Feeding the Sow and Gilt in Gestation

In gestation, the main objective of the feeding program for sows is to regain any condition or body weight lost during lactation and to ensure that the sow reaches her subsequent farrowing in the correct condition.

Weaning to Oestrus

The objective at this stage is to maximize feed intake in order to start the process of regaining any body weight and backfat losses in lactation. Feeding a high feed level (3,5 kg+) between weaning and breeding has been shown to increase ovulation rate and embryo survival.

If the weaned sow is in a good body condition then she must be fed no more than 2,5 kg per day.

Early Gestation

Immediately after breeding, feed level should be reduced from the high levels fed from weaning onwards. However, there is considerable debate about what feed intake should be in the first 21 to 28 days of gestation. Some research suggests that high feed intake during this period leads to increased embryo losses, whereas other work suggests that restricting feed intake for the first 4 days after breeding maximizes embryo survival. Recent work by Sorensen and Thorup in Denmark showed that feeding 3.8 kg/day for the first 28 days of gestation led to increased litter size.

Such relationships are complicated by the issue of sow condition in the herd because, where condition is less than ideal, farrowing rate and litter size will often be improved by increasing feed intake.

The program that VETHELLAS use is to feed sows that are in good condition a basal amount of 2,0-2,2kg and feed a higher amount, 2,4-2,6kg, to sows that are in less good condition. For today's breeding females, regaining any condition lost during lactation is more important than any effect on embryo losses. For gilts, it is crucial to keep a low feeding level for the first 21 days after breeding to maximize embryo survival and so they should be fed about 1,8-2,0kg/day during this period.

Mid-Gestation

During the period 29-85 days of gestation, feed levels are usually based on parity and sow condition or backfat depth, with the aim of achieving the desired condition or fat level at

farrowing. The nutritional requirement for foetal growth during this period is quite low. In this stage sows should receive 2,4 -2,6kgs/day and gilts 2,2-2,4kgs/day.

Late Gestation

From about day 85-90 of gestation onwards, the foetuses start to make rapid growth and so the sow's nutrient requirement increases.

If additional feed is not given, the sow will mobilize backfat and muscle tissue for piglet growth, which is undesirable. Individual sow that are over-conditioned should receive a lower amount to avoid udder problems at farrowing. On some farms, especially those with low birth weights, this increase in feed intake may lead to higher birth weights.
It is recommended to provide additional feed in the latter part of gestation, typically a level of 2,8-3,0kg per sow and 2,6-2,8 kg per gilt.

In all this session we are talking about a feeding program based in kilograms. The most common is that nobody is using scales to weight the feed. Usually automatic dispensers are used to feed the sows. These dispensers are measuring volume of feed and not kilograms. It is necessary to check on a weekly basis the balance between volume and weight of the feed and especially after the purchase of a new batch of raw materials.

Prior to Farrowing

In the 3-4 days prior to farrowing, feed intake should be reduced to 1.8 kg/day for gilts and 2.0 kg/day for sows in order to ensure good udder condition at farrowing. Usually at this time sows have been moved in the farrowing rooms and receive lactation feed.
Overfeeding may lead to udder problems such as mastitis and agalactia, causing a reduction in milk supply, reduced piglet survival and lower piglet weaning weights. This condition is exacerbated when sows are in excessively good condition due to overfeeding in gestation. Sows just prior to farrowing tend to be constipated and will benefit from the addition of high-fibre feeds such as wheat bran. A readily available supply of fresh, clean water will also help to avoid any udder problems, so drinker flow rate should be checked as sows enter the farrowing crates. A minimum flow rate of 2 litres/minute is recommended and 3 litres/minute is ideal.

Important

If the environmental temperature is below 18°C for sows housed in stalls, increase the feed allowance per sow by 60 grams for each 1°C drop below 18°C.

Assessing Sow Body Condition

A critical element of successful swine reproduction is managing sows so they do not gain or lose too much weight or body condition between parities. Maintaining sows in proper body condition throughout their lives can lead to more consistent reproductive performance, but inadequate control of sow body weight and condition can lead to farrowing difficulties, poor rebreeding performance, and high culling rates. In addition, the direct economic impact on annual feed costs of underfeeding or overfeeding sows can be substantial.

Therefore, it is important to monitor sows to determine the adequacy of current feeding management practices. The purpose of this part is to describe sow body condition scoring system that requires only a minimal amount of time and does not require any specialised equipment. This scoring system can then be used to determine individual gestation feeding levels to achieve a target condition score at farrowing.

