PRACTICAL NURSERY MANAGEMENT

Newly weaned pigs arriving at the nursery are the highest-health-risk animals in the swine production system, making their initial management and care vitally important. Frequent observation is essential, and close scrutiny (at least twice a day) will promote early observation, identification, and treatment of management problems and diseases before they have serious influences on performance. This article will summarize (PIH-11) steps that should be taken to ensure rapid, efficient growth with minimal health challenges.

Before Arrival

Managing nursery pigs begins before their arrival. The room and all equipment must be properly washed and disinfected. Ventilation controls should be checked for functionality and properly set, allowing time for the rooms to become warm and dry before the piglets arrive. Feeders and supplemental heat (if used) must be in place and functioning, and waterers should be checked and adjusted to the proper height. Nursery pigs should have one watering space for each 10 to 15 pigs; if using nipple drinkers, the delivery capacity should be 2 or more cups of water per minute.

Feed should be placed in feeders just before piglet arrival, and feeder adjustment should be checked so that approximately 25 to 50 percent of the feeding pan is visible. After the pigs become more accustomed to the location of the feed and their feeding behavior adjusts, the amount of feed in the pan should be rapidly decreased to approximately 25 percent coverage.

Upon Arrival

Piglets weaned between 14 and 21 days of age generally range in weight from 8 to 13 pounds. At arrival, pigs should be sorted according to size and body condition. Grouping by weight allows you to more closely match the pigs’ weight to the diet provided. This is important because of the expense of these initial diets and the range in the digestive capability of the pigs.

First 36 Hours After Placement

During the first 36 hours after weaning, pigs need to find the water and feed. During this period, double-check the water height adjustment to ensure proper access. Waterer height should be adjusted to approximately shoulder height of the smallest pigs in the pen. Assure that feed is always available in the feeder, and if comfort mats are used, place small amounts of feed on the mats to encourage feeding behavior. Pigs should NOT be limit-fed after arrival. Feed can be provided several times per day, but fresh feed should always be available. Blocking or tying nipple waterers open for the first 24 hours will help the newly weaned pigs find the waterer more quickly. Pigs should be observed to ensure they have found the water and are beginning to develop feeding behavior.

36 to 60 Hours After Placement

Most pigs will have found the water and will have begun to find the feeders and eat by 36 hours after placement. However, this is a critical period for identifying pigs that may require extra attention.
Two to 4 percent of pigs will be candidates for individual attention, and identifying them is always the most difficult part of the process.

To identify at-risk pigs while taking a walk-through of the nursery, look for:

- Mental status – alert versus excited/depressed.
- Body condition – fat or normal versus thin.
- Abdominal shape – bloated or gaunt.
- Skin – sleek versus fuzzy.
- Appetite – feeding at the feeder versus huddled.
- Evidence of urination and/or defecation.
- Signs of dehydration – sunken eyes.

Abdominal shape is an especially useful indicator. Pigs that are eating well will begin to have round abdomens, whereas pigs that have not begun to eat will be gaunt. The abdomen can be palpated for evidence of food intake. Suspected dehydration can be evaluated further by palpating mucous membranes of the mouth or the tip of the nose. One other test of dehydration is to pinch a fold of skin just behind the front limb. If the fold remains elevated for more than a few seconds, it is a sign of dehydration.

Once at-risk pigs have been identified, wet a small handful of pellets with water and gently place the softened pellets in each pig’s mouth. If a large number of pigs require attention, moisten a small bucket of pellets and gently feed individual pigs. A gruel mixture and a 12-cc syringe with the end cut off can be used as a dosing tool. The moist pellets or gruel sticks to the pig’s tongue, causing a swallowing reflex. The pig should be carefully placed near the feeder so it associates the food in its mouth with the feed in the feeder.

Small pigs with low body-fat reserves must have a ready source of energy. As little as 20 to 30 grams of feed will provide energy to keep small pigs from starving. In high-health-status pigs, signs of anorexia, depression, and dullness are more likely to be caused by lack of energy than infectious disease.

**Remainder of Nursery Period**

Routine observation during the whole nursery period remains vital for the early observation, identification, and treatment of disease. Feed and water consumption should be monitored because a reduction in either is a sign of a problem. Be prepared to act immediately in the event of illness, and train pig handlers to recognize the signs of major diseases and offer the most appropriate treatment. Necropsies performed on dead pigs to accurately determine the cause of death and the most effective treatment(s) are beneficial.

—Todd See

**EATING BEHAVIOR OF PIGS AND FEEDER SPACE REQUIREMENTS**

Understanding the eating behavior of pigs can help producers maximize feed intake and, as a result, promote improved pig performance. Dr. Harold Gonyou, a scientist at the Prairie Swine Centre, Inc., in Saskatoon, Canada, studies behavior in swine and provides some insight into the importance of understanding behavior and how we can benefit from this.

