

MANAGEMENT PRACTICES THAT OPTIMIZE PRODUCTIVITY IN THE NURSERY - CASE STUDIES ON WHAT WORKS!

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A new group of weaned pigs is heading down the alleyway to begin their life in your nursery. What are the critical factors that determine if this group is a good one or one that you struggle with from start to finish? Whether you are a farrow to finish operator or a stand alone nursery, the issues that you face are the same.

Our jobs allow us to see a wide range of pigs and nursery operations. Part of our job is to look at current research in swine production and find ways to practically implement this on working farms. In this presentation we will share with you, through case studies, some of the factors that we believe, have made nurseries work.

CRITICAL POINTS FOR ACHIEVING NURSERY PERFORMANCE

Getting The Right Pigs – What Is Important?

Ask any nursery manager what they want in the pigs that they get and they will give you a pretty clear picture of what a good weaned pig looks like. But what about what you don't see?

The first and most critical factor to optimizing a nursery is to get the good pigs. Good pigs are more than ones that look nice. The key to nursery performance is getting predictable numbers of health stable pigs, on a regular basis. To achieve this requires lots of attention to detail in the sow herd. To produce the pigs, you want a sow herd operator that:

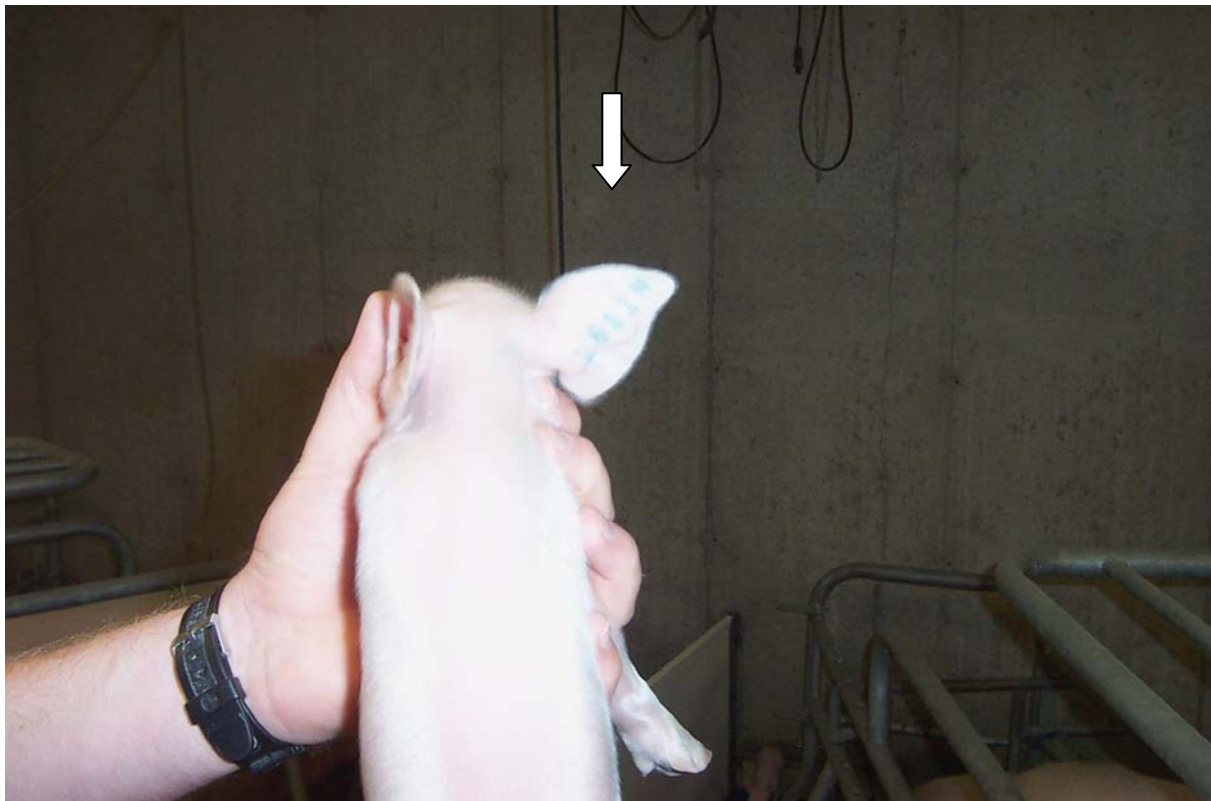
- Has a track record of good herd productivity.
- Has a sound genetic introduction program including an isolation and acclimatization program for gilts.
- Has a stable health status with no circulating PRRS virus or other major swine pathogens.
- Has a good biosecurity program.
- Has a good herd health program and an understanding of how factors in the sow herd can affect the performance of the weaned pig.
- Has open communication between the sow herd and the nursery.

