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## Parity wise sow performance of Jharsuk pig under farm management

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### Abstract

Pig farming is a traditional occupation of tribal population in Jharkhand pig farming plays an important role in improving the socio-economic status of pig farmers was tribal population of Jharkhand as compared to other livestock farming. The present investigations were carried out on Jharsuk Pigs maintained at Pig Breeding farm of Ranchi Veterinary College, Birsa Agricultural University, Ranchi (Jharkhand). 161 sows along with their 440 farrowing and 3414 piglets were taken into account in this study. Average age at first oestrus, age at first service, age at first farrowing and farrowing interval was observed to be  $200 \pm 6.25$ ,  $216 \pm 2.56$ ,  $329 \pm 2.1$  and  $202 \pm 4.25$  days. Average litter size at birth, litter size at weaning, litter weight at weaning observed to be  $6.74 \pm 0.11$ ,  $6.24 \pm 0.11$ ,  $7.92 \pm 0.14$ ,  $56.88 \pm 0.96$  respectively.

**Keywords:** Nucleocapsid, Domain, Tertiary Structure, NBD

### Introduction

Reproductive performance is one of the main determinants of productivity of 2wzpig. High reproduction rates are essential for profit in pig production. The level of parity wise reproductive performance is dependent on the interaction of genetic and environmental factors and has to be given priority. Parity wise Reproductive efficiency as such can be measured and expressed as the farrowing rate, weaning rate, farrowing interval, litter size at birth and weaning Jharsuk pig is the popular variety of desi pig a many farmers because of high reproductive efficiency as compared local pig.

### Material and Methods

The present investigations were carried out on Jharsuk Pigs maintained at Pig Breeding farm of Ranchi Veterinary College, Birsa Agricultural University, Ranchi (Jharkhand). The data for the present investigation were collected from the Jharsuk pigs maintained under different AICAR, MSP projects over a period of about five years from 2012 to 2017. The observations pertaining at parity and generation wise sow performance at 5<sup>th</sup> parity were recorded from history cum-pedigree sheet of the farm. 161 sows along with their 3414 piglets were taken into account in this study.

### Results and Discussion

#### 1. Reproductive performance of Jharsuk pigs

Average reproduction performance of Jharsuk pigs viz Age at first oestrus, Age at first service, Age at first farrowing, Farrowing interval, Litter size at birth, Litter size at weaning, Litter weight at birth and Litter weight at weaning were observed to be  $200 \pm 6.52$  days,  $216 \pm 2.56$  days,  $329 \pm 2.1$  days,  $202 \pm 4.25$  days,  $6.74 \pm 0.11$ ,  $6.24 \pm 0.11$ ,  $7.92 \pm 0.14$  (kg) and  $56.88 \pm 0.96$  kg respectively The results have been tabulated in Table no 1

The results are in conformity with finding of Marksimovic *et al.*, (1984) [7] reported the average Age at first oestrus in Swedish Landrace gilts were 240 days however Kouamo, *et al.* (2015) [4] reported to be age at first oestrus 210 to 230 days respectively.

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**Table 1:** Average reproductive performance of Jharsuk pigs

Reproduction parameter	Observation of result
Age at first oestrus (days)	200±6.52 <sup>(161)</sup>
Age at first service (days)	216±2.56 <sup>(161)</sup>
Age at first farrowing (days)	329±2.1 <sup>(161)</sup>
Farrowing interval (days)	202±4.25 <sup>(161)</sup>
Litter size at birth	6.74±0.11 <sup>(3414)</sup>
Litter size at weaning	6.24±0.11 <sup>(3042)</sup>
Litter weight at birth	7.92±0.14 <sup>(3414)</sup>
Litter weight at weaning	56.88±0.96 <sup>(3042)</sup>

### Parity wise sow performance

Litter size at birth during different parity were observed to be 6.75±0.19, 6.57±0.19, 6.70±0.4, 6.45±0.4, and 7.22±0.61, kg during 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> parity respectively. Slightly highest parity on litter size at birth was observed during 5<sup>th</sup> 7.22±0.61 followed by 1<sup>st</sup> 6.75±0.19, 3<sup>rd</sup> 6.70±0.4, 2<sup>nd</sup> 6.70±0.4 and 4<sup>th</sup> 6.45±0.4 kg. However no significantly differences were observed among 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> parity respectively. (Table's 2) However irrespective of parity LSB were observed to be 6.69±0.11

litter size at weaning during different parity were observed to be 6.73±0.19, 6.20±0.20, 6.5±0.3, 5.90±0.38 and 7.13±0.62 kg during 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> parity respectively. Slightly highest parity on litter size at weaning were observed during 5<sup>th</sup> 7.13±0.62 followed by 1<sup>st</sup> 6.73±0.19, 3<sup>rd</sup> 6.50±0.30, 2<sup>nd</sup> 6.20±0.20 and 4<sup>th</sup> 5.90±0.38 kg. However, no significant difference were observed among 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> parity Litter weight at birth during different parity were observed to be 7.97±0.24, 7.73±0.24, 7.75±0.33, 7.69±0.52, and

8.47±0.70, kg during 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> parity respectively. Slightly highest parity on litter weight at birth was observed during 5<sup>th</sup> 8.47±0.70 followed by 1<sup>st</sup> 7.97±0.24, 3<sup>rd</sup> 7.75±0.33, 2<sup>nd</sup> 7.73±0.24 and 4<sup>th</sup> 7.69±0.52kg. Irrespective of parity overall were observed to be 7.87±0.14. However, no significant difference was observed among 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> parity respectively.

