Weaning at 28 Days. Is Creep Feeding Beneficial?

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SUMMARY

Allowing piglets access to a Phase 1 diet in the farrowing room (creep feeding) for the final 7 days prior to weaning on day 28 did not provide a sustained growth benefit, regardless of weaning weight.

INTRODUCTION

Providing feed to the piglets in the farrowing room, or creep feeding, is practised to ensure a smooth transition onto solid feed at weaning. It is assumed that even a limited intake of the creep feed will familiarize the piglet with solid feed and mitigate a post-weaning growth lag by 1) increasing the body weight of piglets at weaning, 2) encouraging consumption of solid feed immediately post-weaning and 3) initiating the adaptation of the gastro-intestinal tract to solid feed. It can be hypothesized that benefits of creep feeding will be more evident with later weaning when the sows' milk supply becomes limiting and the piglets' gastrointestinal tract is more mature. However, although creep feeding is widely practised, an informal survey of producers in western Canada (Spring 2011) indicated that there is still uncertainty and controversy regarding its benefits. The data reported herein was collected as part of a larger study examining phase 1 diets (see previous report). We hypothesized that allowing piglets access to creep feed in the farrowing room would improve feed intake and growth in the nursery, and that this response would be most evident in the period immediately following weaning.

EXPERIMENTAL PROCEDURES

This experiment used data from 17 weeks of farrowing with 12 sows per room at PSCI. Piglets were provided access to a Phase 1 diet (commercial) in multi-space circular feeders in the farrowing room on days 21 to 28 for the first 9 farrowing rooms. Piglets were weaned on day 28.

Each week, representing one creep treatment, the entire weaning group was weighed and pigs ranked according to body weight within gender. The 24 heaviest and 24 lightest pigs were assigned to pen, 4 pigs per pen. Pens were then randomly assigned to a treatment. Thus each week there were 6 pens of the heaviest and 6 pens of the lightest pigs. Care was taken to ensure that the time between the removal of the piglets from the sow and access to feed in the nursery was the same for all piglets and all weeks.

Video-cameras set up over the pens recorded individual feeder approach which was defined as a pig placing their head over

"Piglets who had access to creep feed in the farrowing room had fewer visits to the feeder in nursery"

and down into the feeder. Pens were recorded for the 24 hours following each diet change (days 0-1, 1-2, and 4-5). Piglets were numbered on their backs for identification. To accommodate the video-recording, lights were on continuously.

RESULTS AND DISCUSSION

Response to a diet regime and body weight at weaning were described in the previous report. Piglets who had access to creep feed for the final week prior to weaning weighed 130 grams more at weaning (Table 1). This did not however, approach significance ($P > 0.10$). Regardless of the presence of creep feed in the farrowing room all piglets lost weight during the 24 hours following weaning. Contrary to what we had hypothesized, piglets which had not received creep feed had improved growth during the initial two weeks post-weaning ($P<0.05$). Feed intake was unaffected ($P > 0.10$), and therefore, overall feed efficiency was improved in non-creep fed piglets ($P < 0.05$).

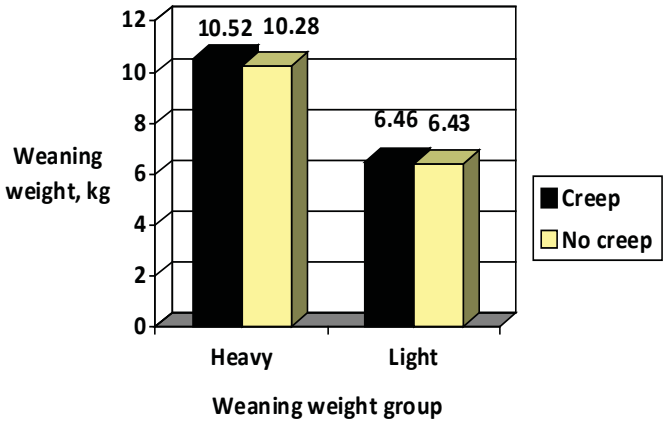

Figure 1. The interaction between weaning weight group and feeding creep in the nursery ($P < 0.05$). Numbers over the bars are the weaning weight for the sub-group.

Table 1. The effect of weaning weight and presence of creep feed in the farrowing room on growth and feed intake in the nursery.