The right weaned pigs:

- Are reasonably uniform in size.
- Have age integrity. This means that pigs should be a known and designated age on

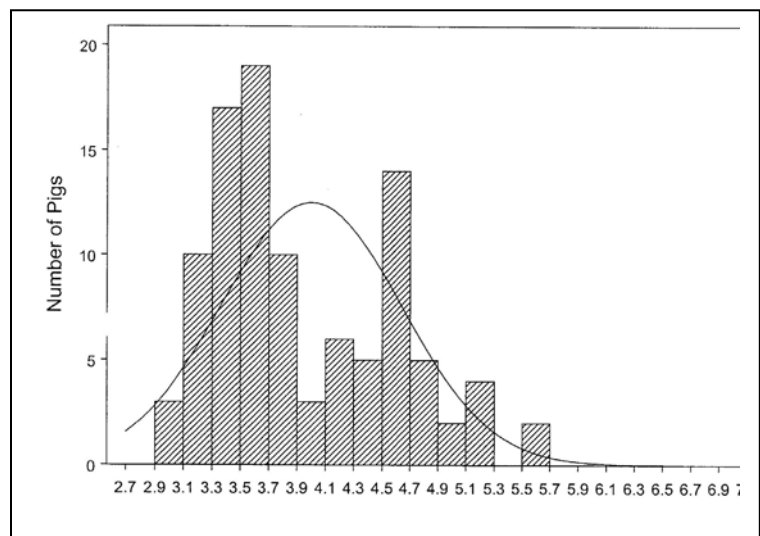
- arrival at the nursery. There are multiple reasons why this is important:
- Age is as important in determining the right feeding program for the pigs as weight. A very young pig who is large, may not have the physiologic maturity to cope with a less complex feed.
 - Pigs who are small for their age, are most likely to bring diseases into the nursery (Allerson et al. 2007). It is a disadvantage to the nursery to hold back small piglets until they are large enough to meet the weight criteria, if they are still small for their age.
 - Have uniform immune status.
 - Piglets from gilt litters frequently do not have the same degree of immunity that piglets from sow litters have. The use of parity segregated production has been one way to cope with this. Another way, that is more practical in smaller systems, is to keep the piglets from gilt litters together and apart from the rest of the pigs
 - It is important that there is no active disease circulating in the sow herd. Gilts are often sources of circulating disease, even though they may appear healthy. One way of minimizing this is to bring gilts into an isolation & acclimatization facility prior to entering them into the main herd. How long they need to be held there will depend on what diseases you are looking to acclimatize them to.

One way of keeping track of age is to tattoo the pigs at birth with the day of the year. All pigs born that day get the same tattoo number. If co-mingling pigs, a herd of origin letter can be added.



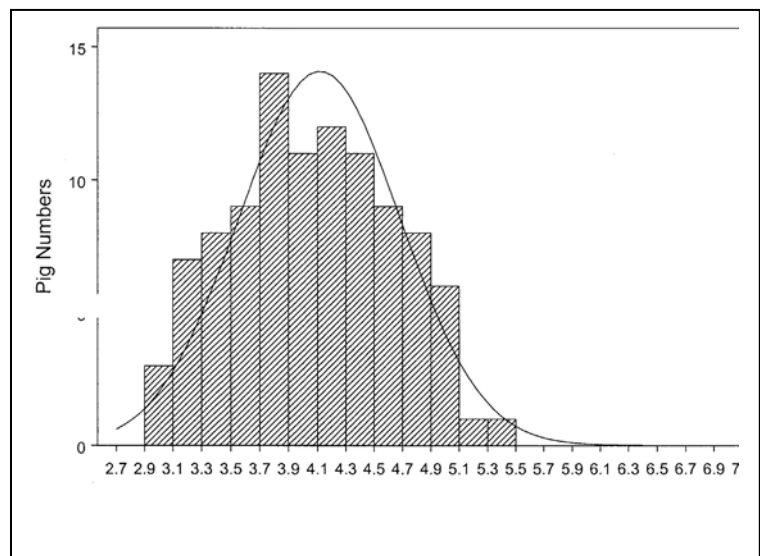
A look at weaning weights:

The following graphs depict the individual weights of 100 pigs per farm on the day that the pigs entered the nursery.