Litter weight at weaning during different parity were observed to be 50.86±1.7, 58.46±1.9, 55.72±0.21, 54.87±3.5 and 62.18±4.04 kg during 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> parity respectively. Significant of highest parity on litter weight at weaning was observed during 5<sup>th</sup> 62.18±4.04, followed by 2<sup>nd</sup> 58.46±1.9, 3<sup>rd</sup> 55.72±0.21, 4<sup>th</sup> 54.87±3.5, and 1<sup>st</sup> 50.86±1.7kg. Irrespective of parity overall were observed to be 56.88±0.96. However (P<0.05) significantly difference was observed among 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> parity.

The results are in conformity with finding of Sukhdeo *et al.*, (1979) [21] reported no significant effect of parity on litter weight at birth, LSW, LWB, and LWW Mukhopadhyay *et al.*, (1992) [8], Sharma and Singh (1995), [15] Singh and Devi (1997), [12] reported no significant effect of parity. They reported increase in litter weight from 1<sup>st</sup> to 4<sup>th</sup> parity. Mukhopadhyay *et al.*, (1992) [8] Sharma and Singh (1993, 1995) [14, 15], Singh and Devi (1997a) [12], Kumar(1999) [3], reported significant effect of sow litter size at birth LSW, LWB, and LWW in various exotic, desi and crosses pigs. They observed increase in litter weight at birth LSW, LWB, and LWW with the advancement of parity. Lakhani and jogi (2000) [6] reported significant effect of period on litter at birth in various genetic of pigs.

**Table 2:** Parity Sow performance

Parameter	Parity					Overall	Sig
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>		
Litter size at birth	6.75±0.19 <sup>(168)</sup>	6.57±0.19 <sup>(113)</sup>	6.70±0.41 <sup>(64)</sup>	6.45±0.41 <sup>(42)</sup>	7.22±0.61 <sup>(22)</sup>	6.69±0.11 <sup>(409)</sup>	NS
Litter size at weaning	6.73±0.19 <sup>b(168)</sup>	6.20±0.20 <sup>ab(113)</sup>	6.5±0.30 <sup>ab(64)</sup>	5.90±0.38 <sup>a(42)</sup>	7.13±0.62 <sup>b(22)</sup>	6.48±0.12 <sup>(409)</sup>	*
Litter weight at birth	7.97±0.24 <sup>(168)</sup>	7.73±0.24 <sup>(113)</sup>	7.75±0.33 <sup>(64)</sup>	7.69±0.52 <sup>(42)</sup>	8.47±0.70 <sup>(22)</sup>	7.87±0.14 <sup>(409)</sup>	NS
Litter weight at weaning	50.86±1.7 <sup>a(168)</sup>	58.46±1.9 <sup>b(113)</sup>	55.72±2.1 <sup>b(64)</sup>	54.87±3.5 <sup>b(42)</sup>	62.18±4.04 <sup>b(22)</sup>	54.73±1.04 <sup>(409)</sup>	*

### Summary and Conclusions

- Average age at first oestrus, age at first service, age at first farrowing and farrowing interval was observed to be 200±6.25, 216±2.56, 329±2.1 and 202±4.25 days.
- Average litter size at birth, litter size at weaning, litter weight at weaning observed to be 6.74±0.11, 6.24±0.11, 7.92±0.14, 56.88±0.96 respectively.
- Litter size had significant (P<0.05) influence on reproductive performance of sows.
- Parity had no significant (P<0.05) influence on reproductive performance of sows.

### References

1. Chhabra AK, Tiwari CB, Bisht GS. Genetic studies on pre-weaning body weight in Desi and different grades of crossbreds with Landrace pig. Indian J. Anim. Sci. 2005; 75(4):442-444.
2. Deka D, Goswami RN, Das D, Nath DR. Effect of non-genetic factors on pre-weaning body weight and daily weight gain in Hampshire pig. Cheiron. 2002; 31(1-2):44-46.
3. Filiz Akdag, Serhat Arslan, Hidir Demir. The Effect of Parity and Litter Size on Birth Weight and the Effect of Birth Weight Variations on Weaning Weight and Pre-Weaning Survival in Piglet. Journal of Animal and

Veterinary Advances. 2009; 8:2133-2138.

