

The loss of baby pigs before weaning is an enormous waste of resources. Recent data from 49 Kentucky farrow-to-finish swine farms indicate that an average of 80 percent of pigs born alive survive to weaning. Most of these losses occur during the first 23 days following farrowing.

Feed Quantity

The survival rate of young pigs improves as birth weight increases. In addition, birth weights are partially dependent on the amount of feed consumed by the sow during gestation (Table 1). Restricting feed intake too severely during gestation will result in lighter weight pigs at birth and hence lower survivability. In order to achieve adequate material and fetal weight gain during pregnancy, it is important to adjust feed intake during gestation according to the physical condition of the sow and the environmental conditions in which she is maintained. Sows with adequate body fat reserves that are individually confined in an environmentally regulated building may need only 3 1/2 to 4 pounds of a corn-soybean meal diet daily; those in relatively poor condition and/or housed outdoors during the winter may need 5 to 7 pounds daily.

Table 1. Effect of gestation feeding level on pig birth weight^{1,2}

Feed/day, lb ³	Avg. pig birth weight, lb	
	Gilt litters	Sow litters
2	2.61	2.47
3	2.66	2.60
4	2.71	2.72
5	2.76	2.84
6	2.81	2.96

¹Adapted from Henry and Etienne, 1978.

²Based on 29 experiments involving over 5,000 litters.

³Based on a corn-soy diet.

Since fetal growth increases significantly during the final trimester of gestation, it would seem beneficial to increase the sow's feed during this time. Based on recent data, increasing the sow's intake of a corn-soybean meal diet by 3 pounds per day during the last 3 weeks of gestation results in larger pigs at birth and improved survival rate (Table 2). The magnitude of a response to elevated feed levels in late gestation is probably related to overall sow herd condition and the average birth weight of pigs in the herd. Therefore, in herds which experience low birth weights (and lower piglet survival) increasing late gestation feed levels should yield benefits.

Table 2. Effect of additional feed during late gestation on reproduction^{1, 2}

Item	Treatment	
	Control ²	+3.0 lb/day ³
No. sows	423	425
Live pigs/litter	9.9	10.1
Pig birth wt, lb	3.1	3.3
Pigs weaned/litter	8.4	8.7
Survival, %	85.4	87.8

¹ Cromwell et al., 1982.

² 4-5 lbs of a corn-soy diet/day during entire gestation.

³ During final 23 days of gestation period.

Therapeutic levels of an absorbable antibiotic are generally considered to be beneficial at farrowing time and during early lactation. Table 3 illustrates the value of antibiotics fed 3 to 5 days prior to farrowing through 7 to 21 days of lactation on young pig survival. Incorporating antibiotics in the diet at these times slightly improved Survival rate and the number of pigs weaned. It is expected that the response to antibiotics in the sow's diet would depend on the disease level in the herd.

Table 3. Effect of Antibiotics in the pre-farrowing and Lactation Diet for Sows^{1,2}

Item	Treatment	
	Control	+ Antibiotics ³
Pigs born live/litter	8.96	9.13
Pigs weaned/litter	8.01	8.25
Survival, %	89.4	90.4

¹ Cromwell, 1983

² Summary of 7 experiments, 787 litters.

³Tetracyclines, ASP-250, Tylosin or copper sulfate fed from 3-5 days prepartum through 7 to 21 days of lactation.

Fat

Fat additions to the sow's diet during late gestation and early lactation slightly improves survival rate. Fat increases the energy density and yield of sow milk. The greatest response to added fat in the sow's diet occurs in herds with survival rates below 80 percent. For best results, sows should consume at least 2.2 pounds of supplemental fat before farrowing and continue to consume fat during early lactation. "Dried-fat" products are readily available to help incorporate fat into swine diets.

Cross-Fostering

As previously discussed, pigs with lower birth weights have a reduced chance of surviving to weaning. This is partially because smaller pigs are unable to effectively compete with larger pigs for colostrum and/or milk. Newborn pigs have low energy reserves; therefore, they must have a warm (90° F), draft-free environment and obtain adequate and regular nutrition from the dam if they are to maintain a constant body temperature. The intake of colostrum during the first few hours of life also protects young pigs from certain disease organisms.

Cross-fostering pigs to even up birth weights within litters as soon as possible after farrowing improves survival rate. Naturally, cross-fostering is best accomplished when there is batch-farrowing. Another method to improve survival of small pigs is to dose them with a milk replacer or split-suckle a litter of pigs when cross-fostering can't be done.

Sanitation

Unsanitary conditions in the farrowing house can predispose baby pigs to various health problems. Improving sanitation in the farrowing house will pay large dividends. A European study indicated that switching from continuous usage to all-in-all-out management of the farrowing house improves survival rate by 5 percent. An all-in-all-out scheme allows a facility to be cleaned and disinfected between groups of sows. Of course, only strictly adhering to a predetermined breeding and weaning schedule can you accomplish all-in-all-out management of the farrowing house. You also can improve sanitation by washing and disinfecting sows before farrowing and keeping manure buildup in the crate to a minimum by regular cleaning. These procedures, in addition to using farrowing crates with wire floors, will reduce the incidence of diarrhea and improve survival. Studies representing over 17,000 litters indicate that preweaning survival increased by about 7 percent when using farrowing crates with wire floors that provide a cleaner and drier environment than do farrowing crates with flooring materials that provide less open area.

Crossbreeding

Preweaning survival rates also depend on the genetic make-up of the sow and pigs. More crossbred pigs survive until weaning than purebred ones, while pigs nursing crossbred sows have a higher survival rate than those raised by purebred sows. Therefore, breeding systems that use crossbred sows are recommended for commercial swine production. Producers are encouraged to keep production records to help identify problem areas in their swine operations. With proper records, the preweaning survival rate can be monitored for each farrowing group. A realistic goal for a commercial swine operation should be a preweaning death loss of 12 percent or less. By incorporating some of these management practices, producers should be able to decrease the preweaning death loss in their herds.