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## Reproductive performances of indigenous pig of Jharkhand

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### Abstract

Pig rearing is one of the most important occupations of rural poor farmers and weaker sections of the society. It directly influences the socio economic status as it acts as an insurance coverage for the downtrodden and socially weaker section of the society. Data related to reproductive performance of indigenous pigs were collected from three district of Jharkhand state viz, Ranchi, Dumka and Simdega. Average reproductive performance of local pig were observed to be  $4.3\pm 0.35$ ,  $2.86\pm 0.47$ ,  $12.62\pm 0.22$ ,  $2.68\pm 0.27$ ,  $12.58\pm 2.23$  and  $7.47\pm 0.78$  for litter size at birth, litter size at weaning, age at first farrowing, litter wt. at birth, litter wt. at weaning and farrowing interval. Comparative reproductive performance of different districts were observed to be non-significant for most of the parameters under study. Significantly better reproductive performance was observed under semi-intensive system followed by intensive and scavenging housing system of management in all the districts under study.

**Keywords:** Reproductive performance, indigenous pig, management systems, Jharkhand

### 1. Introduction

Pig rearing is one of the most important occupations of rural poor farmers and weaker sections of the society. It directly influences the socio economic status as it considered as “mortgage lifters” by farmers in agriculturally developed countries because of their high feed conversion efficiency, shorter generation interval, faster growth rate, low maintenance cost, higher dressing percentage and ability to utilize agricultural by-products and waste material to high human value diet. Jharkhand is one of the leading states in the country where piggery has been accepted by rural people as remunerative enterprises. Pig rearing is an old practice in Jharkhand particularly by weaker section in the society. This provided tremendous employment opportunity to local people through integrated piggery development programme in most of the district of Jharkhand. Still there is no scientific evidence available regarding reproductive performance of indigenous pig in Jharkhand. The pig especially indigenous one is well adapted and tolerable to various tropical environments with high temperature and relative humidity.

### 2. Material and Methods

The study was undertaken in the three district of Jharkhand state viz, Ranchi, Dumka and Simdega. Three villages from each district were randomly selected. So, 9 villages were selected for the study. All the animals under study were local pigs reared by the local people in the study areas. A total of 90 Household rearing local pigs of different age group were selected and interviewed. Data related to growth performance under different management system like housing, feeding were collected. Before collection of data, a questionnaire was prepared.

### 3. Results and Discussion

#### 3.1 Litter Size at birth

The average litter size at birth of local pig of Ranchi, Dumka and Simdega district was found to be  $4.50\pm 0.62$ ,  $4.30\pm 0.22$ ,  $4.10\pm 0.23$ . It ranges from 4-5. The present study is comparable with 6, 10, 13 as ( $6.34\pm 0.26$ ) in Niang Megha,  $6.71\pm 0.15$  in Bangladesh desi pig,  $6.44\pm 1.19$  in Haryana desi pig, respectively. Similarly, Khargharia *et al.*, 2014<sup>[12]</sup> also reported litter size of  $6.250\pm 0.237$  and  $6.080\pm 0.219$  in Meghalaya Dome and Niang-Megha pig of Meghalaya, respectively.

### 3.2 Litter size at weaning

The average litter size at weaning of Ranchi, Dumka and Simdega district was found to be 2.90±1.12, 3.00±0.15, 2.70±0.15. It varied from 2-3 no. local pig. No significant differences in litter size at weaning were observed among Ranchi, Dumka and Simdega district of Jharkhand. However, overall litter sizes at weaning were observed to be 2.86±0.47.

### 3.3 Age at first farrowing (AFF)

The average age at first farrowing of local pig of Ranchi, Dumka and Simdega district was observed to be 11.83±0.22, 12.75±0.23, 13.30±0.23 months. It ranged from 11-14 months. The present finding corresponded to the findings of AFF as 12.67±5.51 months [2] in Naga local pig and 12.11±2.51 months [8] in non-descript local pig of Mizoram. The lowest being reported on village pig in Sri Lanka as 9.50±2.61 months, 13. A moderate age at first farrowing as 10.43±0.08 months, 10. Comparatively higher age at first farrowing for the indigenous pig, 4. Similarly, comparatively lower age at first farrowing for the indigenous pig, 1. Significant differences in age at first farrowing (month) were observed among Ranchi, Dumka and Simdega district of Jharkhand. However, overall ages at first farrowing were observed to be 12.62±0.22.

### 3.4 Litter weight at birth

The average litter weight at birth of local pig of Ranchi, Dumka and Simdega district was found to be 2.76±0.56, 2.90±0.15, and 2.40±0.11 kg. It varied from 2-3 kg. The present report is lower than 8 and 11, who reported the litter weight at birth as 3.00±0.45 kg (non-descript Sikkim local pig and 4.23 ± 0.29 kg in Niang-Megha, respectively, Litter weight at birth as 6.40±1.43 kg [9] and 9.5±0.23 kg in Ghungroo pig [11], respectively. No significant difference in age at first farrowing (month) was observed among Ranchi, Dumka and Simdega district of Jharkhand. However, overall litter weights at birth were observed to be 2.68±0.27.