Sow Body Condition Scoring Syste

This scoring system uses finger or hand pressure at key points on the sow's body to arrive at a number, or "score"—hence the name "sow body condition score." The points used on the sow's body are those areas where the only tissue between the skin and bones is fat tissue. These areas on the sow include the ribs, back bone, "H" bones, and "pin" bones (Figure 1). By assessing the ease or difficulty of feeling these bones, you can estimate the fat stores of the sow. It is important to rely on more than one of these areas when assessing body condition. Different animals may deposit fat in differing degrees at different locations. A condition score from 1 to 5 is assigned to each sow, based on the ease or difficulty of detecting bones at various pressure points. Figure 2 illustrates the physical appearance of sows for each condition score and describes the ease or difficulty of detecting the bones for each score. An approximate level of back fat associated with each condition score is given in Table 1. The goal is for sows to attain a condition score of 3 by mid-to-late gestation and to maintain that score until farrowing. Sows with a condition score of 3 at farrowing will enter the farrowing crate with adequate fat reserves to withstand a heavy lactation, but they will not be so overconditioned that they will experience farrowing difficulties or reductions in lactation feed intake. Sows entering the farrowing house with a condition score of 3 should eat well, milk well, and have a condition score of 2.5 at weaning, resulting in a prompt return to estrus. A realistic goal is to have all sows in a farrowing group with condition scores between 2.5 and 3 at farrowing, with 80% scoring 3.

Figure 1. Location of ribs, backbone, "H" bones, and "pin" bones on the sow.

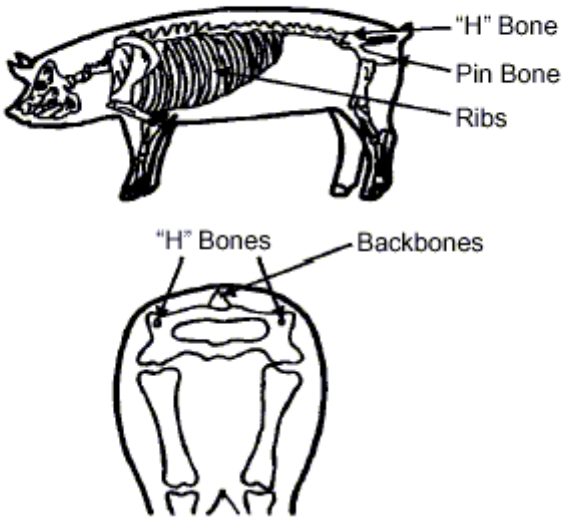
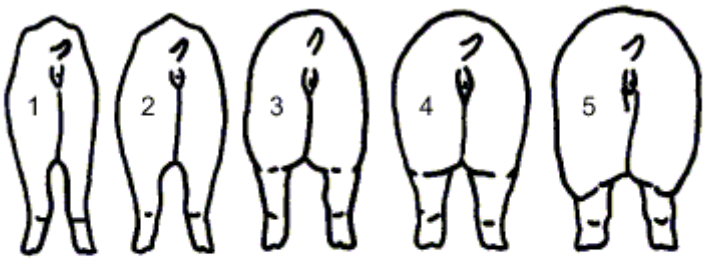


Figure 2. Body condition scores of sows.



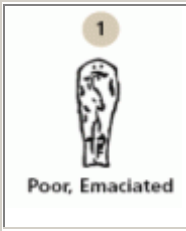
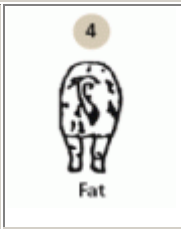
Score	Condition	Detection of ribs, backbone, "H" bones, and "pin" bones
1	Emaciated	Obvious
2	Thin	Easily detected with pressure
3	Ideal	Barely felt with firm pressure
4	Fat	None
5	Overly fat	None

Frequency of Condition Scoring Sows

For best results, sows should be condition scored at mating and at least two additional times between breeding and farrowing. It is often convenient to combine condition scoring with other routine activities, such as pregnancy checking and vaccinations, to save time opening gates and positioning people to score sows. A typical procedure is to score sows at mating, on day 30 post-mating when sows are pregnancy checked, and about 80 days after breeding. Condition scores will be more accurate if two people score the sows and the resulting two

