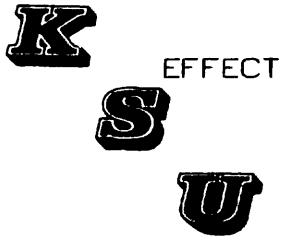

EFFECT OF CREEP FEEDING AND CREEP DIET ON PRE- AND POST-WEANING PIG PERFORMANCE

Gary L. Allee

Summary

Three trials involving 61 litters of pigs were conducted to evaluate the effects of creep feeding and creep diet on weaning weight and subsequent performance in the nursey. Pigs offered a commercial milk replacer pellet (Soweena Pig Pellets)[1] consumed more feed and were heavier at weaning than pigs fed a 20% whey corn-soybean meal creep diet or pigs fed no creep feed. Pigs utilized the creep feed very efficiently with creep feed conversion rates of less than 1:1. Creep feeding did not affect the 4- or 5-week post-weaning average daily gain or feed conversion. However, pigs that were creep fed and heavier at weaning also were heavier at 8 to 9 weeks of age.

Introduction

Creep feed often is offered to pigs at 10 to 14 days of age to supplement the nutrients provided by sows' milk. It often is suggested that creep feeding will accustom the pig to dry feed and, therefore, help to minimize the growth check after weaning. In most of the creep feeding studies, pigs were weaned at 5 weeks or later with only limited information available on the effects of creep feeding on pigs weaned 3 to 4 week of age. The present study was conducted to evaluate the effects of two creep feeds on weaning weight of pigs weaned at 3-4 weeks of age. We also wanted to evaluate the influence of creep feeding on feed intake and gain immediately after weaning and during the 28 to 35 days postweaning.

Experimental Procedures

General procedures. Sows and litters were housed in farrowing stalls with sow feed and water available ad libitum. In all creep studies, pigs were weighed at 14 days and assigned to one of the creep diets. Creep feed was fed in a metal creep feeder with 1/3 to 1/2 of a pound of creep feed added as needed. Creep feeders were checked at least twice daily. Pigs were weighed at weaning and moved to the nursey. The nursey facility is an environmentally controlled building with wire floors over a Y flush gutter. Each 4' by 5' pen contains a self-feeder and a nipple waterer. Nipple waterers were blocked open until all pigs had learned to use the waterers. Temperature of the nursey was 90°F for the first week after weaning and gradually reduced throughout the 4- to 5-week trial. Pigs were weighed and feed consumption determined weekly.

---

[1]Merrick Foods, Inc. Union Center, WI.

Trial I. Litters were assigned randomly to either the Soweena Pig Pellets or the control diet (Table 1) at 14-days of age. Fresh feed was placed in the creep feeders twice daily, or more frequently as litters approached weaning. At weaning, pigs were moved to the nursey with 5 pigs per pen. The nursey trial lasted 5 weeks.

Trial II. Litter were assigned to one of the following creep diets when pigs were 14 days old: 1) Soweena Pig Pellets 2) control (Table 1) or 3) none. Fresh feed was provided at least twice daily until litters were weaned at 27 days of age. At weaning, pigs were moved to the nursey, where each pen housed a litter to evaluate the effects of creep diet on subsequent performance. The control creep diet was fed for the 4-week nursey study. Feed intake and weight gain were measured weekly.

Trial III. Litters were assigned to either the Soweena Pig Pellets or no creep at 14-day of age. Pigs were weaned at an average age of 24 days of age.

Results and Discussion

The results of the first creep study are shown in Table 2. Pigs offered the Soweena Pig Pellets consumed approximately twice as much creep feed as pigs fed the control diet (1.34 vs .76 lb/pig) and were heavier at weaning (12.84 vs 12.13 lb). The effect of creep diet on nursey performance is shown in Table 3. Pigs fed the Soweena Pig Pellets as a creep diet were significantly ($P<.05$) heavier at weaning and were heavier at each weekly weighing. Pigs fed the Soweena Pig Pellets as a creep feed consumed more ($P<.05$) feed the first week after weaning. Creep diet did not affect average daily gain or feed efficiency during the 5-week nursey period.

The results of Trial II are shown in Table 3. Pigs offered Soweena Pig Pellets consumed over three times as much creep feed as pigs offered the control diet (1.55 vs. .47 lb/pig). Pigs fed the Soweena Pig Pellets gained more ($P<.05$) than pigs not given creep feed or those fed the control diet and were significantly heavier ($P<.05$) at weaning (27-days).

The effect of creep diet on nursey performance is shown in Table 5. Pig fed the Soweena Pig Pellets as a creep feed were 1.95 lb heavier than pigs fed no creep and 1.83 lb heavier than pigs fed the control diet as a creep feed. After 4 weeks in the nursey, pigs fed Soweena Pig Pellets as a creep feed were 3.55 lb heavier than pigs fed no creep and 2.57 lb heavier than pigs fed the control creep diet. Creep feeding or the creep diet fed did not affect average daily gain or feed efficiency in the nursey.

Pig fed Soweena Pig Pellets as a creep feed consumed .75 lbs of feed per pig and gained .88 lbs from day 14 to an average weaning age of 24 days (Table 6).

These results suggest that composition of the creep diet can have a marked effect on creep feed consumption. Creep feed was very efficiently converted to weight gain (efficiency was 1:1 or less). Creep feeding a very palatable diet will increase weaning weights of pigs weaned at 24 to 27 days of age. Creep feeding did not improve pig performance in the nursey. However, pigs offered creep feed were heavier at weaning and maintained this advantage during the 4- to 5-week period in the nursey.

