HUBBARD®

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BREEDING HERD MANAGEMENT GUIDE

Products and answers that work®

BREEDING HERD MANAGEMENT GUIDE

Hubbard Feeds helps swine customers optimize their breeding herd by providing cost-effective nutrition programs that meet or exceed customer expectations.

GUIDE SUMMARY

Gilt Development

Gestation

Lactation

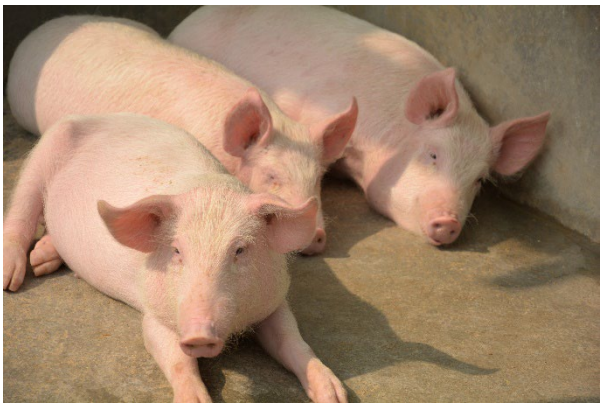
Feed Quality for the Breeding Herd

GILT DEVELOPMENT

The ideal gilt development program can minimize the cost of feed, labor and facilities and ensure the right number of cycling gilts are available when needed. Good gilt management results in:

1. An adequate number of healthy, cycling gilts to improve the producer's ability to achieve adequate replacement rates, resulting in a good parity distribution across the herd.

2. Fewer gilts with delayed puberty, kept for prolonged periods, become heavier at market weight and receive a reduced market price. Consequently, the cost of feed, facility and labor on these cull gilts is not recovered.



Identification of gilts with early puberty will help ensure they are bred on the second heat, improving breeding performance and reducing the number of gilts that fail to breed and reach heavy market weights. Early heat detection also lowers the herd's overall wean-to-estrus interval, as gilts showing puberty at an early age usually have a shorter wean-to-estrus interval during their productive lifetime.

Gilt development programs should prepare gilts to enter the breeding herd at the appropriate age, with a high level of productivity maintained throughout their lifetime.

Gilt Development Prerequisites:	
Trait	Target
Body weight	> 90% of gilts bred on 2nd estrus within the 300–320 lbs. range*
Average daily gain from birth to first breeding	1.35–1.70 lbs./day and < 90% of gilts breed within range
Immunity level	3 effective weeks since the last health procedure
Age	From 30 weeks of age (225 days), if meeting the conditions mentioned above

*Overweight gilts create breeding issues, cost time as a cull and lose market value.

Gilt and Sow Management Guidelines 2017, PIC

Preliminary Gilt Selection Requirements:		
Trait	Nursery	Grower
Goal	Avoid sending gilts to nursery with evident issues and/or defects	Avoid sending gilts to GDU with evident issues and/or defects
Unthrifty, unsoundness, falling behind, sickness, joint issues	Do not select	Do not select
Hooves issues	Usually seen at this phase	Do not select gilts showing club foot, uneven toes, long dew claws
Teats	Too soon to evaluate	If counted, do not select <14 potentially functional teats

Gilt and Sow Management Guidelines 2017, PIC

Mandatory Gilt Selection Recommendations:	
Trait	GDU
Unthrifty, unsoundness, falling behind, sickness, joint issues	Do not select
Hooves issues	Do not select gilts showing club foot, uneven toes, long dew claws
Teats	Must be carefully counted; do not select <14 potentially functional teats
Heats	Define a protocol to deal with non-cyclers if they are truly gilts not showing estrus

Gilt and Sow Management Guidelines 2017, PIC

Nutrition Requirements for Developing Gilts

- **Protein:**
  - Essential for gilt growth and development.
  - Amino acids in muscle reserves can be used as a milk protein and energy source, particularly during periods of low intake.
  - During gilt development, adequate amino acids maximize mammary development, which is necessary to optimize milk production and litter growth.

- **Energy:**
  - Excess energy builds body fat stores, essential for optimal reproductive performance.
  - Gilts that are too thin will have delayed wean-to-estrus levels.

