et al.*, 2012^[8] and Kumaresan *et al.*, 2007^[6] as 0.485 ± 0.23 in Khasi Local pig and 0.64 ± 0.02 kg in Niang megha pig, 0.86 ± 0.08 kg in Mizoram non-descript local pig, respectively.

Litter Size at birth

The average litter size was found to be $8.22 \pm 0.466.85 \pm 0.16$. It varied from 6-10 numbers. Higher litter size at birth was reported by Gokuldas *et al.*, 2015^[3] and Sahoo *et al.*, 2012^[7] reported litter size of 8.7 ± 0.25 and 10.02 ± 0.35 in Ghungroo, respectively. Lower litter size at birth than the present study was reported by Borkotoky *et al.*, 2014^[1] and Sahoo *et al.*, 2012^[8] as 5.80 ± 2.30 and 6.5 ± 0.21 in Nagaland (NLP) and Niang-Megha pig, respectively. Many factors affect litter size such as type of pigs, management practices, mortality rate and prevalent of climatic condition, etc.

Piglet mortality

The average piglet mortality in the present study was found to be 16.21%. It varied from 16-20%. The piglet mortality is less as compared to purebred and crossbred pigs. Gokuldas *et al.*, 2015^[3] found that the average pre-weaning mortality to be significantly lower as 14.94% in Ghungroo-and 14.28% in Niang Megha pig. But higher pre-weaning mortality was reported by Kumaresan *et al.*, 2007^[6] as 29.73% in the nondescript local pig of Mizoram.

Table 1: Productive and Reproductive traits of Ghungroo pigs

Parameters	Overall Mean \pm SE	Range
Age at puberty (months)	6.48 ± 0.24	5-7
Age of sexual maturity (months)	9.39 ± 0.32	8-11
Age at first farrowing (months)	14.06 ± 0.25	13-15
Farrowing Interval (months)	6.93 ± 0.24	5-8
Gestation Period (days)	113.22 ± 0.49	112-115
Piglet weight at birth (kg)	0.97 ± 0.01	0.89-1.1
Litter size at birth (no.)	8.22 ± 0.46	6-10
Piglet mortality (%)	16.21	16-20

Conclusion

Productive and reproductive traits of Ghungroo pigs were comparable with other precious indigenous breeds of pig. They have the immense potential to be developed in order to contribute livelihood and sustainable pig farming. For this, proper breeding strategies have to be adopted. These analyses are very useful in the selection of breeding stock for quality seed/ piglet production.

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