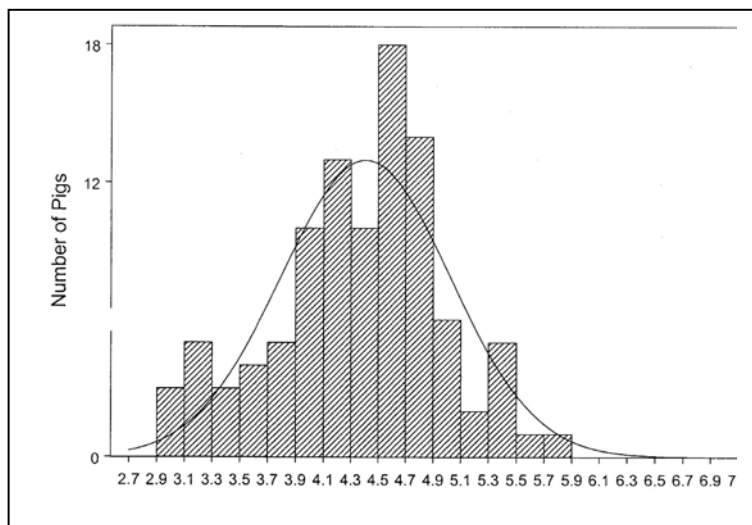
Farm 1 – Pig Weights into Nursery

Number	100
Mean	4.0010
SD	0.6383



Farm 2 – Pig Weights into Nursery

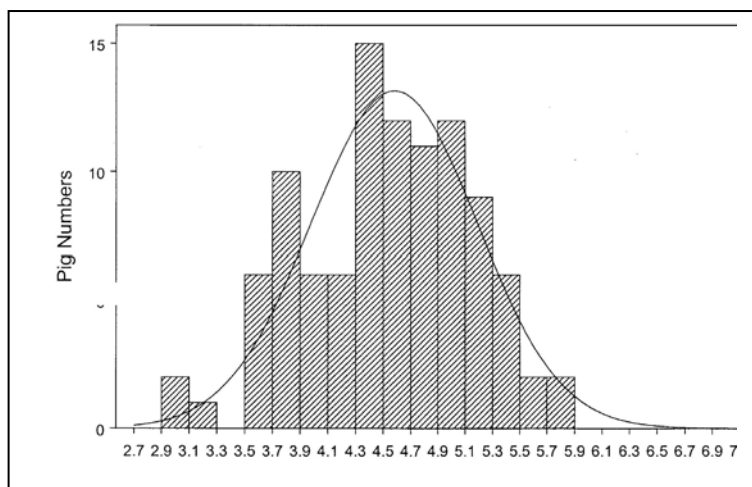
Number	100
Mean	4.1200
SD	0.5666



Farm 3 – Pig Weights into Nursery

Pig Age 15 Days

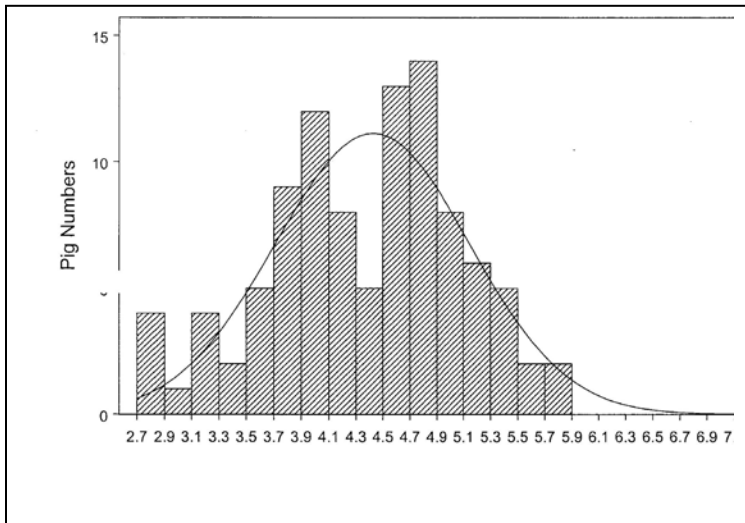
Number	100
Mean	4.4090
SD	0.6147



Farm 4 – Pig Weights into Nursery

Pig Age 15.3 Days

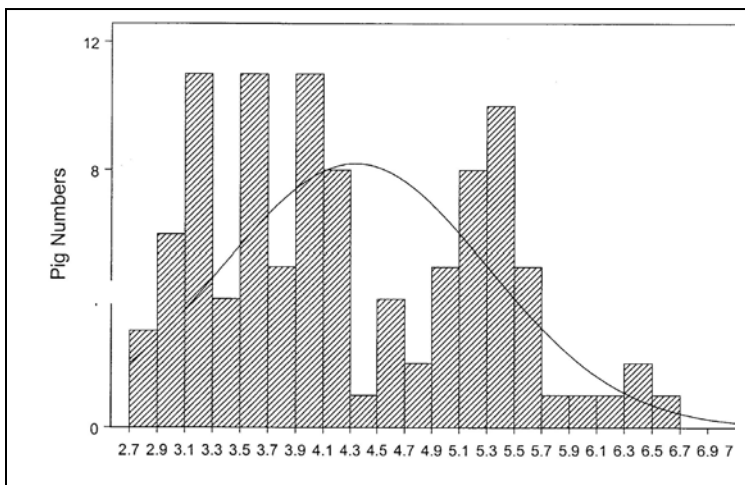
Number	100
Mean	4.5850
SD	0.6059



Farm 5 – Pig Weights into Nursery

Pig Age 15.6 Days

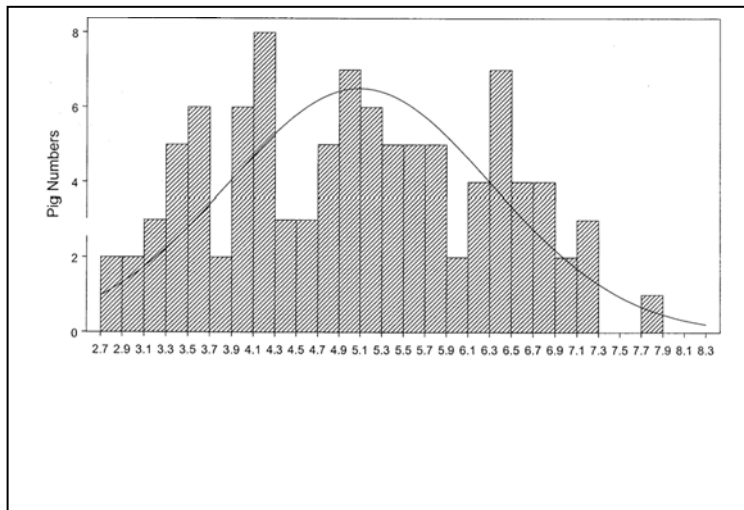
Number	100
Mean	4.4280
SD	0.7165



Farm 6 – Pig Weights into Nursery

Pig Age 16 Days

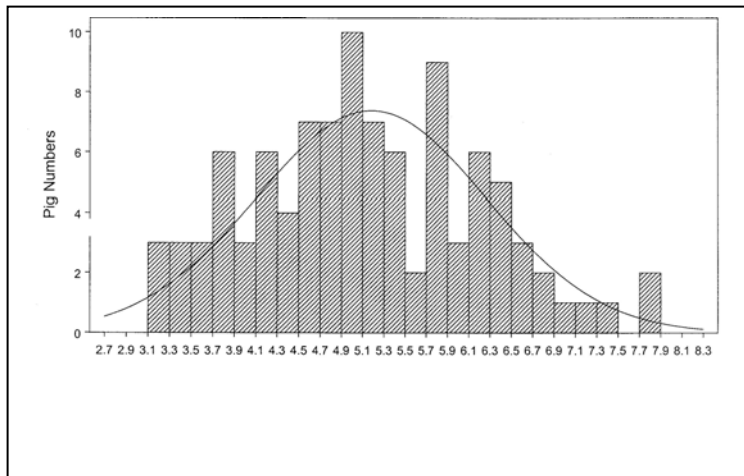
Number	100
Mean	4.3390
