Gel Feed Supplementation Enhances Performance & Increases Potential Economic Return

Dari C. Brown, Ph.D.
Marketing Nutritionist
Land O'Lakes Purina Feed LLC

A recent study was conducted at LongView Animal Nutrition Center (Gray Summit, MO) to evaluate gel feed supplementation on performance of newly weaned pigs. Treatments consisted of pigs receiving gel or no gel. Pigs receiving gel were fed only gel the first two days after weaning, 1 lb of gel mixed with 0.5 lb of pelleted feed on days 3 and 4, and 1 lb of gel mixed with 1 lb of pelleted feed on days 5-7. All gel or gel mixtures were provided *ad libitum* in a creep feeder (pellets were also offered in a regular feeder) and checked 2-3 times per day. Gel and no gel pigs received common diets throughout the nursery period (day 0-36 after weaning).

Feeding gel for 7 days after weaning resulted in pigs eating **48.4% more feed** and **gaining 14.1% faster** (when compared to pigs not receiving gel; Table 1). Moreover, gel fed pigs were **0.5 lb heavier** at the end of the 7 day period. Pigs supplemented with gel ate **8.0% more feed** and **gained 5.3% faster** during the overall nursery period (d 0-36) leading to **2.0 lb heavier pigs** at the end of the nursery period.

Table 1. Beneficial Effect of Feeding Gel After Weaning on Average Daily Gain (ADG), Average Daily Feed Intake (ADFI), Feed:Gain and Body Weight Gain.

	Treatment		
	No Gel	Gel	Improvement
No. of Pigs	50	50	
Removal & Mortality	0	0	
Phase 1 (d 0-7)			
ADG, lb	0.523[d]	0.597[de]	14.1 %
ADFI, lb	0.486[b]	0.721[c]	48.4 %
Feed:gain	0.94[b]	1.23[c]	
Overall (d 0-36)			
ADG, lb	1.13	1.19	5.3%
ADFI, lb	1.38	1.49	8.0%
Feed:gain	1.22[b]	1.26[c]	
Pig Wt, lb			
Initial	14.62	14.62	
Day 7	18.3[d]	18.8[de]	+0.5 lb
Day 36	55.3	57.3	+2.0 lb

[a]Values are means of 10 pens of five pigs each
[bc]Means in the same row with different superscript differ $P < 0.05$
[de]Means in the same row with different superscript differ $P \leq 0.10$

How does nursery performance transfer into the finishing barn?
Studies have shown that for every 2 lb increase in weight obtained in the nursery, weight at 20 weeks (first pull) increases by 14 lb as well as one week earlier to slaughter weight.

How does increasing nursery weight by 2 lb impact bottom line?
Our study shows that feeding pigs gel during the first week after weaning results in **2 lb heavier pigs** as they exit the nursery phase. This could result in gel fed pigs weighing at least **14 lb heavier** at first pull and exiting one week earlier.

Example of the Benefit of Increased Weight:

LAND O'LAKES PURINA FEED LLC

- Additional 14.0 lb at end of finishing could give an extra $8.28 (14 lb x $0.592/lb)
- Subtract the cost of gel consumed during the first week of weaning (0.35 lb/hd/d x 7 days = 2.66 lbs total x $0.70 per lb gel = $1.86/pig total cost of gel for 7 days)
- **Potential Additional Income of $6.42 per pig ($8.28 - $1.86 = $6.42) for Increasing Weaning Weight (1000 hd barn increase bottom line by $6,420)**
- Based on May 2008 hog and feed prices, Source - DTN.

Example of the Benefit of Exiting One Week Earlier:

- 6 lb of feed per pig x -7 days = -42 lb per pig for 7 days
- Cost of Finishing Diet = $230 per ton or $0.115 per lb
- 42 lb per pig for 7 days x $0.115 per lb = $4.83
- **Potential Reduction in Feed Cost for Pigs Exiting 7 days Earlier = $ 4.83 per pig (1000 hd barn; reduction in feed cost = $4,830)**
- Based on May 2008 hog and feed prices, Source - DTN.

Furthermore, pig variation was reduced with the use of gel at the end of the nursery which would reduce pig variation in grow-out resulting in more full value pigs.

How does reducing variation impact bottom line?
Look at what happens 125 days later to pigs in the finishing barn (Table 2).

Table 2. Initial and Market Weights of Small Pigs Fed Gel or No Gel.

	Initial Weight (lb) to Finisher	Market Weight (lb)
Small Pig, No Gel	35	211
Small Pig, Fed Gel	37	225

NOTE: The 2 lb spread has now gone to > 14 lb at the end of finishing.

What's the potential financial impact of feeding gel on the bottom line (Table 3)?

Table 3. Value per Head of Feeding Small Pigs Gel.

	Market Weight (lb)	Market $ / cwt	Value/head
Small Pig, No Gel	211	$53.20	$112.25
Small Pig, Fed Gel	225	$59.20	$133.20
			$20.95

In this case, for every small pig pushed into a desirable weight category, producers could gain $20.95 per head.

Conclusion: Gel is a unique concept in swine nutrition! Its moisture content and natural intake enhancers are designed to encourage intake, prevent dehydration and improve intestinal health during times of stress such as weaning. These data demonstrate that feeding gel for a week after weaning improves intake and gains resulting in heavier, more uniform pigs at the end of the nursery leading to heavier, more uniform pigs in grow-finish and thus increasing economic return.

For further information, please see your local feed sales representative at a Land O'Lakes Feed Co-op or Purina Mills Dealer. Visit us on-line at
www.GelResearch.com www.LOLFeed.com, www.PurinaMills.com, www.PurinaPigStarters.com,

LAND O'LAKES PURINA FEED LLC