- **Minerals and Vitamins:**
  - Required for embryo and fetal development and skeletal integrity.
  - **Organic Trace Minerals**
    - Organically bound (also known as chelated) to amino acids and a range of peptides to be as close to nature as possible.
    - Bioplex® (*Cu, Fe, Mn and Zn*) organic trace minerals:
      - Offer higher bioavailability than inorganic minerals.
      - Reduce concerns about negative mineral interactions.
      - Reinforce mineral status, which leads to optimal overall health, immune status and reproductive function in the animal.
      - They are readily absorbed, stored, and utilized by the animal.

    Sel-Plex® is an organic selenium yeast that optimizes organic selenium status.
      - Supports reproductive performance.
      - Optimizes piglet viability.
      - Supports the body's normal defense mechanisms against infection.

Feeding Guidelines for Developing Gilts

Developing gilts should be fed a higher level of vitamins and minerals than market animals. Start this program as early as 50 lbs. to ensure the availability of trace minerals for good skeletal development.

A general grow-finish premix is adequate for developing gilts up to 150 lbs. as it meets their calcium and phosphorus requirements and saves costs when gilts are housed with the general population. A sow premix is recommended for developing gilts after 150–180 lbs. for final development of the reproductive system, mammary development, breeding, leg structure, etc.

A fiber source, like soy hulls or wheat midds, can be utilized for gilts on full feed to dilute energy, which assists in body condition management and provides satiety.

Two weeks before mating, feed gilts to appetite to stimulate flushing. Flushing (increased energy levels prior to estrus) will increase ovulation rate, yet this may have little effect on the ultimate litter size. Alternatively, a separate transition or wean-to-breed diet can be formulated for gilts prior to mating.

The gilt nutrition program should supply sufficient nutrients to meet the needs for gilt maintenance, as well as gilt and litter growth. Adjust feed to body condition.

General Feeding Recommendations

Management Factors	Nursery	Grower	GDU
Water sources	Clean and fresh always available 1 water source per 10 gilts When using fixed nipple drinkers, level to the height of the shoulder of the smallest gilts		
Volumetric water flow rate	> 0.26 gallons/min	> 0.36 gallons/min	> 0.44 gallons/min
Feeder and feeder space	Dry feeders 1-inch linear space/present gilt	Wet/dry feeders 2 inches linear space/present gilt	
Feeding strategy	Full feed Avoid feed disruptions/feed outages		

Gilt and Sow Management Guidelines 2017, PIC

General Housing Recommendations			
Management Factors	Nursery	Grower	GDU
Room temperature	It depends on weaning age, flooring and use of mats; to be on the safe side, consider room temperature >80° F	70° F	66 ° F
Ventilation	Minimum ventilation (cold): 2–5 cfm/head Mild: 15 cfm/head: Maximum ventilation: 40 cfm/head	Minimum ventilation (cold): 5–10 cfm/head Mild: 35–50 cfm/head: Maximum ventilation: 120 cfm/head	Minimum ventilation (cold): 12 cfm/head Mild: 60 cfm/head: Maximum ventilation: 150 cfm/head
Humidity		65%	
Stocking density	>3.5 sq ft/head	>7.5 sq ft/head	>12 sq ft/head
Flooring	Plastic floors only to the end of nursery phase Slatted floors: 1 inch or less opening, with straight edges Solid floors: sloped to avoid manure and liquid build-up Use bedding material when its use is required.		

