



Make the Most of Your Gilts

By Diane Stouffer, UMN Extension Educator, Ag Production Systems

One of the most distressing parts of managing the sow herd is when you have to put a perfect-looking, well-conditioned 350 pound gilt on the cull truck. What happened? Why isn't she out in the gestation barn living a productive life like her sisters?

Not only do non-productive gilts waste time and feed in the operation, their infertility causes the operator to have to factor in that gilt's cost over the rest of the productive herd. A producer should see 85-90% of the gilts introduced into the herd produce litters, but many times the actual number falls far short.

In order to optimize the breeding potential of the gilt pool, keep these factors in mind.

- **Physical Appearance**— Gilt conformation and physical characteristics are the most important selection criteria when populating the pool. Foot and leg structure, carcass composition, teat number and underline quality are important visual qualities to consider. Gilts need a minimum of .70-.85 inches of backfat at 250 pounds in order to have greater longevity in the sow herd. This initial fat store can allow her to raise her pigs without completely depleting her reserves, and will allow her to return to the herd after weaning with a higher body condition score.
- **Age at Puberty** – Studies have shown that early onset of estrous will yield a sow who lasts longer in the herd. Earlier developing gilts will weigh less at first estrus, but be young enough to allow the producer to wait until second or third estrus to breed her. That additional growth time can cause her to release more eggs at 2nd or 3rd estrus. These factors enable her to deliver a larger first litter and potentially realize more pigs produced and more parities throughout her life in the herd. Weight at puberty is 51% heritable and highly correlated to age at puberty, so the faster growing gilts in the pool will be the ones who attain estrous earlier.
- **Nutrition** – Start feeding the gilt pool differently when they reach 150 to 180 pounds. A lactation ration will provide the needed protein, minerals and micronutrients necessary for her to develop into a long-lived sow. It's important for replacement gilts to build body reserves that will carry them through a long productive life in the herd. Once gilts begin cycling, nutritional flushing, or increasing the energy in their diet, in the 10 days prior to expected estrus can increase the number of eggs ovulated, potentially improving the size of her first litter. Research suggests that gilts should weigh 300 pounds and have expressed one estrus cycle prior to first mating.
- **Boar Exposure** – Exposure to the boar is the single most important factor to cause the gilt to achieve puberty. Exposure to a mature boar beginning at day 150-170 will induce estrus in gilts. In addition, exposure of the gilt pool in that 150-170 day time frame will provide the best synchrony in those gilts who respond. Actual physical contact with the boar rather than fence line contact has proven to be more successful in inducing gilts into estrus in the first 10-30 days. Transporting gilts, regrouping them, moving them to a new pen and exposing them to a boar is another good strategy to induce estrus and develop synchrony in the replacement gilts.
- **Number of Services**- Gilts typically express estrus for a shorter length of time, sometimes 24-36 hours less than a sow. Ovulation occurs about 12 hours after the observation of standing estrus, so it's critical to ensure that the gilt is inseminated when ovum are present. Research shows that two inseminations at 12 and 24 hours after standing estrus are most successful in establishing a pregnancy in the gilt. Three inseminations doesn't improve the results, and one insemination has a good chance of missing ovulation.

Taking a close look at your method of managing the replacement gilt pool can yield some habits that need adjustment. Altering a few simple techniques can enhance the economic efficiency of your operation, reduce the need to add more gilts, and improve the number of pigs each of your replacement gilts produces in her lifetime.