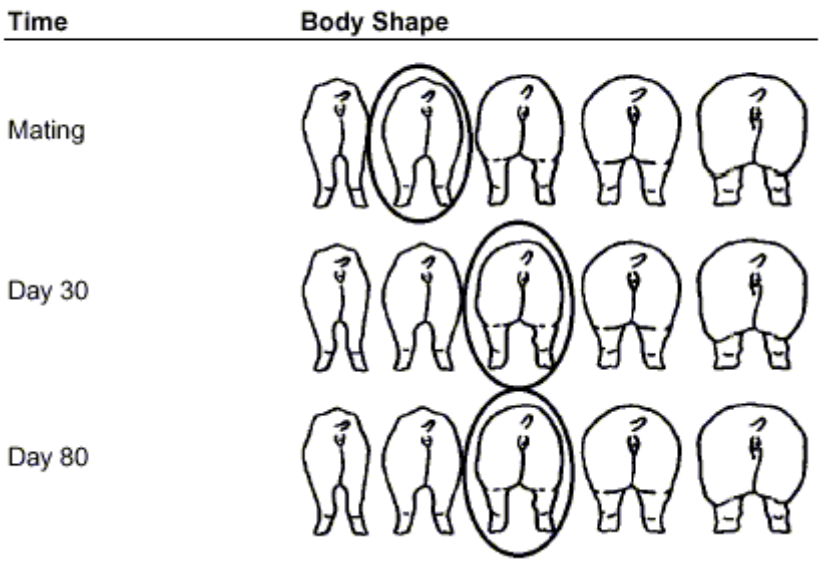
scores are averaged. When this team approach is used, the same individuals should always score the sows so scoring will be consistent.

Table 1. Relationship between condition score and back fat level.

				
<13mm Backfat, backbone, rib cage, hip bone prominent sharp to touch	**15mm Backfat, hollowness at loin, (flat or "slab" sides). Cavity around tail setting**	**18-20mm Backfat, Tube shaped, "lean but fit" look.**	**23mm Backfat, Thickening of trunk behind front legs and in neck region. Rear rounded**	**+25mm Backfat, Excessively thickened trunk behind front legs and in neck region. Bulbous shape.**
Feed Adjustments Required				
+ 0.5kg/day	**+ 0.2kg/day**		**- 0.2kg/day**	**- 0.5kg/day**

It is important to record condition scores so that monitoring the sow's progress is possible. One convenient way to document a sow's condition score is to record the score on her information card. Another option is to develop a card similar to that shown in Figure 3 and simply circle the drawing that best represents the sow's condition at the time of evaluation.

Figure 3. Example record card for recording the condition of a sow during gestation.



Number of Sows to Condition Score

It is generally best to condition score each sow individually, especially in herds with no recorded history of condition scoring, those in which sow condition is poor, and in herds that are experiencing reproductive difficulties. Once sow body condition within a herd has stabilised at a desirable level or a feeding management strategy has proven satisfactory, it may be sufficient to establish a condition score monitoring program rather than continuing to score all sows in the herd. For a monitoring program, at least 15 to 20% of the sows in each farrowing group should be condition scored.

Feeding the Sow in Lactation

It is well known that adequate feeding of the sow during lactation is necessary to maximize sow productivity. Deficient feed intake during the lactation period results in sows losing excessive body weight and may reduce milk production and subsequent litter growth. Recent results from the University of Minnesota also indicate that adequate feeding is essential to promote longevity in high-producing sows.

First and foremost, it is crucial that sows entering the farrowing unit are in proper body condition. Numerous research studies have shown the strong correlation between overly conditioned sows at farrowing and reduced lactation feed intake. In addition, these sows can have a more difficult time farrowing, recuperate much slower, and are more likely to lay on or crush piglets compared to sows in proper body condition. If sows are too thin entering farrowing, milk production will likely be reduced, and subsequent reproductive performance, including wean to estrus interval and farrowing rate, will be negatively affected. An overfed sow will stay in negative energy balance for a long period after farrowing. This will have a negative effect on milk production and thus in litter growth.That is why VETHELLAS insist in a full range trial starting the feeding program from gestation and ending in pigs.