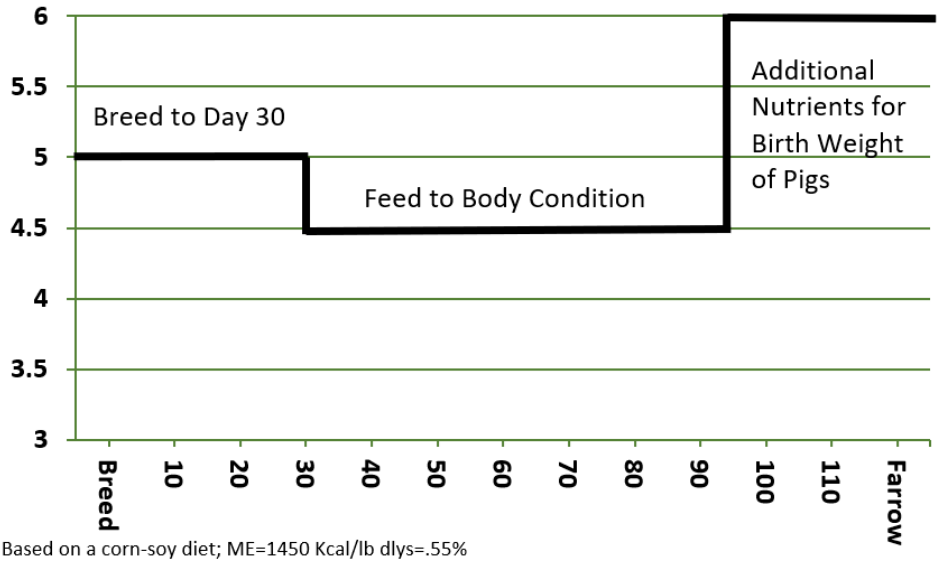
Gilt and Sow Management Guidelines 2017, PIC

The gestation nutrition program should supply sufficient nutrients to meet the needs for sow maintenance, as well as sow and litter growth. These requirements will vary by trimester of gestation. Targeted overall maternal weight gain is:

Parity 1	80–100 lbs.
Parity 2–5	80–90 lbs.
Parity 5+	55 lbs.

When evaluating weight gain during gestation, it is important to have an accurate value for average daily feed intake. Use of drop boxes in gestation is common. These drop boxes should be checked monthly as their accuracy can vary and are often on the low side by 0.5–1.0 lbs. Monitoring body condition should be considered prior to feeder adjustments and bump feeding. Depending on body condition, bump feeding can be considered for gilts and parity 1 sows during the last ~15 days prior to farrowing. However, it may have negative effects on over-conditioned sows and gilts. Results may vary from farm to farm.

Suggested Phase Feeding Program for the Gestating Female



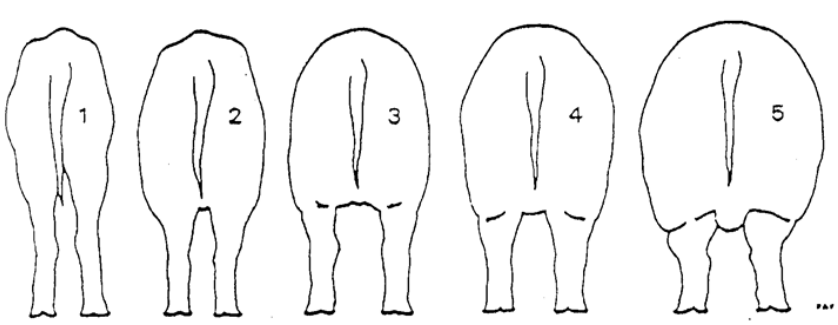
Based on a corn-soy diet; ME=1450 Kcal/lb dlys=.55%

Notes:
Gilts & P1 — value in limiting feed intake for first 72 hours after breeding.
Depending on the condition of the animals, they may want to keep feed intake on a higher plain.
Gilts & P1 — day 70-90 – mammary gland development may be affected if fed higher than maintenance.
Gilts & P1 — day 95-113 — increase feed intake by 1.0-2.0 lbs. per day depending on body condition.

Evaluating Sow Body Condition

Currently, there are two standards to evaluate sow body condition score: using a caliper or visually body condition scoring. The **caliper tool** establishes a non-biased constant measurement of sow body condition across a production system regardless of farm labor experience. As sows lay down muscle and back fat, her top becomes wider and flatter. Hence the caliper is used to quantify the angle of her back at the last rib.

If you do not have a caliper, you may use a **body condition scoring system** to evaluate condition and determine appropriate feeding levels. Ideally, this is a two-person task with one person at the back, visually appraising the sows and feeling for the prominence of the vertebrae just in front of the hips. The other person can be in front of the sow adjusting the drop boxes.



Score	Condition	Detection of ribs, back bones, hip bones and pin bones
1	Emaciated	Obvious; easy to see and sharp to feel.
2	Thin	Easy to feel with pressure, but smooth.
3	Ideal	Smooth and rounded with an even feed.
4	Fat	Not able to see bones. Can feel bone with firm pressure.
5	Overly fat	Not able to see bones. Unable to feel ribs even with firm pressure. Thick fat covering. Tabletop appearance across back of animal.

