

Study on Mortality Rate of Pigs Reared Under Rural Tribal Upland Areas of Manipur

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ABSTRACT

Pig rearing plays an important role in the livelihood of economically poor rural tribal farmers in the upland areas of Manipur. A study was purposively undertaken to study the mortality rate of pigs reared in the rural tribal upland areas of Senapati district of Manipur covering 200 tribal pig farmers of the district. The study showed that rural tribal pig farmers recorded significant pre-weaning mortality rate varying from 13.05 ± 1.64 to 27.70 ± 2.45 per cent while the post weaning mortality and adult mortality rate were recorded to be from 5.85 ± 1.46 to 10.65 ± 2.21 per cent and 5.40 ± 1.23 to 8.25 ± 1.37 per cent, respectively which are not significantly affected by pigs reared under different rural farming system. Therefore, a proper managerial practice must be undertaken to avoid huge economical losses due to early piglet mortality.

Key words: Pig; Mortality rate; Tribal upland areas; Manipur.

According to the 19th Livestock census of India (<http://dahd.nic.in>) pigs comprises 2.01 per cent to the total livestock population (Anon., 2012). Piggery is a major part of animal husbandry in the North East Hill Region of India including Manipur. The total pig population of Manipur, as per 2003 livestock census, is about 4,14,527 in which Senapati district contributes about 1,37,775 pigs i.e. about 33.24 per cent which is the highest amongst all the districts of the state as per the record of the Directorate of Veterinary and Animal Husbandry Services, Manipur (Anon., 2008). It may be also mentioned here that pork (7,246 tones) contributes the highest (41.25%) to the total meat production (17,568 tones) of the state (Anon., 2008). It means pig husbandry is more popular in comparison to other livestock as evident from the data mentioned above. Majority of the pig farmers are in the hill districts of the state belonging to low income groups who are generally non-vegetarians in their food habit. Limited knowledge on improved pig rearing practices, non-availability of good breeds of pig, poor supply of feeds and medicines coupled with low economical status of pig farmers are the major reasons for high mortality rate of pigs under rural managerial practices. Therefore, this study was carried out aimed to observe the mortality rate of pigs under different age

groups reared under rural tribal upland areas of Senapati district of Manipur.

METHODOLOGY

The present study was conducted in rural tribal upland areas of Senapati district of Manipur which is located in the northern part of Manipur between 24.37° N to 25.37° N latitude and 93.29° E to 94.15° E longitudes with an altitude of 1061 to 1788 meters above sea level having an area of 3271 sq.km. The study was carried out on pigs reared at 10 villages of Senapati district of Manipur. Twenty households from each village were selected randomly leading to 200 households rearing pigs under the preview of the present study during 2017-18. The tribal pig farmers under the present study areas mainly reared crosses of non-descript local pig with Hampshire and Burmese breed due to their black coat colour as they preferred black colored pigs. The data pertaining to pig mortality rate were recorded through personal interviews and analyzed by Duncan's post hoc test (Duncan, 1955).

RESULTS AND DISCUSSION

Mortality is the trait which is indicative of feeding, disease control and managerial practices of a herd

done by the pig farmers. Mortality was estimated for pre weaning piglets (suckling age of piglets), growing pigs (weaning to 6 months of age) and adult pigs (after 6 months of age). The results are discussed as under:

Pre weaning mortality: Analysis of variance (Table 1) revealed significant ($p < 0.05$) pre weaning mortality of piglets at different villages. Values depicted in Table-2 indicates significantly lowest pre weaning mortality in the piglets belonging to Punanamai village ($13.05 \pm 1.64\%$) with highest pre weaning mortality rate observed at Maiba village ($27.70 \pm 2.49\%$). However, pre weaning mortality rate was high in majority of the villages which might be due to non availability of quality feeds, poor managerial practices, poor health care of pigs and crushing of newly born piglets by sow because of small and congested pig sty.