We have also to take into consideration that genetic improvement lead to a modern sow with a larger body, more productive and smaller appetite than a sow of 10 to 15 years ago. Some of the factors that influence the voluntary feed intake of sows during lactation are:

- Genotype, parity, litter size, length and stage of lactation, body composition (prior nutrition)

- Barn temperature, humidity, floor type, water flow rate, access to drinker, feeder design
- Digestibility, palatability of diet, level of feeding, frequency of feeding, nutrient balance in the diet, physical form of diet (particle size, mash, pellet).

Problems arise, especially in parity 1 and 2 sows, if they do not consume enough feed in lactation to meet their energy requirements for maintenance, growth and milk production. If this happens, milk production declines and conditioning is lost as fat reserves are mobilized to synthesize milk. This loss of fat and accompanying loss of protein mass both affect reproductive performance. The sows weaning to rebreeding interval will be extended, and farrowing rate and subsequent litter size is also challenged as the number of eggs ovulated decreases.

The effect of decreased feed intake on the sows' litter is also important. There is a direct correlation of feed intake and piglet performance. As feed intake increases, milk production rises, increasing piglet growth rates. A sow that is milking well should also have decreased pre-weaning mortality rates.

There are a number of things that can be done to ensure that sows will be consuming sufficient feed to avoid excessive weight loss during lactation:

- Under normal commercial conditions it is unlikely that gestation feed levels will influence litter size unless feed intake is restricted significantly reducing ovulation rate and subsequent embryo survival. Targets for weight gain in gestation should be based on backfat at the time of weaning and her weight at weaning. Sows at all parities should have 18-20 mm backfat at the time of farrowing. Sows should be fed an extra 1 kg of feed at day 100 from breeding.
- It is important that an adequate amount of fresh feed is kept before lactating sows at all times in adequately designed feeders that do not restrict feed intake.
- Stockman should be aggressive in getting sows onto full feed as quickly as possible especially for the shorter lactation periods now common in our industry.
- It has also been shown that protein content and quality of lactation diet may influence feed intake. Sows eating diets containing 12-14% crude protein ate less than sows consuming diets of 16-18% crude protein. Increased protein levels also had the effect of increase piglet weaning weights. Protein concentration in the diet also affects conception rates and days to heat post-weaning.

- The type of diet is also shown to have an effect on total feed consumed. Pelleted diets increase feed intake due to a reduced amount of feed spillage. It has also been shown the wet feed is more readily consumed than dry feed. Mounting the nipple drinker over the feeder may stimulate feed intake. Water management during lactation should ensure a flow rate of 2 L/minute minimum from easily accessible drinkers. It is important to note however that wet feed should be removed regularly to ensure a clean supply of feed free from fermentation and or molds.
- Environment will also play a part in feed consumption while sows are in the farrowing rooms. It is important to ensure that a warm microenvironment is available for piglets while the room, as a whole, is kept at a temperature low enough to ensure proper feed intake for the sow. Higher temperatures for a couple of days pre and post farrowing is required for the sow and piglets at this vulnerable time. After this, the temperature of the room should be dropped to 18.5 -19.5 degrees Celsius. Proper ventilation rates ensuring an adequate supply of clean fresh air is also required.
- It has also been shown that increasing the number of daylight hours to 16 hours in comparison to 8 hours in the farrowing room, will increase feed intake, improve rebreeding performance, and result in higher weaning weights at 21 days of age.

Large differences in sow productivity exist from one management system to another and this may in fact be due to a large extent on feed and feeding programs over a sow's reproductive lifetime.

Proper feeding during gestation conditions the sow and enables her to manage feed intake during lactation resulting in a larger number of high weight piglets being weaned. Feed intake during lactation along with proper health care, and environment will also improve reproductive performance in subsequent litters, when considering farrowing rate and numbers born alive.

The feeding program for lactating sows of VETHELLAS is:

Day 1 : 1-2kg of feed

Day 2: 3 kg of feed

Day 4: 4 kg of feed

Day 5: 5 kg of feed

Day 6:6 kg of feed

From Day 7 and after calculate as:

2kg + 0,4*p

Where p is the number of suckling piglets

For example a sow that has 12 piglets suckling will need:

2 + 0,4*12= 6,8kg of feed.

Ensure that there is enough fresh water as it was mentioned before.

On the day of weaning decrease the amount of feed to half of the quantity for sows with a good body condition. In sows with poor body condition do not change the amount of feed given. To all the sows close water to help them stop the milk production.