Penn State Extension, Swine Production and Management Home Study Course

To be consistent, the same person should make feeding level adjustments. Feed drop settings should be adjusted on a routine schedule (weaning, day 30, day 60, day 90) or once for the entire herd every three weeks. Example: if your sow needs to gain 50 lbs. of body condition in 100 days, feed her enough to gain an additional ½ lb. a day above maintenance. Make feeder adjustments in ½–1 lb. increments. Feeding levels should be adjusted such that the vertebrae in front of the hips are barely detectable. Over-conditioning increases stillbirths, mastitis and decreases feed intake, while under-conditioning results in low birthweight pigs, increased pre-weaning mortality and delayed wean-to-estrus interval.

It is important to note that the first 60 days of gestation are critical to improving sow body condition. From day 60 through parturition, nutrients are redirected to the offspring to meet the demands of the growing piglets.

Daily Feeding Recommendations*		
Stage	Lbs. per day	
Gilt acclimation	4 lbs./day 2x/day	Maintenance and growth
Pregnant gilts	4–4.5 lbs./day	Maintenance and growth
Pregnant sows	5 lbs./day	Maintenance
Fat sows	4 lbs./day	
Thin sows	6–7 lbs./day (higher if extremely thin	
Weaned sows	8 lbs. or more daily	Use lactation feed to top dress if gestation feed box cannot be used to feed higher quantities

* These recommendations are highly dependent on SID Lysine and energy levels. These recommendations are for PIC genetics and may differ for other genetic companies. Please check with your nutritionist or genetic company to best meet your herds genetic nutrient recommendations.
Gilt and Sow Management Guidelines 2017, PIC

Moving Sows in Gestation

- Do not move gestating sows from day 5 to day 28 of gestation.
- Group sows together that are similar in size, parity and body condition when moving out weaned sows to prevent eating competition between sows.
- Ultrasound at 23–30 days of gestation and move open sows to the opportunity area immediately.
- Avoid excessive movement to maintain barn flow/organization. Use a parking area or move cull sows to empty stalls when the barn is running tight.

Sow Longevity & Parity Structure

Sow longevity plays an important role in producing economically efficient piglets because sow durability is related to the number of piglets produced during their productive lifetime. As parity increases, the weaned pig cost decreases. The value of getting more sows to parity 6 from parity 5 can average $0.20 per weaned pig.

Work toward a 90% retention rate of inventory per parity through parity 6. Evaluate performance on older parity sows, and if less than the herd average, they should be used only to meet breeding targets (usually when there is high sow mortality or a short gilt supply). Additionally, sows should not be bred back if they are severely under condition, have farrowing problems and are structurally unsound and should be removed as soon as possible. Maintain a 50% replacement rate and schedule replacements appropriately, so that these older sows can be removed as soon as possible.

Nutrition Guidelines for Gestation

Gestation Nutrient Guidelines

Nutrient	Unit	Gilt	>P3
NRC ME	Kcal/lb.	1,465	1,465
Cr Protein	%	12–12.5	12–12.5
Cr Fiber	%	>3	>3
Calcium	%	0.75	0.75
T Phosphorus	%	0.55	0.6
Av Phosphorus	%	0.35	0.40
Salt	%	0.45	0.45
T Lysine	%	0.75	0.65
Td Lysine	%	0.65	0.55
Vitamin A	IU/lb.	5,500	5,500
Vitamin D	IU/lb.	700	700
Vitamin E	IU/lb.	30	30

*Calcium/Phosphorus values with phytase

* Please check with your nutritionist or genetic company to best meet your herd's genetic nutrient recommendations.

- Energy intake must increase in gestation for older animals due to their higher maintenance energy requirements.
- Vitamins and minerals are required for embryo and fetal development, as well as skeletal integrity and various biological functions.
- Organic trace minerals in gestation are recommended for the same reasons outlined in the gilt development section.
- Calcium and phosphorus are needed for skeletal integrity in sows and piglets, as well as milk production.
- Use of phytase decreases the amount of supplemental phosphate needed in the diet and increases trace mineral availability.
- For more key nutrient details, refer to the gilt development section.

