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Short Communication

COMPARISON OF GROWTH PERFORMANCE OF PIG SUCKLERS' FED WITH CREEP FEED AND SOW RATION

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ABSTRACT: The study was conducted to compare the overall growth performance of pig sucklers fed with creep feed against current practices adopted in two government pig breeding farms. A total of 100 sucklers each selected for the study were allotted to two treatments viz., creep feeding (T1) and non-creep feeding (T2) through lucky draw. Same number of sucklers from three pig breeds namely Duroc, Large Black and Saddle Back were used in the experiment. The birth weights of pig sucklers' were recorded on zero day (at birth), on start of feeding creep feed (5th day), and thereafter weighed every three days until weaning period. Post weaning body weight were measured and compared. The feeds fed in both treatments were mixed with effective micro-organism (EM) solution for better digestion. The animals were fed ad libitum. All data gathered were analyzed using t-test. The study revealed that there was no significant difference (p=0.83) in mean body weight at weaning between the two treatments. The mean body weight recorded was 10.48 and 10.56 kg for creep feeding and non-creep feeding respectively. The experiment revealed that creep feeding of sucklers does not have any effect on the growth performance, and it simply adds on to cost of production. Thus, the study concludes that creep feeding of sucklers is not necessary and may discontinue in future.

Keywords: Average daily gain; creep feed; lactating sow; pre-weaning; post-weaning; sucklers.

1 INTRODUCTION

Piggery sector has grown since 11 five-year plan (FYP) triggered by the government subsidy package supports in the country. Since then, the piggery enterprises both for breeding and fattening have emerged, and in subsequent piglet demand had increased by manifolds. The government breeding farms bred and supply piglets to interested farmers at subsidized rate much below cost of production. Sucklers are fed creep feed from fifth day after birth to weaning age of 35-42 days as it helps stimulate piglets' post- weaning feed consumption (Cabrera et al. 2013). The two government pig breeding farms at Gelephu and Lingmethang had spent Nu. 0.584 million on creep feed in 2018. FINNOR- Asia, Thailand recommended to feed sucklers with sow ration instead of creep while in lactation stage to reduce cost of production. It is also timely for the management to look for a possible cost cutting measures in pig breeding farms without any compromises on overall growth performance of piglets. Moreover, the effects of feeding creep feed on the performance of piglets are not assessed in the country as of date. Therefore, this study was carried out to compare the performance of sucklers' growth with and without feeding creep feed until weaning age.

2. MATERIALS AND METHODS

2.1 Study area and duration

The on-farm feeding trial was conducted in two government pig farms at the National Piggery Research

and Development Centre, Gelephu and Regional Pig and Poultry Breeding Centre (RPPBC), Lingmethang during summer months from August-October.

2.2 Study design

A total of 100 sucklers each were selected, ear-notched and allotted through lucky draw to two treatments – creep feeding (T1) and non-creep feeding (T2). Sucklers from lactating sows (Duroc, Large Black and Saddle Back) between second to sixth parity were used for the study. Animals in both treatments are fed *ad libitum* twice a day. Similar environment condition particularly the temperature and humidity were maintained during the study period.

2.3 Feeding Management

The sucklers in T1 were fed creep feed and in T2 the sucklers were fed sow ration as per the existing conventional practices of the farm. Feeds are mixed with effective micro-organism (EM) solution prior to feeding to improve digestion.

The creep feed fed to sucklers in T1 contained 20% crude protein (CP), 0.96% Lysine, 0.56% Methionine, 0.18% Tryptophan, 0.80% Ca, 0.60% available P, 3500 kcal/kg DE; while the sow ration fed to sucklers in T2 contained 14% CP, 0.58% Lysine, 0.36 % Methionine, 0.13% Tryptophan, 0.75% Ca, 0.50% available P and 3300 DE kcal/kg. The sucklers were fed twice a day, morning and evening starting from 5th day after birth until weaning (42 days).

After weaning the piglets were fed with starter feed as a normal feeding regime of the farm until termination of the trial until 16th measurement at 60 days.

2.4 Data collection

The body weight of sucklers were measured at 0 day (at birth), 5th day on start of feeding sucklers, and thereafter body weight was recorded every three days until weaning (42 days), and continued for 5 more measurements after weaning. The final body weight was measured at the 60th day using digital weighing balance (CAMRY- Model: EL10/EL11).

Mortality and morbidity of the study animals were also recorded and analysed. The average weight gain of animals was derived using formula; (Final live weight – Initial live weight)/duration of experiment.