SD	0.9730



Farm 7 – Pig Weights into Nursery

Pig Age 16.1 Days

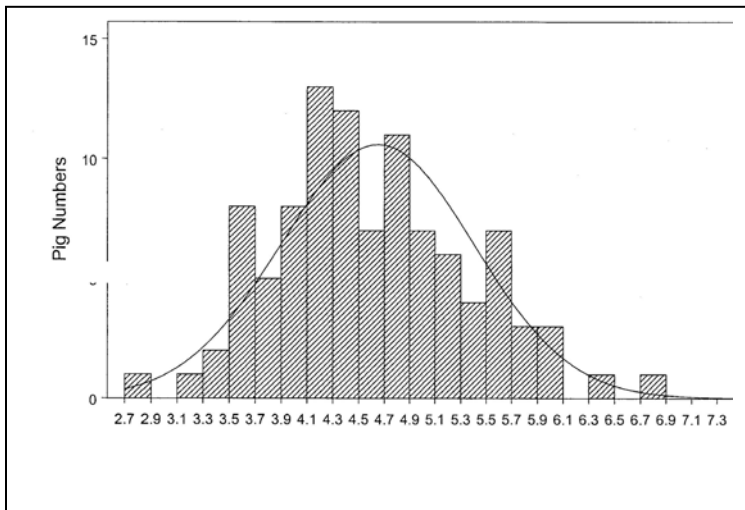
Number	100
Mean	5.0910
SD	1.2270



Farm 8 – Pig Weights into Nursery

Pig Age 16.1 Days

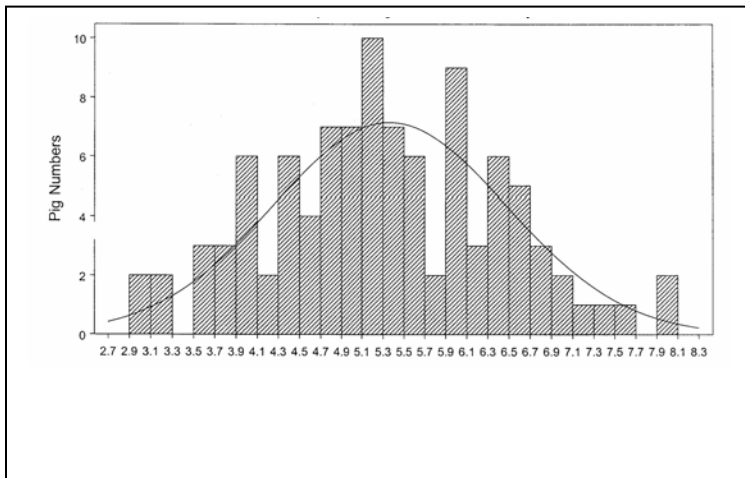
Number	100
Mean	5.1830
SD	1.0808



Farm 9 – Pig Weights into Nursery

Pig Age 16.4 Days

Number	100
Mean	4.6520
SD	0.7535



Farm 10 – Pig Weights into Nursery

Pig Age 17 Days

Number	100
Mean	5.3630
SD	1.1156

Preparing the Nursery

Preparing the nursery has two components:

I. Physical clean up:

- Start with a physical clean up of the area as soon as the animals are removed.
- Empty feeders and remove large amounts of feces.