PIGLETS FEEDING

Successful feed programmes for weaned pigs need to overcome several challenges. Many of these challenges are interrelated. Thus, a significant shortfall in any one of these areas may still result in an acceptable feeding program leading to less than desired performance.

Challenge 1 – Communicate the Message

Do you understand the personality of the people implementing the program? Usually, we find that if we are having a difficult time with compliance or getting the message across, it is not the fault of the audience but rather a need for communicating the message in a different format.

An example is communicating the importance of feeder adjustment. The importance of proper feeder adjustment for improving feed efficiency is well known. However, this remains the number one cause of sub-optimal feed efficiency encountered on farms. When discussing feeder adjustment with personnel in the barns, few disagree that adjustment is important; however, there is much confusion as to how much feed should be in the pan for optimal feed efficiency.

Challenge 2 - Start out with Healthy Pigs

Without a doubt the swine industry has restructured dramatically in the last decade to harness the health benefits of multi-site pig production. While extremely successful at minimizing the impact of chronic disease, the impact of viral agents such as porcine reproductive and respiratory virus, swine influenza and circovirus have increased. Field reports seem to indicate dramatically enhanced nursery growth performance when PRRSV

elimination programmes have been successful. Other reports indicate that *E. coli*-associated post-weaning scours are a problem in many operations. Therefore, it is imperative to deal with health challenges immediately with proper diagnostics and an appropriate therapeutic plan. Unhealthy weaned pigs lead to significant challenges in achieving rapid increases in feed intake during the critical first few days after weaning. The margin of safety in budgeting and diet complexity must be increased when dealing with groups of pigs with health challenges.

Challenge 3 – Perform Proper Cleaning, Disinfecting and Drying

It has been well documented that animal performance is increased in 'clean versus dirty' environments and cleanliness is probably responsible for a large percentage of the growth performance benefits from All/In-All/Out production. Also, because the young pig is more susceptible to infections from enteric organisms, sanitation is especially critical for nursery facilities. Rough surfaces such as concrete are more difficult to clean than smooth surfaces such as wire. This indicates that while cleaning is performed less often in wean-to-finish facilities, cleaning procedures of the concrete surfaces will be more difficult. In general, organisms are protected against agents of disinfection by organic materials such as pus, serum or faeces. Fortunately, most swine pathogens only survive for a brief amount of time outside the host in the absence of organic materials or moisture. Up to 99 per cent of bacteria can be removed by cleaning alone under experimental conditions. However, the relative importance of the stages of sanitation include:

1. 90 per cent removal by removing all visible organic matter
2. 6 to 7 per cent killed by disinfectants, and
3. 1 to 2 per cent killed by fumigation.

A recent article by Dr Amass from Purdue indicates that disinfecting boots was ineffective at reducing bacterial load of boots if the faecal matter had not been removed before disinfecting. They indicated that removal of faecal matter alone without disinfecting was responsible for a large proportion of bacterial load on the boots. Implications of this research are that visual assessment of cleaning procedures is an effective starting point as an indicator of reducing bacterial load.

Challenge 4 – Set the Barn up Properly before Pigs Arrive

In addition to sanitation, procedures that need to be completed before arrival of pigs include setting ventilation controls to allow for the room to dry and warm up. If used, mats and

supplemental heat sources should be in place and functioning. All waterers should be functioning and adjusted to the proper height. These procedures are especially critical for wean-to-finish facilities where facility design is not as conducive to meeting the environmental needs of newly weaned pigs.

Regardless of whether the first diet after weaning is in bags or bulk, the feed gate in all feeders should be closed before the first feed is placed in them. The feed gate then is opened so that a small amount of feed is visible in the feed pan. Placing feed into empty feeders with the gate open will result in large amounts of feed wastage and difficulty in achieving the proper feeder adjustment.

During the first 36 hours after weaning, pigs need to find the water and feed. During this time period, height adjustment of waterers should be rechecked to ensure proper access to water for pigs. Feed should always be available in the feeder and small amounts of feed should be placed on the mats to encourage feeding behaviour. Also during this period, the environmental temperature and zone heat should be adjusted to ensure that the pigs are comfortable. Standard environmental temperature recommendations are difficult to generalize due to differences in effective temperature due to flooring materials, heating sources, and drafts. Therefore, the objective during immediate period is to make minor environmental adjustments and let the pigs rest and acclimatise after weaning.