Preparing the Farrowing Environment	
Area	Objective
Cleanliness & Disinfection	• Manage rooms under all in; all out system • Use hot water and detergent when washing farrowing supplies • Use disinfectant in the dose recommended by the supplier • Facility dried prior to loading sows
Heat Sources	• All functional • Heat lamp bulbs cleaned for maximum energy efficiency • Creep area set to the right temperature (90–94° F)
Mats	• Mats are cleaned on both sides, disinfected, dried and placed
Equipment	• All fans, heat sources, nipple drinkers, feed distribution and feeders function before loading • Hot boxes, if present, are cleaned, disinfected and dried
Ventilation/temperature control system	• Rooms with desired temperature and airflow • Controls are reset for newly farrowed piglets
Supplies	• In place, stored in a clean container, complete and ready to be used (medicines, syringes, plastic sleeves, lube, towels)

Gilt and Sow Management Guidelines 2017, PIC

Housing Recommendations

Room temperature	70–74°F at farrowing. 74–76° F in deep pit rooms From the day after farrowing, gradually dropping room temperature to 66° F by day 7–10 of age and onward
Ventilation	Cold weather: 20 cfm/head Hot weather: 650 cfm/head
Humidity	<65 %
Farrowing space	6 ft wide x 8 ft most common in new facilities for 22–24-day old, weaned pig
Flooring	Cast iron is the preferred material for sows but other material can also work well Woven wire and plastic are both broadly utilized for the piglet area

Gilt and Sow Management Guidelines 2017, PIC

First Lactation

During the first lactation, avoid having unsuckled mammary glands. Mammary glands not nursed during the first lactation produce less colostrum and milk in the subsequent farrowing. Avoid using gilts as a nurse sow or for a runt litter. The goal is to have good-quality pigs on the gilt during a lactation event.

Sows have a large demand for nutrients during lactation. Feed intake is critical to maintaining body reserves (backfat and muscle), maximizing milk production and preparing for the next breeding period.

Full Feed
The goal is to maximize feed intake as quickly as possible.

- Sows need to be fed as individuals. Animals willing to eat should not be denied access to fresh, palatable food. Sows having difficulty getting on feed should be offered smaller quantities more frequently.
- Feed that is not consumed within a reasonable period of time should be emptied and replaced with a smaller amount of fresh feed. Feeder management and feed quality are important, as old feed not eaten can turn sour and moldy.
- Always keep feed in front of the sow, with a goal of having feed in front of the sow 23–24 hours a day.
- Walk farrowing rooms one to two hours after feeding. With proper bunk management, there should be only a light coating of feed in the feeder.

Monitoring Feed Intake

Feed Scoops
Scoops measure volume, not weight. If the density of the feed changes, volume will not be an accurate reflection of the actual weight, resulting in erroneous intake levels. Different barn personnel may fill the scoop to various levels. Scoops must be monitored for weight on a continual basis.

Drop Feeders
Automatic drop feeding systems measure by volume. This presents the same problems as mentioned above. Feed from drop feeders must be weighed and calibrated regularly.

Automatic Feeders
Automatic feeders require the sow's interaction with the feeder — not gravity — to determine feed flow. Feed is delivered only when the pigs are feeding, allowing pigs to access clean fresh feed *ad libitum*. Automatic feeders reduce feed waste and require minimal management.

Feed Delivery Over a Period of Time
Feed intake may also be measured by recording the feed delivered to the unit and then dividing it by the inventory of animals over a specific time period. However, this method also has inaccuracies, including variable feed measurements in the bin and incorrect sow inventory numbers. This calculation reflects the average rate at which feed disappears, not feed intake.

Each farrowing unit manager should select a method for monitoring intake, understanding the associated inaccuracies. Lactation intake should then be monitored on an ongoing basis.

Nutrition Guidelines for Lactation

Sows that mobilize too much body tissue in lactation will have a delayed wean-to-estrus interval and reduced litter size. Fat is an important energy source when sows have low body condition scores or low feed intakes due to genetics, feeding management or environmental temperatures. Increased feed intake can also increase subsequent litter size and decrease wean to estrus interval.

