

NURSERY IMPROVEMENT – PRACTICAL TIPS

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INTRODUCTION

The general set-up of the nursery with respect to practical management has been reviewed previously in the London Swine Conference by Farrell and Templeton (2007). The following looks at one aspect of pre-nursery management in more detail that can improve nursery performance if focused upon – creep feeding – and also looks at the benefit of a walk through the nursery unit by the specialist.

CREEP FEEDING

Take Home Message

Focusing on creep management and getting as many pigs on the sow as possible to consume creep feed will give subsequent post-weaning benefit and improve nursery exit weights.

Creep feeding is used in later weaning (> 21 days), however it has often been neglected in young weaned piglets (<21 days). The following shows that introducing creep earlier in life than was conventionally thought for piglets weaned pre-21 days may be a management tool that can increase the number of piglets consuming creep feed and so improve post-weaning performance.

Investing in creep feeding on a litter at \$2.00 per litter can show a return of between 3:1 and 9:1 per litter dependent on pig price and also depending on the weaning weight improvement of using creep.

Background

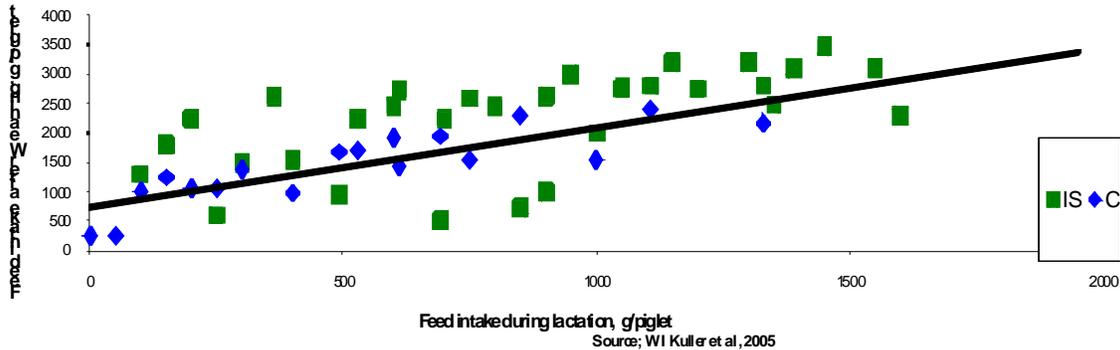
Creep feeding is increasingly important with:

- 1) Increased litter size
- 2) Later weaning

Although creep feeding is an important component in improving weaning weights, especially in later weaned piglets, it is more important in improving post-weaning performance. If pigs consume creep feed pre-weaning then there is less of a post-weaning feed intake lag and so post-weaning performance is enhanced.

This is shown in the following trial (Fig. 1) when pre-weaning creep consumption was compared to post-weaning feed consumption. These results confirm that the more a pig eats as creep feed the better the post-weaning feed intake, something that as a pig producer we want to achieve in order to avoid that post-weaning lag.

Figure 1. Creep feeding increases post-weaning feed intakes.



Within the European markets average weaning would be approximately 24 to 28 days and the benefits of creep feeding are well known and proven. However new research in a US University (Sulabo et al, 2008) shows the importance that offering creep feeding can have on 21 days weaned pigs' post-weaning performance. The trial was interesting as chromic oxide (green colour) was added to the feed so that pigs could be identified as eaters or non-eaters based on the colour of the faeces. Pigs that ate feed would have a green colour to the faeces as chromic oxide is not absorbed by the piglet. This allowed the researchers to categorize pigs as eaters, non-eaters (offered creep but did not consume any) and no creep (no creep offered). The results (Fig. 2) showed that pigs that ate creep had an extra 0.4 kg gain over pigs that were non eaters and no creep.

Figure 2. The effect of creep feeding on post-weaning gain.



These results show the importance of not only providing creep but also ensuring that the maximum number of piglets consume creep. The researchers showed in the trial that of the litters offered creep feed only a proportion of the piglets actually ate it:

60%	Ate creep	- Eaters
40%	Did not eat creep	- Non Eaters

So as pig producers it is important to manage creep feeding to maximise the number of piglets that consume creep. One management tool the researchers looked at was introducing creep feed earlier than their standard practice. They, therefore, did a trial comparing pigs introduced to creep at their standard 14 days of life with pigs offered creep feed at day 7. The results showed that an **extra 10%** of pigs consumed creep feed when it was introduced earlier at day 7.