The pre weaning mortality observed during present study (13.05 ± 1.64 to $27.70 \pm 2.49\%$) is comparable to those observed by Mukhopadhyay (1989) and Singh *et al.* (1990). On the other hand, National Research Centre (NRC) on Pig, Rani, Guwahati reported lowest pre weaning mortality varying from 2.00 to 5.20 per cent in different types of Hampshire cross bred (Anon., 2014). Slightly lower pre weaning mortality ($8.69 \pm 12.27\%$) in comparison to present study was also observed at All India Coordinated Research Project (AICRP) on Pig at Central Agricultural University (CAU), Aizawl in various genetic groups of pigs (Anon., 2014).

Post weaning mortality (weaning to 6 months): Table-1 showed non-significant post weaning mortality of growing pigs at different villages. Post weaning mortality

Table 1. Analysis of variance showing the effect of villages on pig mortality rate

Source of variation	df	S.S.	M.S.	F
<i>Pre weaning</i>				
Between villages	9	3019.72	335.52	87.79*
Within villages	190	726.20	3.82	
<i>Post weaning (weaning to 6 months)</i>				
Between villages	9	285.31	31.70	10.89
Within villages	190	552.85	2.91	
<i>Adult (after 6 months)</i>				
Between villages	9	175.54	19.51	10.27
Within villages	190	360.85	1.90	

* $p < 0.05$

ranges from 5.85 ± 1.46 per cent in Punanamai village to 10.65 ± 2.21 per cent in Liyai Khullen village (Table 2). Lower post weaning mortality in comparison to pre weaning suggests a negative correlation between age and mortality rate of pigs. There was a progressive decrease in mortality rate of pigs with the increase of their age. However, post weaning mortality observed during the study was also high. Reason for high mortality has already been discussed above.

The post weaning mortality (5.85 ± 1.46 to $10.65 \pm 2.21\%$) from weaning to 6 months of age observed during the present study is comparable to those reported by Singh *et al.* (1990) and AICRP on Pig, CAU, Aizawl (Anon., 2014). However, NRC on Pig, Rani, Guwahati observed lower post weaning mortality in Hampshire x Ghunghroo (4.83%), Hampshire x Niang Megha (2.22%) and Desi \times Hampshire \times Niang Megha (4.00%)

Table 2. Average mortality rate (%) of different age groups of pig at different villages

Villages	Pre weaning	Post weaning (upto 6 months)	Adult(after 6 months)
Punanamai	13.05 ± 1.64	5.85 ± 1.46^b	7.50 ± 1.32^{cd}
Sajouba	17.50 ± 1.28^b	8.40 ± 1.54	5.40 ± 1.23^a
Makhel Khunou	14.90 ± 2.15	6.75 ± 1.74^b	8.25 ± 1.37^d
Liyai Khullen	20.30 ± 2.18^a	10.65 ± 2.21^a	8.10 ± 1.74^d
Maiba	27.70 ± 2.49	8.30 ± 2.27	7.75 ± 1.55^d
Lakhamai	20.05 ± 1.47^a	8.50 ± 1.61	5.70 ± 1.03^a
Phaibung	17.90 ± 1.52^b	8.60 ± 1.27	6.70 ± 1.59^{bc}
Thingba Khullen	22.75 ± 3.02	8.70 ± 1.38	7.55 ± 1.50^{cd}
Kaibi	17.90 ± 1.55^b	7.90 ± 1.21	7.30 ± 1.22^{cd}
Kalinamai	17.75 ± 1.52^b	8.20 ± 1.99	6.30 ± 1.03^{ab}

Values are significant at $p < 0.05$ as determined by Duncan's post hoc test. Values followed by same letters (a-d) do not differ significantly.

(Anon., 2014). Lower post weaning mortality was also reported by Jain and Pandey (2000) during weaning to 6 months of age.

Adult mortality (above 6 months): Analysis of variance presented in Table-1 indicated non significant effect on adult mortality at different villages.. Like pre weaning and post weaning mortality, adult mortality was also high which is indicative of poor managerial and feeding practices. The adult mortality ranges from 5.40 ± 1.23 per cent in Lakhamai village to 8.25 ± 1.37 per cent in

Makhel Khunou village as shown in Table 2.

CONCLUSION

On the basis of present finding, it may be concluded that there will be great scope for enhancing the pig production in rural tribal upland areas of Manipur by reduction pig mortality rate through provision of improved feeding practices, safe and clean drinking water, deworming and vaccination of pigs, prompt treatment of sick pigs, good housing and other good managerial practices.

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