2.5. Data Analysis

Microsoft Excel was used for data compilation and cleaning. T-Test was administered for data analysis using SPSS version 23.

3. RESULT AND DISCUSSIONS

3.1 Initial and final body weight

There was not much difference in initial weights of animals used in this research. Similarly, the body weight of sucklers measured at the start of trial (5th day), and overall weight gain measured at the end of the research period (16th measurements) for both treatments did not show any significant difference (Table1). This is in line with findings of Sulabo, (2009), who confirmed feeding of creep feed did not affect pre-weaning gains and weaning weights of pigs. However, in contrast Lee & Kim (2018) reported that feeding creep feed improves the growth performance of piglets.

Table1: Body weights at different stages and its performance

Body weight measurement (Kg)	Treatment	
	Creep	Non-creep feeding
N	100	100
Zero Day	1.69+0.35	1.63+0.32
5th Day	2.48+0.56	2.46+0.47
60th Day	10.48+2.29	10.56+2.75

3.2 Weight gain trend until weaning

The trend showed that there was significant difference in weight gain until weaning (35 - 42 days old). There was no significant difference in sucklers performance and post weaning weight gain fed with creep feed (9.24 kg) and non-creep (9.15kg) (Figure 1). Bruininx (2004) reported that the consumption of creep feed while suckling stimulates feed intake and growth after weaning, and in line Heo et al. (2018) reported that highly digestible creep feed improved pre-weaning performance and feeding grain-based creep feed will improve post-weaning performance in pigs.

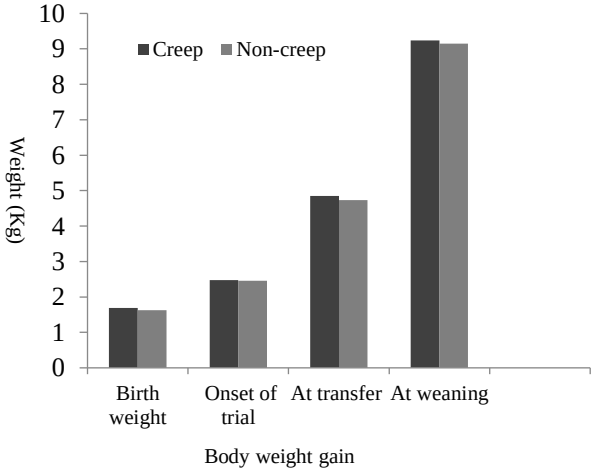

Figure 1: Weight gain trend until weaning

3.3 Post weaning weight gain and overall performance

There was no significant difference (p=0.83) in post-weaning weight gain of animals fed with two different feeds in this study. The post weaning weight gain for animals fed with creep and non-creep feeds were 10.48 ± 2.29 and 10.56 ± 2.75 (kg) respectively (Figure 2). On the contrary, it was reported greater post-weaning feed intake and daily gains for pigs fed with creep feeding as compared to non-fed animals (Sulabo 2009). In addition, the same author reported that low feed intake during lactation negatively affect sow and litter performance. Few mortality cases were observed for both treatments prior to weaning with incidences of diarrhoea and health issues. Similarly, Saikia et al. (2018) reported that the overall incidences of diarrhoea from birth to 10th week of age were not significant among the different weaning groups fed with pre-starter, starter and grower feeds.

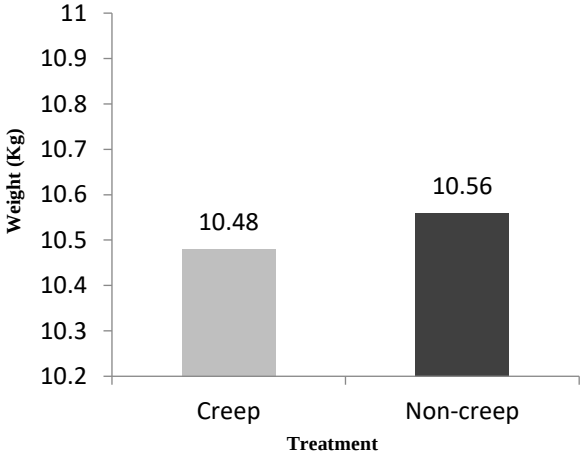

Figure 2: Post- weaning performance of animals fed with different feeds

4. CONCLUSION

There was no difference in the body weight gain and overall performance of the pigs fed with creep feed and sow ration. The study concludes that unless highly digestible and economical creep feed is made available withdrawing of creep feeding to sucklers will have no adverse effect on sucklers overall performance and post weaning body weight under subtropical condition.

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