Feeding sows for niche pork production is different than in conventional systems. The biggest difference is lactation length. Commodity pork systems typically wean sows at 21 days. This is much shorter than the 35-42 day lactation that most niche markets require. Because of this longer lactation period, special attention should be paid to the diets for sows in niche pork production.

**Lactation Feeding**

The first step is to determine the proper diet for the sow that is nursing a litter of pigs. Feed intake should be measured and diets formulated based on number of pigs nursing and pounds of feed consumed. In general, the more feed a sow eats the less nutrient dense the diet. A general rule of thumb is that sows need 35-40 grams of lysine per day for a litter of 7-8 pigs. Sows with more than eight pigs will be producing more milk and 50 grams of lysine per day is recommended.

A diet formulated for 12 pounds daily intake should be different than a diet formulated for 20 pound daily intake. Sows that nurse for only 21 days have difficulty consuming an average of 12 pounds per day. Sows that nurse for 4 to 7 weeks can have average daily feed intake of 20 pounds per day. Thus, diets for sows with later weaned pigs can be less nutrient dense and usually less costly because of increased sow feed intake.

**For example:** *If you want sows to consume 45 grams of lysine per day, what % lysine is needed in the diet?*

If a sow consumes 12 pounds per day for the first three weeks of lactation, she consumes 5448 grams of feed per day.

\[
12 \text{ lb/day} \times 454 \text{ grams/lb} = 5448 \text{ grams/day}
\]

\[
\frac{45 \text{ grams of lysine daily}}{5448 \text{ grams of feed daily}} \times 100 = 0.82\% \text{ lysine}
\]

If the sow eats 16 pounds daily, she consumes 7264 grams of feed/day, and only 0.62% lysine is needed to provide 45 grams of lysine daily.

\[
16 \text{ lb/day} \times 454 \text{ grams/lb} = 7264 \text{ grams/day}
\]

\[
\frac{45 \text{ grams of lysine daily}}{7264 \text{ grams of feed daily}} \times 100 = 0.62\% \text{ lysine}
\]

If a sow eats 12 pounds daily the first three weeks and then 16 pounds per day for the next four weeks, she will consume on average 14.3 pounds per day. In order to consume an average 45 grams of lysine per day while nursing for the entire seven week lactation period the diet should be formulated to have 0.69% lysine.

\[
14.3 \text{ lb/day} \times 454 \text{ grams/lb} = 6492 \text{ grams/day}
\]

\[
\frac{45 \text{ grams of lysine daily}}{6492 \text{ grams of feed daily}} \times 100 = 0.69\% \text{ lysine}
\]

Larger litters demand more milk from the sow. Sows nursing larger litters need more amino acids to maintain weight and
muscle mass for rebreeding. Life Cycle Swine Nutrition, PM 489, 1996 provides several reference tables that more fully describe the interaction between feed intake and nutrient requirements in sows. While lysine has been the focus of the previous examples, the levels of other amino acids, calcium, phosphorus, trace minerals, and vitamin mix should also be adjusted based upon daily feed intake.

**Gestation Feeding**

The object of feeding a gestating sow is to get her into the right condition for producing many large litters of healthy pigs over a long lifetime. The ideal gestation sow condition just prior to farrowing is 2.5 to 3.5 on the body condition scale presented as Figure 5 and Table 1 in leaflet number 350 of this handbook.

Sow body condition score should be determined at weaning and sows allotted to feeding group based upon body condition. Sow condition should be assessed regularly and adjustments to feed allowance made accordingly. An overweight sow is less mobile, more uncomfortable in the heat, more likely to crush piglets, and less productive in terms of both farrowing rate and number of pigs born alive.

It is easy to overfeed a gestating sow. In commodity pork production, sows are weaned about 21 days after farrowing and tend to be very lean or thin. In these situations it is common to give gestating sows more feed in order to return body fat reserves to normal. In niche pork production, lactation length is longer, daily feed intake is greater, and sows tend to be weaned in better body condition. If the diet is not adjusted to match the body condition of the sow, she may become fat. Pasturing sows or adding forages to the gestation diet enables sows to feel full without producing overly fat sows. Feeding sows forage is discussed in leaflet number 320 of this handbook and diets for supplementing pastures are presented in leaflet number 370 of this handbook.

A final consideration for gestating sows is the temperature of the housing system. Sows kept in cold housing that is typical of niche pork production will need additional feed as temperatures drop. A common rule of thumb is to increase feed allowance by one pound for every 12 °F drop in temperature below the thermoneutral zone. Without bedding, the lower edge of the thermoneutral zone is about 55 °F for sows, but will be 15 to 20 °F less in a draft free, dry, deep-bedded housing system. If sows are housed in groups in relatively draft free buildings with plenty of dry bedding, additional feed should be offered when temperatures near 30 °F.

**Additional Resources**

Carr, John. 1998. Garth Pig Stockmanship Standards. 5M Enterprises Ltd. Sheffield, UK.