The transition period immediately after weaning is a critical time in nursery management. Water intake is crucial in the newly weaned pig. Because of the low body weight in proportion to metabolic rate, dehydration occurs easily in young pigs. In addition, it is important to ensure that the water pressure is below 20 psi, so that pigs can easily operate the water nipples. Many producers block or tie the nipples open for the first 24 hours, so that the newly weaned pigs rapidly find the waterer. Cup waterers have been used successfully in other nurseries. A simple rule of thumb to use for height adjustment of nipple waterers is shoulder high for the smallest pigs in the pen.

If all of the proper preparatory procedures are performed, the pigs can be left to rest for approximately 36 hours after weaning. Pigs should be observed to ensure that they have found the water source and are beginning to develop feeding behaviour.

Challenge 5 - Cost-Effective Diet Formulation and High Ingredient Quality

Maximizing feed intake after weaning reduces stress and increases growth rate by decreasing the mobilization of lipid stores to provide energy for protein deposition. As feed intake increases after weaning, a lower effective environmental temperature is needed to

maximize pig growth performance. Therefore, a rapid increase in feed intake is a high priority when weaning lightweight pigs because of their relatively larger amount of heat loss compared to heavier pigs.

Ingredient quality is imperative for the nursery diet. Careful specification of ingredients, such as using edible grade dried whey, and a high quality fishmeal helps ensure that high quality ingredients are used in the diet.

Challenge 6 – Maximize Pig Weaning Weight and Age

The optimal feeding patterns for lactating sows continue to be debated. However, the research results in this area are clear: restricting feed, protein or energy intake during any period of lactation will reduce milk production, decrease litter-weaning weight, and impair subsequent reproductive performance. With the implementation of early weaning strategies, the importance of litter weaning weight also has increased. Pigs weaned at heavier weights are simply easier to manage in the nursery. Other data indicate that pigs with lighter weight at weaning are at a higher risk of death. Unfortunately, management-induced energy deficiency during lactation is a major problem on many commercial swine farms.

Challenge 7 - Assist Pigs and Teach Feeding Behaviour

By 36 hours after placement, most pigs will have found water and started to exhibit feeding behaviour. However, this is a critical time period to identify pigs that are lacking proper feeding behaviour or are becoming dehydrated. This may involve hand feeding a few pellets or using a gruel administered with a syringe. The identification of candidate pigs for teaching feeding behaviour is a high priority during the first few days after weaning. This is an area of pig management that requires astute observation of pig behaviour. Therefore, it is an area on which personnel should concentrate efforts and managers should concentrate training. With proper management of the nursery, the number of pigs requiring extra attention will be limited to 2 to 4 per cent.

The most difficult part of the process involves identifying the small percentage of pigs that are candidates for individual attention. The critical times are approximately 36 to 60 hours after weaning for identifying pigs that are having a difficult time learning proper feeding behaviour. For example, for a group weaned on Thursday morning, the critical time period is Friday evening through Sunday morning. Pigs that are eating well will begin to have round abdomens, whereas pigs that have not begun to eat will be gaunt. Although most veterinarians and experienced nursery managers automatically and unconsciously evaluate

signs that a pig has not begun to eat, many untrained personnel will have a difficult time identifying the signs.

The following mental checklist can be used to inspect pigs from a distance:

- Mental status – alert or depressed
- Body Condition – normal or thin
- Abdominal shape – round or gaunt
- Skin – sleek appearance versus fuzzy
- Appetite – feeding at the feeder or huddled
- Signs of dehydration – normal or sunken eyes.

Depressed mental status, thin body condition, gaunt abdomen, fuzzy appearance, huddling and sunken eyes are all good indicators that a pig has not been eating or drinking. Palpating mucous membranes of the mouth or tip of the nose can identify signs of dehydration. Dehydration can be evaluated further by pinching a fold of skin. If the fold remains elevated for more than a few seconds, the pig is dehydrated. A good location to do the skin fold test is just behind the front limb. Evidence of urination or defecation also is a reliable sign that pigs are eating and drinking.

Once pigs have been selected for further attention, they should be marked so they can be re-checked until they are feeding on their own at the feeder. One technique that has worked well in several operations is to have a person who can identify the pigs that are not feeding go through the nursery and mark them. This can serve as an excellent training tool. After all the pigs that are not eating have been identified, a small handful of feed is wet with water and gently placed in each pig's mouth. Alternatively, if a large number of pigs require attention, a small bucket of moistened feed can be prepared. Some personnel use gruel administered through a 12-cc syringe with the end cut off. The moist feed or gruel stick to the tongue of the pig, and it begins to swallow.