		Weaning Weight			Creep Feed				Creep *BW
	Day[a]	Heavy	Light	P-Value	No	Yes	P-Value	SEM[b]	P-Value
Body, wt, kg	0	10.40	6.44	<0.001	8.36	8.49	0.35	0.10	0.01
	1	10.15	6.42	<0.001	8.24	8.33	0.49	0.10	0.02
	4	10.42	6.76	<0.001	8.56	8.61	0.75	0.11	0.05
	7	10.71	7.13	<0.001	8.88	8.96	0.70	0.14	0.23
	14	12.73	9.48	<0.001	11.17	11.04	0.67	0.21	0.85
ADG, kg/day	0-1	-0.26	-0.02	<0.001	-0.12	-0.16	0.36	0.02	0.79
	2-4	0.07	0.08	0.040	0.08	0.07	0.43	0.01	0.60
	5-7	0.12	0.15	0.001	0.16	0.12	0.11	0.02	0.84
	8-14	0.29	0.34	<0.001	0.33	0.30	0.20	0.02	0.57
	0-14	0.16	0.21	<0.001	0.20	0.17	0.05	0.001	0.63
ADFI, kg/day	0-1	0.09	0.13	<0.001	0.12	0.10	0.10	0.01	0.42
	2-4	0.13	0.13	0.14	0.13	0.13	0.77	0.01	0.68
	5-7	0.22	0.21	0.720	0.22	0.21	0.88	0.01	0.80
	8-14	0.35	0.35	0.770	0.37	0.34	0.16	0.01	0.45
	0-14	0.25	0.25	0.830	0.26	0.25	0.33	0.01	0.59
FCE, G/F	0-1	-5.36	-1.34	<0.001	-2.51	-4.19	0.06	0.59	0.33
	2-4	0.40	0.43	0.840	0.39	0.44	0.75	0.10	0.21
	5-7	0.43	0.52	0.001	0.70	0.25	<0.001	0.06	0.11
	8-14	0.81	0.96	<0.001	0.89	0.88	0.92	0.03	0.47
	0-14	0.59	0.79	<0.001	0.77	0.61	0.05	0.05	0.56

[a]Day 0 is weaning.

[b]Because of the unbalanced design the SEM was slightly different for the effects of weaning and creep feeding. The larger SEM is shown.

The creep by body-weight interaction described in Table 1 (day 0, 1, and 4; body weight $P < 0.05$) is shown in more detail in Figure 1 for day 0 (weaning). The response to creep was greater in heavier (240 grams or 2.3 %) than lighter pigs (30 grams or 0.5%). Further work is underway to determine if this is because the heavier piglets consumed more creep while in the farrowing room.

Piglets who had access to creep feed in the farrowing room had fewer visits to the feeder in the nursery on day 0, 1 and 4 post-weaning. This pattern is most notable in the final 8 hours of each 24 hour period. Again, this is contrary to our hypothesis, that feeding creep would accustom the piglets to solid food and thus encourage consumption in the nursery. Feed intake was comparable, thus it appears that those piglets who had received creep feed in the nursery consumed more feed at each visit when in the nursery. The increased visits by the pigs who hadn't received creep during the final 8 hours of each day could be because these piglets, unaccustomed to the solid feed, were consuming less feed with each visit, and are then motivated by hunger to visit the feeder during the latter part of each day. This awaits confirmation.

Table 2. The effect of creep feeding in the farrowing room on feeder visits in the nursery.

	Creep	No Creep	SEM	P-Value
Day 0	6.3	8.6	0.45	0.02*
Day 1	7.0	9.1	0.32	0.04*
Day 4	7.4	8.0	0.29	0.12*

* Hour by creep, P<0.001

CONCLUSION AND IMPLICATIONS

Allowing pigs access to a Phase 1 diet in the farrowing room for 7 days prior to weaning had no sustained beneficial effect on performance in the nursery, regardless of weaning weight. Research is currently underway to examine these results in more detail before we can make final recommendations on creep feeding with a 28 day weaning age.

ACKNOWLEDGEMENTS

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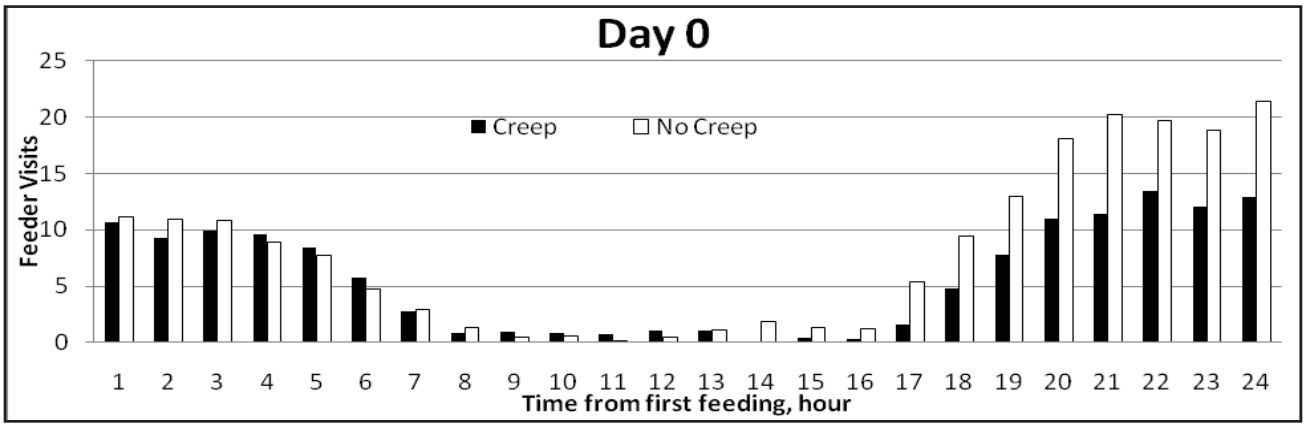