Table 1. Composition of Control Diet[a]

Ingredients	%
Gr. Corn	41.225
Soybean meal (44% C.P.)	31.50
Fat	4.00
Whey, spray dried	20.00
Dicalcium phosphate	1.35
Limestone	1.00
Salt	.10
Trace-mineral premix	.10
Vitamin premix	.5
Neomycin 100	.1
L-Lysine HCL (feed grade 98%)	.125
	100.00
Lysine	1.25
Crude protein	20.00
Calcium	.90
Phosphorus	.73

[a]Fed as a 1/8" pellet.

Table 2. Creep Study (Trial I)[a]

Item	Creep Diet	
	Soweena	Control
No. of litters	8	7
Pigs/litter	8.5	8.3
Creep consumption/litter, lb.*	11.6	5.7
Creep consumption/pig, lb.*	1.34	.76
Gain/pig, lb (14 days-weaning)*	7.2	6.8
Gain/litter, lb (14 days-weaning)*	60.2	54.4
Avg. pig weight at weaning, lb.*	12.84	12.13

[a] Creep feed was available from day 14 to weaning at 21 to 26 days of age.

* Significant ($P < .05$).

Table 3. Effect of Creep Diet on Nursery Performance (Trial I)[a]

Item	Creep Diet	
	Soweena	Control
Pig weights, lb		
Initial wt*	12.84	12.14
Week 1 after weaning*	16.01	15.33
Week 2 after weaning*	21.01	20.17
Week 3 after weaning*	27.43	26.35
Week 4 after weaning*	34.90	33.49
Week 5 after weaning*	43.12	41.62
Feed intake, lb		
Week 1 after weaning*	3.29	2.97
Week 2 after weaning	5.78	5.51
Week 3 after weaning	9.49	9.17
Week 4 after weaning	12.57	12.04
Week 5 after weaning	13.49	12.68
ADG, lb.		
Week 1 after weaning	.45	.45
Week 2 after weaning	.69	.71
Week 3 after weaning	.92	.88
Week 4 after weaning	1.07	1.02
Week 5 after weaning	1.17	1.16
Performance Summary (Nursery W_1-W_5)		
Avg. daily gain, lb	.86	.84
Avg. daily feed, lb	1.27	1.21
Feed: gain	1.47	1.44

[a] Each value is the mean of 16 pens with 5 pigs per pen.

* Creep diet significant ($P < .10$)

Table 4. Creep Study (Trial II)

Item	Creep Diet		
	Soweena	None	Control
No. of litters	10	9	10
Pigs/litter	8.40	8.44	8.40
Creep consumption/litter (14-27 days) lb*	13.15	0.00	3.99
Creep consumption/pig, (14-27) lb*	1.58	0.00	.47
Creep feed consumption/pig (14-21 days), lb*	.71	0.0	.19
Creep feed consumption/pig (21-27 days), lb*	.87	0.0	.28
Gain/pig (14-days to 27 days), lb*	6.68	5.05	5.53
Gain/litter (14-days to 27 days), lb*	57.60	43.38	46.59
Avg. pig wt. at 27 days, lb*	15.09	13.14	13.26

* Soweena significantly ($P < .05$) different from controls

Table 5. Effect of Creep Diet on Nursery Performance (Trial II)[a]

Item	Creep Diet		
	Soweena	None	Control
Pig weights, lb			
Initial weight[a,b]	15.09	13.14	13.26
Week 1 after weaning[a,b]	18.09	16.44	16.10
Week 2 after weaning[a,b]	23.27	21.58	21.38
Week 3 after weaning[a,b]	30.29	28.21	28.40
Week 4 after weaning[a,b]	39.29	35.74	36.72
Feed intake, lb			
Week 1 after weaning[a]	4.37	4.05	3.65
Week 2 after weaning	7.69	7.00	7.00
Week 3 after weaning	10.93	9.97	10.34
Week 4 after weaning	13.75	12.78	13.10
ADG, lb			
Week 1 after weaning	.37	.41	.35
Week 2 after weaning	.74	.73	.75
Week 3 after weaning	1.00	.95	1.00
Week 4 after weaning	1.28	1.08	1.19
Weeks 1-4 after weaning	.83	.78	.81
Feed:gain			
Week 1 after weaning	1.54	1.20	1.34
Week 2 after weaning	1.49	1.39	1.33
Week 3 after weaning	1.55	1.51	1.49
Week 4 after weaning	1.53	1.48	1.58
Weeks 1-4 after weaning	1.52	1.50	1.45

[a] Each value is the mean of 10 litters for Soweena and Control and 9 litters for no creep. Each pen housed a litter in the nursey.

[a] Soweena significantly ($P < .10$) different than control.

[b] Soweena significantly ($P<.10$) different than no creep (none).

Table 6. Creep Study [a] (Trial III)

Item	Creep Diet	
	Soweena	None
No. of litters	9	8
Pigs/litter	8.25	7.75
Creep consumption/litter, lb*	6.20	0.0
Creep consumption/pig, lb*	.75	0.0
Gain/pig (14-weaning)*	5.48	4.60
Gain/litter (14-weaning)*	44.91	39.01

[a] Creep feed was available from day 14 to weaning at 21-29 days of age with an average weaning age for both treatments of 24 days.

* Significant ($P < .05$) difference.