Lactation Nutrient Guidelines

Nutrient	Unit	Summer	Winter
NRC ME	Kcal/lb.	1,500	1,500
Cr Protein	%	17.5	17.5
Cr Fiber	%	>2	>2
Calcium	%	0.70	0.70
T Phosphorus	%	0.64	0.64
Av Phosphorus	%	0.40	0.40
Salt	%	0.50	0.50
T Lysine	%	1.25	1.15
Td Lysine	%	1.15	1.05
Vitamin A	IU/lb.	5,500	5,500
Vitamin D	IU/lb.	700	700
Vitamin E	IU/lb.	30	30

*Calcium/Phosphorus values with phytase

* Please check with your nutritionist or genetic company to best meet your herd's genetic nutrient recommendations.

- Protein is essential for maintenance and to support milk production. Additional amino acids may be needed to support milk production without catabolizing body tissues.
- Energy is determined by litter weight gain and maintenance needs.
- Sows that mobilize too much body tissue in lactation may have a delayed wean-to-estrus interval and reduced litter size.
- Fat is utilized when sows have low body condition scores or low feed intake.
- Vitamins and minerals are essential to maintain and replenish any nutrients lost through milk production.
- It is critical to ensure proper vitamins and mineral fortification of feed to provide for the sow and piglets.
- Organic trace minerals in lactation are recommended for the same reasons outlined in the gilt development section.
- For more key nutrient details, refer to the gilt development section.

Stimulating Feed Intake

Feed intake in lactation is critical to the success of the litter and the sow's subsequent breeding performance. Guidelines for stimulating feed intake include:

1. Evaluate water consumption
   a. Sows should consume 4.5 lbs. (0.5 gallons) of water for every 1 lb. of feed consumed.

2. Get sows up 3–4 times per day. Walk the farrowing rooms before lunch hour.

3. Use wet feeding, if applicable.
   a. Maintain a 4.5:1 ratio of pounds of water to pounds of feed fed.
   b. Feed more frequently.
   c. Add feed to the water.

FEED QUALITY FOR THE BREEDING HERD

Providing high-quality feed to sows involves many aspects along the production chain. It starts with ingredients that are of high nutrient value and free of contaminants. Processing, delivery and storage of the diets can also affect the quality and final composition of the feeds. Understanding the factors that affect feed quality and implementing a quality-assurance program will help ensure that the best possible nutrition is delivered to the sows.

Mycotoxins

Mycotoxins are compounds produced in grain by specific molds or fungi as secondary metabolites, many of which are toxic to man or animals. These molds can reduce the nutrient content and quality of the grain, but the toxic effects of metabolites are of primary concern. The pigs most negatively affected are nursery and breeding stock.

The growth of molds, and subsequent mycotoxin production, are influenced by a range of factors, such as environmental conditions, temperatures, moisture and agronomic practices. However, mycotoxins can also be produced by molds when other stress conditions occur to the host plant or the mold, such as insect damage or poor storage conditions. Routine testing for mycotoxins is suggested. Programs such as Alltech's 37+® mycotoxin analysis test provide producers with an accurate assessment of the mycotoxin risk and mycotoxin levels in their animals' feed and aids in creating an overall effective mycotoxin management program.

Health impacts include:

– Infertility
– Prolapses
– Embryo mortality
– Reduced libido
– Low sperm concentration
– Gastric ulcers
– Anestrus
– Pseudo-pregnancy
– Reduced litter size
– Poor semen quality
– Feed refusal

For Sows/Gilts/Boars ppb

Mycotoxin	Lower level	Moderate level	High level	Effects
Aflatoxins	20	35	50	Liver damage, poor reproductive performance, reduced growth
Vomitoxin	1000	2000	3000	Reduced feed intake, feed refusal, lower gains, diarrhea
Zearalenone	25	50	75	Vagina reddening, prolapse, abortion, infertility
Fumonisins	1000	2000	3000	Reduced feed intake, lower weight gain, increased diarrhea
Ochratoxins	20	35	50	Kidney damage, liver damage, immune suppression

FEED QUALITY FOR THE BREEDING HERD

Feed Particle Size

The major health concern associated with feed particle size is gastric ulcers, which are primarily associated with finely ground feed, and/or a large percentage of the particles being less than 400 microns. Therefore, an ideal particle size and distribution for the breeding herd would be 700–800 microns with less than 2.1 standard deviations and less than 20% at or just below 400 microns. Farms that struggle with low feed intake or gastric ulcers may consider increasing the particle size to 900–1,100 microns.