The next step is to carefully place the pig near the feeder, so it associates the food in its mouth with the feed in the feeder. Setting the pig down gently is important, so pain or stress is not associated with feeding. In fact, people that have mastered the technique will be able to rapidly pick up the pig, resulting in minimal struggle. A good indicator of the operator's technique is that a large proportion of the pigs actually will eat from the person's hand. Hence, this method relies on patience and an understanding of animal behavioural principles.

As little as 20 to 30 g of feed will provide energy to keep the pig from starving. It is critical for small pigs with low body fat reserves to have a ready energy source. The authors' observations have indicated that in high-health status, weaned pigs, signs of anorexia, depression and dullness are more likely to be caused by lack of energy than infectious disease. Thus, giving them feed rather than treating them with antibiotics has saved pigs.

Challenge 8 - Minimal Sorting and Mixing of Pigs

It appears that in multi-site production systems with a fairly narrow weaning age spread per group that minimal sorting and mixing result in better growth performance. In some production systems, up to 17 per cent of pens are left empty at the beginning of the nursery period for sort pens. However, these strategies rarely result in excellent performance. Research with finishing pigs consistently has demonstrating that sorting by weight does not improve growth performance. Preliminary evidence from experiments indicates that there is no advantage to sorting by weight categories upon initial placement into the nursery. While minimizing sorting and mixing of pigs is advocated, lack of individual pig care, such as removing sick or disadvantaged pigs, is not.

Challenge 9 - Adjust the Feeders Frequently

"If your fingers don't ache from cleaning the feed gates, you are not adjusting them properly." In an attempt to stimulate feeding behaviour, large amounts of the first diet are placed in the feeding pan. Although intention is correct, the outcome is negative. Energy deficiency can result from pigs sorting the diet and a build-up of fines in the feeding pan. These fines then lodge in the feed agitator mechanism, making it difficult for new feed to flow from the feeder. This problem is remedied by management of the amount of feed flow in the pan to stimulate development of feeding behaviour. Approximately 25 to 50 per cent of the feeding pan should be visible in the first few days after weaning. As the pigs become more accustomed to the location of the feed and adjust feeding behaviour, the amount of the feed in the feeding pan should be decreased rapidly to less than 25 per cent coverage. Also, feed agitators need to be tested frequently to ensure that the build-up of fines does not prevent them from working freely.

Challenge 10 - Compile and Analyse Close-outs

Nursery close-out records are essential for diagnosing nursery performance problems. Compiling accurate records is a constant struggle but essential for accurate monitoring of

growth performance. When analyzing close-outs, it is very important to account for explainable sources of variation from group to group and adjust values accordingly.

Summary

Clearly, the challenges for feeding weaned pigs extend beyond diet formulation and nutrient requirements. Recognizing that many of these challenges are interrelated and addressing areas will lead to successful early-weaned pig feeding programmes.

VETHELLAS piglets feeding programme is based in the practical experience that has been gained for the many years that us involved in pig production, not only as a producer of feed and feed ingredients but mainly as a pig producer through GENNITOR (www.vethellas.gr) . The feeding program, the compositions suggested etc, have been tested in GENNITOR's farms and checked for their practical results. These experiences lead VETHELLAS to suggest 3 different rations from start until 30kg live weight (approximately 75 days old).

Prestarter feed is given from day 5 to day 35 (or if piglets are weaned after 4 weeks for 7 days after moving to the flat decks).

Starter feed is given from day 35 to day 55, and

Grower feed is given from day 55 until 1 week after the transportation into the fattening houses.

Concerning prestarter feed it is essential in the first days in the farrowing room to be given in small amounts, renew every two hours and faster if the feed gets dirty and always keep the bags out of the hall in order to avoid the loose of the natural flavor. It is suggested to put a small fistful of feed in the laying area of the piglets to help them come in contact with the feed.

When there is a change of diets (for example from prestarter to starter feed), then this has to be done gradually. The transition period should last at least for 5 days and the quantities given should be as follows:

Day 1: 80% feed A – 20% feed B,

Day 2: 60% feed A – 40% feed B,

Day 3: 40% feed A – 60% feed B,

Day 4: 20% feed A – 80% feed B,

Day 5: 0% feed A – 100% feed B.