Daily feed intake is the result of the total duration of eating (expressed as minutes per day) and the rate of eating (expressed as grams per minute). Because pigs eat multiple meals each day, the duration of eating is composed of a certain number of meals and the average duration of each of these meals. Any factor influencing the feeding behavior of pigs can thus influence feed intake and growth performance.

How often pigs eat is related to their age and size. Finishing pigs eat approximately 7 to 9 meals per day, nursery pigs eat more frequently, and recently weaned...
pigs eat 15 to 20 meals per day. Management factors also can influence meal frequency. For example, individually housed pigs eat more often than pigs housed in groups, and as group size increases, eating frequency decreases.

Eating speed is affected by the body weight of the pig. Lightweight pigs eat slower than heavy pigs, and eating speed increases linearly as the pig gains weight. Additionally, pigs fed pelleted feeds eat faster than pigs fed meal diets, and they eat feed in a wet form fastest of all. Gonyou reported that pigs fed meal diets using wet/dry feeders spent 17 percent less time eating but consumed 5 percent more than pigs fed the same diet using dry feeders.

Group size also affects eating speed. As expected, larger groups have greater competition, and eating speed increases. Gonyou reports that eating speed in growing-finishing pigs ranges from 15 grams per minute for small pigs consuming a meal diet to more than 120 grams per minute (during short test conditions) for pigs fed wet feed. Under commercial conditions, the maximum eating speed for large pigs appears to be approximately 45 grams per minute when they are fed from wet/dry feeders.

Total duration of eating is also affected by the size of the pig. Pigs weighing approximately 50 pounds spend more than 100 minutes per day eating, and this drops to 70 minutes per day for pigs of approximately 200 pounds. From a practical perspective, the number of pigs that can eat from a single feeder space should increase as pig size increases because larger pigs spend less time eating than small pigs. Pigs adapt their eating behavior depending on their social interactions (i.e., pecking order). When large groups of pigs are housed together, total eating duration decreases.

Understanding the eating behavior of pigs will allow us to determine how many pigs we can feed from a single feeder space. A feeder space in this case would be one that is wide enough for the largest pig in the pen. The width of a feeder space traditionally has been defined as the shoulder width of the pig plus 10 percent to allow for variation in pig shape and movement. Using this definition, the width of the feeding space for 10-, 55-, 110-, and 260-pound pigs would be 4.4, 7.8, 9.8, and 12.9 inches, respectively.

The first factor in calculating the number of pigs that can be fed in an individual feeder space is the total time per day that the feeder is occupied (feeder occupancy rate). Gonyou suggests that a feeder occupancy rate of 80 percent should be appropriate and would likely support maximum growth performance.

The second factor to consider is total eating duration. Using an eating duration of 60, 70, and 80 minutes per day per pig, the maximum number of pigs per feeder space would be 19, 16, and 14, respectively. (If 24 pigs eat 60 minutes per day from one feeding space, the space has a 100 percent occupancy rate; if it has an 80 percent occupancy rate [24 x 0.80], 19 pigs could eat.)

Third, the addition of water to feed increases eating speed, and, therefore, the number of pigs per feeder space can be increased if pigs are fed from wet/dry feeders.

Note lastly, however, that the optimal number of pigs per feeder should be calculated based on the eating duration of the smallest pig at the feeder. This is because the total eating duration is greater in small pigs, and, thus, the number of pigs that can be fed from one feeder space will be reduced.

—Eric van Heugten

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**CALENDAR OF EVENTS**

February 2003

11 Northeast Regional Pork Conference
   Edenton, N.C.

19-20 North Carolina Pork Conference
   Greenville Convention Center
   Greenville, N.C.

March

8-11 American Association of Swine Veterinarians Annual Meeting
   Orlando, Fla.

17-19 Midwestern Animal Science Meetings
   Des Moines, Iowa
ON-FARM PERFORMANCE TESTING: The following breeders with validated herds have tested animals in the past 30 days.

<table>
<thead>
<tr>
<th>Breeder</th>
<th>Address</th>
<th>Breed</th>
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<tbody>
<tr>
<td>Bob Ivey*</td>
<td>314 N.C. 111 S, Goldsboro 27530</td>
<td>L,D,Y,CW</td>
</tr>
<tr>
<td>Wesley Looper*</td>
<td>4695 Petra Mill Road, Granite Falls 28630</td>
<td>Y,L,H,D,X</td>
</tr>
<tr>
<td>Thad Sharp, Jr. &amp; Sons</td>
<td>5171 N.C. 581 Hwy., Sims 27880</td>
<td>Y,D,X</td>
</tr>
<tr>
<td>Tommy Spruill</td>
<td>Rt. 1, Box 149, Columbia 27925</td>
<td>L,X</td>
</tr>
<tr>
<td>Thomas Farms</td>
<td>8251 Oxford Road, Timberlake 27583</td>
<td>X</td>
</tr>
<tr>
<td>UCPRS</td>
<td>Rt. 2, Box 400, Rocky Mount 27801</td>
<td>X</td>
</tr>
</tbody>
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(Swine Development Center)

*Realtime Ultrasound

—Frank Hollowell, David Lee