Based on pigs consuming creep feed at an average 100 g per piglet in the trial up to 21 days, for a litter of 10 pigs the feed consumed per litter would be 1.0 kg or \$2.00 per litter. Pigs consuming creep showed an improvement of 0.4 kg per pig at 28 days post-weaning and based on lifetime performance could have an improvement of 1.2 kg per pig at slaughter. At a minimum 4 kg per litter (0.4 kg x 10 pigs per litter) and a maximum of 12 kg per litter (1.2 kg x 10 pigs per litter) then the return on consuming creep would be a benefit of between \$6.00 to \$18.00 per litter or a return of between 3:1 to 9:1 for a creep feed costing \$2000 per tonne.

This shows some idea of cost benefits of creep feeding. Other work has tried to relate pre-weaning growth rate on slaughter weight at 170 days and showed that a 10 g improvement in ADG pre-weaning can improve live weight at slaughter by 0.96 kg. One management tool that can be used to achieve this extra growth is by the use of a highly digestible complex (milk, cooked cereal, low soybean meal, etc.) as a creep feed. A highly digestible feed should be used as that stimulates feed intake in the piglet and Fraser et al (1993) showed that the use of a complex feed increased ADG pre-weaning by 20 g/day over a standard non-complex feed resulting in an increased weaning weight and subsequent benefit in post-weaning performance. Another practical tip to increase feed intake pre-weaning is gruel feeding (Miller et al, 1999) whereby feed and water are mixed together and offered to the piglet. Results have shown an increased dry matter intake and average daily gain.

These results show the importance that focusing on creep feeding can have from a performance and financial perspective and show that it is not the importance of getting creep feed in front of the litter but ensuring that the as many piglets in the litter consume creep as possible. Other management practices that can be used to stimulate creep feed intake will be discussed in the presentation.

Walk Through By Specialist

It is often good to get a second opinion on a production system and so walking through the farm with the nursery specialist can often highlight areas where improvement may help. As an example of this, a nursery unit where the producer had commented on how performance was not meeting expected targets requested a walk through for advice.

Some of the areas in that unit were changed:

- Point 1 Weaning weight had reduced by 1 kg due to pressure in the sow system but the nutritionist had not been informed and the same program that had been originally used for the heavier weaned piglet was still being used.
- Action A program was placed relating to weaning weight coming in and if pigs fell below 5 kg weaning weight a new higher digestible feed was introduced.
- Point 2 Pigs were being fed to days irrespective of feed intake during the period, meaning that pigs were moving to the next feed even if the first feed allocation had not been totally consumed. This meant that pigs were falling behind target performance as they were moving to the next feed lighter than expected.
- Action The feed program put in place for weaning weight was now based on kg per pig and the pig did not move to the next feed until the current feed allocation had been consumed.
- Point 3 Pigs were not going to feeders and so feed uptake post-weaning was slow and this was reducing initial feed intake.
- Action To stimulate early post-weaning feed intake, mat feeding was introduced for 3 days post-weaning with mats placed in front of the feeder to stimulate feed intake.
- Action In addition to mat feeding, gruel feeding was introduced in a trough to allow for pigs to feed together as on sow. Gruel was also spread a little onto the feeder to try and get pigs attracted to the feeder.
- Outcome The pigs were fed the correct program and correct amount of feed according to weaning weight and early feed intake was stimulated by feed mats and gruel. This led to performance targets being met.

In this case, another pair of eyes helped the situation and some small changes helped target performance goals to be met. Although there was extra management time required to implement the changes, the producer was happy to do it as he saw the performance benefits in the pig.

LITERATURE CITED

- Farrell, C. and C. Templeton. 2007. Management practices that optimize productivity in the nursery – case studies on what works! London Swine Conference. pp. 195.
- Fraser, D., J.J.R. Feddes, and E.A. Pajor. 1993. The relationship between creep feeding behaviour of piglets and adaptation to weaning: Effect of diet quality. *Canadian Journal of Animal Science* 74: 1-6.
- Kuller, W.I., N.M. Soede, H.M.G. van Beers-Schreurs, P. Langendijk, M.A.M. Taverne, J.H.M. Verheijden, and B. Kemp. 2004. *J. Anim. Sci.* 82: 405-413.

- Miller, H.M., Blanchard, P., Toplis, P. 1999. Creep feed offered as a gruel prior to weaning enhances performance of weaned piglets. In: Manipulating pig production VII, Australian Pig Science Association, Werribee, Victoria, Australia. pp. 129-129.
- Sulabo, R.C., M.D. Tokach, J.Y. Jacela, J.L. Nelssen, S.S. Dritz, J.M. DeRouche, and R.D. Goodband. 2008. Effects of lactation feed intake and creep feeding on sow and piglet performance. J. Anim. Sci. 86 (suppl. 31): 98 (abs.).