

Should a Nutrition Feeding Program for Older Weaned Pigs be Different than for Younger Weaned Pigs?

**Brenda de Rodas, Ph.D.
Swine Research Manager
Land O'Lakes Purina Feed LLC**

Average weaning age has increased by 3 to 4 days in the past few years. However, the basic concepts of nutrition and management for feeding the 18 ± 2 day old weaned pig are similar to those for the 14 ± 2 day old weaned pig. Regardless of age, getting the newly weaned pig started on feed as soon as possible is essential to optimize both nursery performance and subsequent growing finishing performance.

Weaning presents many challenges to the young pig. These challenges include an abrupt change from a liquid to a solid diet that contains ingredients that may not be easily digestible to the young pig. Immediately after weaning, the digestive system of the pig has to adapt to a new feeding regime with respect to enzyme secretion. In addition, the young pig is presented with a new social structure. Combined, these effects disrupt nutrient intake that is necessary to maintain gut integrity and function. The reduced feed and water intake after weaning may contribute to intestinal inflammation, which may affect the structure of the villus and crypt. These disruptions in water and feed intake affect growth performance and, are further exacerbated by an immature immune system. This creates susceptibility to digestive upsets and/or diarrhea. Cranwell and Moughan (1989) concluded that gastrointestinal system development of the young pig is far from complete, even by 28 days of age. Further, the young pig has a relative immature immune system until around 35 to 42 days of age.

Complex diets containing milk products, plasma protein, fishmeal and other high quality ingredients have been used with success for several years to minimize post-weaning lag. Mahan et al. (2004) conducted four studies involving 1,005 pigs weaned at 19 ± 2 days of age to evaluate the effect of diet complexity and lactose level on starter pig performance. Their results reported a 12% difference in body weight at the end of a 28-day nursery period when complex versus simple diets were fed.

A more recent study by Groesbeck et al. (2005) involving 2,016 weanling pigs (18 ± 2 days of age) reared in a commercial environment demonstrated that pigs fed 1 lb of pelleted segregated early weaning (SEW) diet containing 6.7 % plasma protein and 3 lb of pelleted transition diet containing 2.5% plasma protein had greater ADG and ADFI, lower F/G and cost per lb of gain, and greater margin over feed cost than pigs fed 0.5 lb of the pelleted SEW and 1 lb of the pelleted transition diet. In addition, the researchers reported that pigs fed 4 lb of the transition diet in meal form had greater ADG and improved F/G ratio than pigs fed 2 lb of the meal-based transition diet. The poorer performance of pigs fed 2 lb of the meal based transition diet suggests that those pigs were switched

to quickly to a Phase 2 diet since all pigs were fed 12 lb of the Phase 2 diet (meal form) after the SEW and/or transition diets were fed. Pigs fed the pelleted SEW and transition diets, however;

- ⌘ Grew faster,
- ⌘ Utilized feed more efficiently
- ⌘ Had lower removal rates
- ⌘ Greater margin over feed cost than pigs fed the transition diet in meal form.

Other studies have also demonstrated that weaning pigs fed diets in pelleted form out-performed those fed diets in meal form. Sawyer, et al. (1999) reported that pigs (14 days of age) fed pelleted diets from day 0 to 14 post-weaning had greater ADG and utilized feed more efficiently than pigs fed a diet in meal form. Similarly, Taylor et al. (1996) reported that pelleting improved ADG by 25% and gain:feed by 36% during day 0 to 5 post-weaning. Jensen and Becker (1965) also reported that young pigs, when given a choice, prefer a pelleted diet versus a diet fed in meal form.

The importance of getting the newly weaned pig to eat and drink water as soon as possible can not be over emphasized. A successful nutrition program for older weaned pigs is similar to that for younger weaned pigs. Research has shown that newly weaned pigs perform well only when given adequate amounts of a complex diet appropriate for their stage of development. Highly digestible, highly palatable, pelleted diets containing plasma protein and lactose are required to achieve maximum feed intake and gain during the first week post-weaning. It is important to consider the variability in age at weaning within a weaning group when reviewing feeding budgets to ensure that the youngest, at risk pigs receive adequate amounts of the proper diet. Clearly, a phased-feeding program for maximum feed intake is essential to optimize performance and to get pigs to a lower cost, grain-soybean meal diet as quickly as possible.

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.LOLFeed.com, www.PurinaMills.com, www.PurinaPigStarters.com, www.GelResearch.com

LAND O'LAKES PURINA FEED LLC

Copyright © 2009 Land O'Lakes Purina Feed LLC. All rights reserved.