### 3.5 Litter weight at weaning

The average litter weight at birth of local pig of Ranchi, Dumka and Simdega district was found to be 13.76±4.72, 13.00± 1.01 and 11.00± 0.97kg. It varied from 11-13 kg. It is comparable with finding by [11] reported that litter weight at weaning (kg) as 15.14±2.13 in nondescript Sikkim local pig. Litter weight at weaning (kg) as 28.46±2.25 kg in Niang-mMegha [11]. The reproductive traits and litter performance of indigenous pig under organized and unorganized farm from Nagaland, India [12].

He found that the litter weight at weaning (29.71 ±0.28 vs. 21.62±0.29 kg), weight at first heat (15.64±0.10 vs. 14.48±0.14 kg), and body weight before (37.57±0.29 vs. 32.57±0.28 kg), and after (31.18±0.20 vs. 26.18±0.20 kg)

were significantly higher in pigs from organized farms when compared with pigs from unorganized farms. Litter weight at weaning (kg) as 43.20±5.26 in non-descript Mizoram local pig [8]. Significant differences in litter weight at weaning were observed among Ranchi, Dumka and Simdega district of Jharkhand. However, overall litter weight at weaning (kg) was observed to be 12.58±2.23.

### 3.6 Farrowing Interval (FI)

The average farrowing interval of local pigs of Ranchi, Dumka and Simdega district was found to be 7.30±0.98, 7.15±0.16 and 7.97±0.12 months. It ranged from 7-8 month. It corresponded to (7.2±0.19 months in Ghungroo and 7.18±0.3 months in Niang-Megha) (213.533±0.396 days in Dome pig) [7]. Less Farrowing Interval than the present finding has been reported as 206.121±0.785 days in Niang Megha [7], 6.09±0.02 months in Bangladesh desi pig [10], 196.27±8.37 days in Sikkim local pig, 178.5±0.9 days in Mali pig, 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. But, little higher reports of FI has also been reported 2, 13 and 8 as 304.90±103.20 days in Naga local pig, 8.91±2.49 months in Sri Lanka village pig and 8.23 ±0.20 months in Non-descript local pig of Mizoram. Significant difference in Farrowing interval (month) were observed among Ranchi, Dumka and Simdega district of Jharkhand. However, overall farrowing interval (month) were observed to be 7.47±0.78.

**Table 1:** Reproductive performance of local pigs of Ranchi district of Jharkhand

Reproductive parameters	Mean±SE	Range
<b>Ranchi District</b>		
Litter size at birth	4.50±0.62	4-5
Litter size at weaning	2.90±1.12	2-3
Age at first farrowing (Month)	11.83±0.22	11-12
Litter wt. at birth (kg)	2.76±0.56	2-3
Litter wt. at weaning (kg)	13.76±4.72	13-14
Farrowing interval (month)	7.30±0.98	7-8
<b>Dumka District</b>		
Litter size at birth	4.30±0.22	4-5
Litter size at weaning	3.00±0.15	3-4
Age at first farrowing (Month)	12.75±0.23	12-13
Litter wt. at birth (Kg)	2.90±0.15	2-3 kg
Litter wt. at weaning (kg)	13.00±1.01	13-14 kg
Farrowing interval(Month)	7.15±0.16	7-8
<b>Simdega District</b>		
Litter size at birth	4.10±0.23	4-5
Litter size at weaning	2.70±0.15	2-3
Age at first farrowing (month)	13.3±0.23	13-14
Litter wt. at birth (kg)	2.40±0.11	2-3
Litter wt. at weaning (kg)	11.00±0.97	11-12
Farrowing interval (Month)	7.97±0.12	7-8

**Table 2:** Average Reproductive performance of local female pigs in Ranchi, Dumka and Simdega of Jharkhand

Reproductive parameters	Ranchi (30)	Dumka (33)	Simdega (28)	Overall (91)	Sig.
Litter size at birth	4.50±0.62	4.30±0.22	4.10±0.23	4.30±0.35	NS
Litter size at weaning	2.90±1.12	3.00±0.15	2.70±0.15	2.86±0.47	NS
Age at first farrowing (Month)	11.83±0.22 <sup>a</sup>	12.75±0.23 <sup>b</sup>	13.30±0.23 <sup>b</sup>	12.62±0.22	*
Litter wt. at birth (kg)	2.76±0.18	2.90±0.15	2.60±0.11	2.68±0.27	NS
Litter wt. at weaning (kg)	13.76±0.67 <sup>b</sup>	13.00±1.01 <sup>b</sup>	12.50±0.97 <sup>a</sup>	12.58±2.23	*
Farrowing interval (Month)	7.30±0.98 <sup>a</sup>	7.15±0.16 <sup>a</sup>	7.97±0.12 <sup>b</sup>	7.47±0.78	*

Fig. In parentheses indicate no. of local pigs, (\*) = P<.05, NS= Non-significant

#### 4. Conclusion

The result showed that the reproductive performance of the sow (Especially indigenous pigs) needs to be improved on. There is need to promote extension and herd health services by veterinarians and livestock personnel to potential and existing farmers in the area and in rural areas of Jharkhand farmers rear indigenous pigs traditionally under zero of low input, results in low reproductive performance. However, it plays important role as livelihood for farmers of rural areas.

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