Grinding grains for swine diets improves feed utilization. By reducing the particle size, the surface area of the grain particle is increased, which allows for greater interaction with digestive enzymes. Swine feed efficiency is improved by 1% for each 100-micron reduction in particle size, from 1,000 microns down to 400 microns. As micron size decreases, the cost of grinding increases, and mill throughput decreases. Considering improvements in feed efficiency, processing costs, incidence of gastric ulcers and the potential for feed bridging, the recommended particle size for meal diets is between 700–800 microns.

Good Manufacturing Practices (GMP)

Quality ingredients and manufacturing processes are the key components of any nutrition program. The FDA has established guidelines and standards for Good Manufacturing Practices (GMP) for animal feeds that must be followed by all feed mills. They are designed to ensure proper usage of feed additives and prevent feed contamination. Providing a residue-free supply of pork for human consumption is extremely important.

More information can be found on the Food and Drug Administration website at http://www.fda.gov/fsma. The American Feed Industry Association (AFIA) also has several resources for feed manufacturers on their website, www.afia.org.

Ingredient storage and shelf life

To prolong ingredient shelf life and quality, follow these guidelines:

1. Keep ingredients at a cool temperature or avoid excessive heat.
2. Keep ingredients dry to prevent mold and bacteria growth.
3. Prevent rodents and insects from entering the feed.
4. Use antioxidants to preserve fats and oils in ingredients and feed.
5. Rotate stock and pay attention to expiration dates.

Feed delivery

Delivery of finished feeds is an important part of GMP. Bins should be properly cleaned out prior to a new feed being delivered. Sequencing the unloading process to ensure non-medicated feeds are unloaded first can prevent drug residues. Flushing between medicated feeds can also help prevent residue concerns. Proper identification of bulk bins can reduce the chance of unloading feed into the wrong bin and potentially creating drug withdrawal concerns for pigs near market weight.

FEED QUALITY FOR THE BREEDING HERD

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Feed Sampling

Sampling ingredients and finished feeds is an integral part of any quality assurance program. Keeping retainer samples of manufactured feeds is a good practice, so if questions arise, the feed sample can be sent off for analysis.

To get the most accurate feed analysis, it is important to take multiple samples of a single batch of feed to ensure that you are getting the most representative sample. Taking samples of feed as it is being discharged from the auger to the bulk bin is one of the most convenient ways to obtain samples. Another option would be to take probes from each feeder. Regardless of sample location, subsamples should be combined to create one large sample. A small, representative sample can then be taken and stored for later analysis or sent to a lab.

Water

The daily turnover rate of water in a hog's body is greater than any other nutrient. Half of the daily intake of water is lost as urine, with only 9% retained for growth. A sow's demand for water is dependent on her production, the quantity and quality of protein and minerals in the diet, the presence of dietary mycotoxins, barn temperature and feed form.

	Gilt	Lactation	Gestation
Water source	Clean, fresh and always available 1 water source per 10 sows		
Flow rate	0.5 gallons/minute		
Water intake	> 5 gallons/hd/day		

Performance Goal Guidelines

Reach your production goals with a well-managed breeding herd program. Performance goal guidelines are outlined in the tables below.

Expected Norms for Reproductive Performance

Age at puberty	5–8 months
Weight at puberty	150–250 lbs.
Age at first service	225 (+/-14 days)
Weight at first breeding	>300 lbs.
Gilts cycling by 8 months	75–80%
Duration of estrus	1–5 days (2 avg)
Weaning to estrus interval	3–8 days (5 avg)
Weaned sows cycling by 7 days	>85%
Time of ovulation	40 hours from estrus onset
Best time to breed	12 hours after estrus onset
Gestation length	114 (+/-2 days)
Average body temperature	101–102.5 °F

Reproductive Performance Guidelines

Abortions	1%
Stillbirths	< 5%
Pigs born alive/litter	>13
Pre-weaning mortality	<10%
Pigs weaned/litter	10-12
Litters/sow/year	>2.3
Sow deaths/year	<5%
Pigs weaned/mated female/year	>25
Pigs/sow lifetime	>35
Replacement rate	<40%
Farrowing rate	>85%