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Effect of offering supplementary creep feed to nursing piglets on pre-weaning growth and subsequent nursery performance

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Introduction

It has been suggested that exposure to and ingestion of nursery feed pre-weaning may better teach pigs how to source food and water post-weaning, induce earlier production of necessary enzymes for plant-based food digestion, and prepare them to cope with potential allergens contained in such food. The objective of this trial was to compare the pre-weaning and post-weaning performance of pigs offered supplemental or no supplemental food during the last half of their 19 day nursing period.

Materials and Methods

The trial was conducted in a 6200 sow farrow-wean facility and an associated 20000 head nursery site in Manitoba. A total of 50 control (no creep feed) and 50 treatment (creep feed) litters were allotted randomly within parity and farrowing date. Backfat depth was measured on all trial sows 3 days prior to farrowing and at subsequent service. Litter size and weight was recorded at birth. On day 9 of lactation, all piglets were ear-tagged and weighed. Treatment litters were offered a pre-weighed portion of creep feed (standard SEW formulation) twice daily (a.m./p.m.) in a bowl fastened to the floor of the creep area. Feed remaining at subsequent feeding was removed, weighed, and replaced with fresh feed. Individual piglet weights were taken again at days 14 and 18 of lactation. Upon entry to the nursery on day 19, piglets were allotted to pens based on pre-weaning treatment and weaning weight, with 8 replications per treatment. Pig weights and feed disappearance were recorded on days 3, 7, and weekly intervals thereafter until the end of the 49 day nursery feeding period. Data were analyzed using the MIXED procedure of SAS (SAS Inst., Carry, NC), using litter and feeder as the experimental units pre-weaning and post-weaning respectively.

Results and Discussion

Creep feed consumption between litters was highly variable and average consumption per litter was not different from 9-13 days compared to 14-18 days of age (Table 1). Piglets in creep-fed litters tended to have higher growth rates ($P<0.10$) from 9-18 days of age as well as higher weaning weights ($P<0.10$), as shown in Table 2. Sow backfat loss was unaffected by treatment ($P<0.91$). Offering creep feed to pigs pre-weaning had no effect on growth rate, feed intake, feed:gain ratio, or mortality rate at any point during the nursery period (Table 3). These results suggest that pre-weaning growth rates and weaning weights benefit from the provision of creep feed. However, these benefits fail to manifest themselves in improved subsequent nursery performance.

Table 1. Creep feed consumption per litter

Period	Ave.(g/day)	S.D. (g/day)
Day 9-13	374	153
Day 14-18	306	137
Day 9-18	679	263

Table 2. Creep feeding effect, pre-weaning

Item	No creep	Creep	P value
Weaned/litter	9.02	9.06	0.86
Sow backfat loss	3.1 mm	3.1 mm	0.91
Pig gain (d 9-18)	247 g/d	274 g/d	0.10
Pig wean weight	5.55 kg	5.80 kg	0.10

Table 3. Creep feeding effect, nursery

Item	No creep	Creep	P value
Mortality	3.89 %	4.33 %	0.85
Growth: 0-14	148 g/d	131 g/d	0.41
0-49	366 g/d	367 g/d	0.95
Intake: 0-14	165 g/d	171 g/d	0.63
0-49	550 g/d	555 g/d	0.87
Feed:gain:0-14	1.15	1.34	0.35
0-49	1.50	1.52	0.85