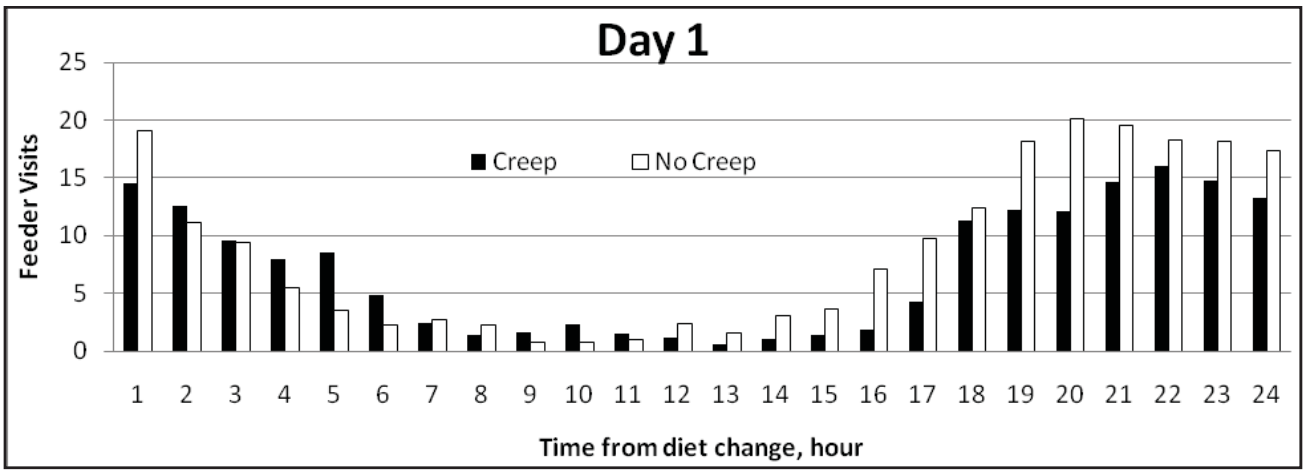

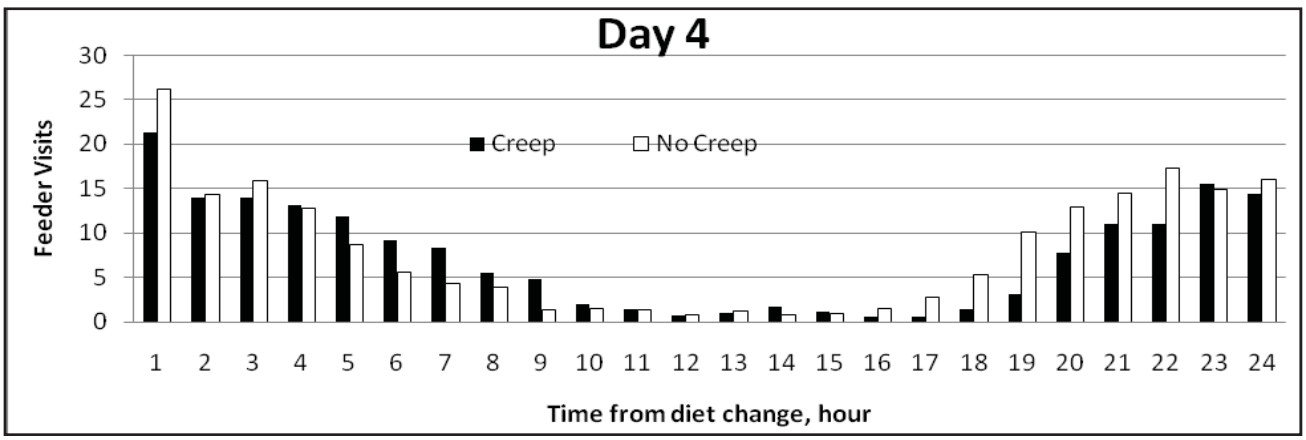

Figure 2. The effect of feeding creep in the farrowing room on feeder visits in the nursery, day 0, 1 and 4 post-weaning. Day 0 refers to the 24 hours following initiation of feeding in the nursery, while day 1 and day 4 are the 24 hours following the morning feeding.