- Presoak. The presoaking is most effective if the ventilation system for that area is shut off or reduced to a minimum during a 6 – 12 hour presoaking period. This aids in retaining moisture in the room or building and softening the residue left.
- Pull the manure plugs, allow the manure to drain and then replace the plugs. This is an important step for personal safety, as the levels of noxious gases will be lower (both during washing and afterwards) if the manure is removed and the wash water is allowed to accumulate in the pit.
- When you begin to power wash, restart the ventilation system.
- Once power washing is complete, disinfect using the proper amount and concentration of disinfectant.
- Allow the room to dry.

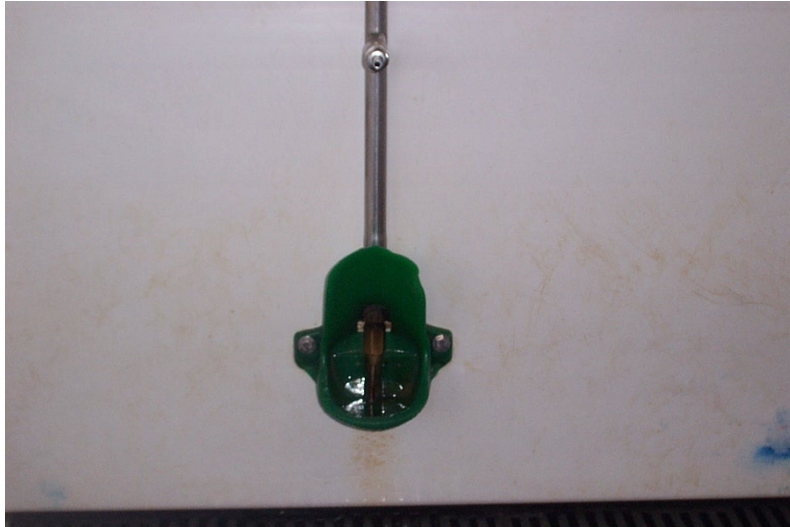
II. Set up:

Having the nursery clean for new pigs arriving is important but it is equally important that the nursery should be set up and ready to receive pigs. The critical factors are:

- The nursery should be warm and dry. The nursery should have achieved the desired placement temperature before the pigs arrive. Temperature guidelines for nurseries are just that – guidelines. It is important to observe pigs at rest. Comfortable pigs lie on their sides, touching one another but not piling. Any temperature stress in the first few days in particular, can set pigs up for health issues like diarrhea.



- The height of waterers need to be reset for smaller pigs. The water source should be at shoulder height. The water source should be obvious to the pig. This may mean that nipples should be leaking slightly, or more ideally, a water bowl or cup is used.



- Feeders should be clean and empty.
- The ventilation system should be reset to start up levels or, if the controls are set on a production curve, reset to day 0.

A cleaning and set up check list is useful to be sure that no steps are missed in the procedure.

Pig Arrival – the Action Plan:

Research published in recent years has shown that extensive sorting of pigs by weight is not advantageous to overall pig performance (Gonyou et al. 2003). The result has been that

producers have ceased sorting pigs. In practice some middle ground is likely where the industry should be. These are some guidelines for weaned pig management at placement:

- Sort out the smallest pigs only. Leave the rest unsorted.
- Plan to feed the smallest pigs separately (see below)
- Leave 10 % empty space.



- Use this space to “pull” sick pigs into. In a batch nursery whole pens can be allotted. In a situation where just a few pigs are weaned each week, a smaller space can be made for sick pigs. The critical feature of a sick pen are:
 - The pen must be warm and dry.
 - There must be at least twice the normal amount of space per pig
 - Feed and water must be easily accessible and fresh.



The critical first 4 days:

“Well begun is half done”. That quote applies to the pigs coming into your nursery but also to the success of the nursery batch overall. How you manage the first 100 hours that the pigs spend in the barn will determine, to a large degree, how well that batch of pigs does. The goal is to get the lightest 3 - 5 % of the pigs started on feed.

The first 36 – 72 hours are critical. That means the nursery operator will have to make allowance to spend a considerable period of time observing the pig, identifying those who aren't eating, and ensuring that they learn to eat at the critical 36 hour point. A pig that isn't eating looks like this.



By the time a pig looks like this, there is little that can be done to save this animal.



Getting Started on Feed – A Cost Effective Approach

Nursery feeds are the most expensive feeds on the farm. Using the right feed program and the right amount of each feed is a critical step in optimizing nursery performance.

- Know what pigs you are getting (how old and how big). This involves good communication with the source sow herd.
- Do a nursery feed budget to figure out how much of each feed stage you will need.
- Track (record) feed disappearance and feed changes.

The Robin Hood Theory of Nursery Feed Management:

This is basically a “take from the rich (the big pigs) and give to the poor (the little pigs)”. Obviously, staying within the feed budget is important to cost control, but that is not sufficient to optimize performance. To get the most from your feed dollar, it is important that the feed is allocated to the pigs that can make the best use of it.

- Sort by size (within reason) on nursery placement.
- Decide how much of the expensive first feeds will go to small, medium and large pigs.
- Feed that amount of feed to each size group before switching to the next feed.
- In order to accomplish this you will need to track feed disappearance and feed changes by pen. Typically, this can be limited to the pens with the smallest pigs.

LITERATURE CITED

- Allerson M., Deen J., and Rutten, S. 2007. Efficacy of tulathromycin for the treatment of at risk nursery pigs. Proceedings of the American Association of Swine Veterinarians 2007: pg 71-72.
- Gonyou, H.W., Beltranena, E., Whittington, L., and Patience, J.F. 2003. Prairie Swine Centre. Downloaded July 16, 2003 from <http://adminsrv.vsask.ca/psci/whatsnew/july2003/SEWBehaviour.htm>