4. Kouamo J, Tassemo Tankou WF, Zoli AP, Bah GS, Ngo AC. Ongla Open Vet J. 2015; 5(1):64-70. Published online 2015 Jun 22. PMID: PMC4629558 PMID: 26623369 Abdallah E. Elevage porcin en région périurbaine de Bangui (Centrafrique) Thèse : Méd. Vét., Dakar. 1997, 32.
5. Kumar S. Genetic studies on some economic traits with special reference to effect of inbreeding in pigs. M.V.Sc. Thesis, Birsa Agril. Univ., Ranchi, 1999.
6. Lakhani GP, Jogi S. Studies on pre-weaning body weights of Indigenous pigs and their Large White Yorkshire grades. Indian Vet. Med. J. 2000; 24(8):231-232.
7. Maksimovic A. Reproductive performance of gilts mated in different seasons. Veterinarski Glasnik 37:279. (Cited from Anim. Breed Abstr. 1984; 52:1958.
8. Mukhopadhyay A, Singh RL, Singh SK, Sharma BD. Factors affecting performance of pigs. Indian J. Anim. Sci. 1992; 61:99101.
9. Mukhopadhyay A, Singh RL, Singh SK. A comparative study on the effect of genetic and non-genetic factors of Landrace, Tamworth, Desi pigs and their crosses on some reproductive characters. Indian J. Anim. Sci. 1992; 62:482-484.

10. Sharma BD, Singh SK. A genetic and non-genetic study on reproductive and litter traits in exotic, Desi, and crossbred pigs. *Nat. Acad. Sci. letters*, 1995, 18(7&8).
11. Sharma BD, Dubey CB, Singh SK. A comparative study of growth in pure and crossbred pigs. *Indian J. Anim. Sci.* 1990; 4:492-495.
12. Singh YR. Genetic studies on certain reproductive traits in Hampshire pigs, M.V.Sc thesis submitted to Assam Agricultural University, Guwahati, 1994.
13. Singh SK, Devi AA. Performance of reproductive traits in various genetic groups of pigs. *Indian J. Anim. Sci.* 1997; 67(11):1021-1022.
14. Singh SK, Devi AA. Studies on some preweaning traits in exotics, Desi and their crossbred pigs under tropical climate. *Indian Vet. Med. J.* 1997a; 21(12):288-292.
15. Sharma BD, Singh SK. Effect of genetic and non-genetic factors on reproductive performance of Landrace, Large White and Desi pigs and their crosses. *Indian J. Anim. Sci.* 1993; 63(2):208-211.
16. Sharma BD, Singh SK. A genetic and non-genetic study on reproductive and litter traits in exotic, Desi, and crossbred pigs. *Nat. Acad. Sci. letters.* 1995; 18(7&8):1995.
17. Saseendran PG, Raja Gopalan TG. Note on the potentialities of indigenous and exotic pigs. *Indian j. Anim. Sci.* 1982; 52:199-200.
18. Sharda DP, Yadav KR. Performance of exotic and Desi pigs and their crosses (second generation) from birth to weaning. *Haryana Agril. Univ. J. Res.*, 11: 465-466 (Cited from *Anim. Breed. Abstr.* 1981; 50:2060).
19. Serdyuk S, Tkachuk N. The course of estrus cycle in gilts. *Svinovodstvo*, 12: 29 (Cited from *Anim. Breed. Abstr.* 1985; 53:12).
20. Sharda DP, Singh P. Note on litter size, sex ratio mortality and average daily gain of middle White Yorkshire and indigenous pigs and their crosses from birth to weaning at 8 weeks of age *Indian J. Anim. Sci.* 1982; 52(11):1140-1141.
21. Sharda DP, Yadav KR. Performance of exotic and Desi pigs and their crosses (second generation) from birth to weaning. *Haryana Agril. Univ. J. Res.*, 11(3): 465-466 (Cited from *Animal. Breed. Abstr.* 1981; 50(4):2060).
22. Sukhdeo, Raina BL, Bhat PN. Studies on some reproductive traits in Landrace, Large white and their halfbreeds. *Indian J. Anim. Sci.* 1979; 49:807-811.
23. Aloyei K. Performances de reproduction du porc Large-white à la ferme BENA-Développement au Togo. Thèse de Doctorat. 1997:85. umaitre A, Legault C, Salmon-Legagneur E. Aspectsbiométriques dela croissance pondérale du porcelet: influence du sexe, de l'ann de naissance, du numéro et de la taille de la portée. Centre national de Recherches zootechniques, 78 – Jouy-en-Josas, 1966, 15.
24. Knauer MK. Effects of Preweaning factors on Sow Lifetime Productivity. National Pork Board project 11-146. (Joe Cassady designed and conducted study), 2016.
25. Nath BG, Pathak PK, Ngachan SV, Tripathi AK, Mohanty AK. Characterization of smallholder pig production system: productive and reproductive performances of local and cross bred pigs in Sikkim Himalayan region. *Tropical Animal Health and Prodn.* 2013; 45:1513-8