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## Sow expert says loose housing can work

(12/9/2012)

By Andy Vance

- Penn vet school developed loose housing system in 2001.
- System implemented on 38 farms in 11 states.
- University chose ESF systems.

Housing of gestating sows has become one of the most emotionally charged issues facing agriculture in recent memory, fueled in no small part by an ongoing media battle waged by the animal rights community.

What hasn't gotten as much attention in the press, however, is the basic question of how alternatives to individual sow housing -- or gestation stalls - might actually work.

Based on more than a decade of research and practical on-farm experience, one university expert said the question isn't whether loose sow housing can work but, rather, "Can it work on my farm?"

Dr. Thomas Parsons is a professor of swine production medicine at the University of Pennsylvania (Penn) School of Veterinary Medicine and director of the school's Swine Teaching & Research Center. In 2001, the university said it became the first veterinary school to create a physical setting for exploring animal welfare, specifically looking at sow housing.

When Penn was building its research center more than a decade ago, Parsons said his experience as a post-doctoral researcher in Germany led him to think twice about how to approach gestation research in the new facility.

"We considered building a standard crated facility, which may have been the obvious way to train students," Parsons said. However, "we knew we had access to several of those close to the school, and we recognized that this sow housing issue was probably going to come on the horizon at some point in the (U.S.) based on what was happening at the time in Europe."

With the European Union and at least eight U.S. states moving away from traditional stall housing -- not to mention a growing chorus of food retailers and distributors banning pork sourced from stall production systems -- Penn's move looks fairly prescient.

Speaking to several-hundred producers at the annual Midwest Pork Conference near Indianapolis, Ind., Parsons pointed out that the school's experience with what it calls "Penn gestation" is more than a lab exercise or bench-top experiment.

"We've worked with 38 different farms in 11 states to help them implement electronic sow feeding (ESF)," he said. "That's the system we picked for an alternative to gestation stalls. We've used (ESF) in a variety of different herd sizes ranging anywhere from 100 to 10,000 sows, and we have about 75,000 sows in that system this year."

Noting that Penn's system is implemented on 10,000-20,000 additional sows each year, Parsons estimated that 1% of the U.S. sow herd is raised in the housing system he helped develop.

The decision to move from stalls to loose housing is significant, even though many producers feel left out of the decision-making process because of high-level political-type wrangling over the issue. For Parsons, the focus is on whether loose housing can work on a given farming operation.

Breaking down different styles of loose housing systems, the first decision in a transition process is the style of feeding: competitive or non-competitive. The two common options in competitive feeding systems are: (1) floor-drop feeding or (2) feeding in small pens with stanchions or a trickle feed system.

Competitive feeding systems often work best with small sow group sizes and offer a minimal deviation from a stall housing system. Downsides include a lack of control over individual animal nutrition, increased feed usage and wasted feed and more focus on the importance of sorting sows into appropriate groups to minimize "losers" at feeding time.

Two basic forms of non-competitive feeding systems are ESF systems and self-catching crates, sometimes known as free-access stalls. Self-catching systems are more mechanically oriented but represent an alternative for producers concerned about the technological learning curve associated with ESF systems.

In terms of management style, self-catching crates provide the least deviation from traditional gestation stalls, Parsons noted. They are more expensive to install, however, and can require as much as 50% more space, leading to a loss of inventory when retrofitting existing sow barns to group housing.

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Of the four basic frameworks for loose sow housing, Parsons put his strongest support behind the ESF system pioneered at the research center and in use on the more than 38 farms Penn works with in studying the system's effectiveness. ESF is the only stall housing alternative that provides individual animal nutrition, which allows an operation to optimize production and minimize feed costs.

Compared to individual stalls, Penn's research has found that using the ESF system will reduce feed usage by 0.2-0.5 lb. per sow per day. On the other end of the spectrum, floor-drop systems use an additional 0.2-0.5 lb. per sow per day versus stall systems.

Challenges to introducing an ESF system include increases in gilt training, radio-frequency identification (RFID) tag management and computer literacy. While the system works as well as or better than traditional stalls, Parsons acknowledged that change is always difficult.

"At first, it might seem like something you don't want to participate in, but if you think about it, there may be an opportunity for you to go ahead and get ahead of the curve and maybe even find new marketing opportunities if you were to move to pen gestation," Parsons said.

#### Transition considerations

When considering a move to loose sow housing, Parsons said there are four basic "pillars of decision," namely: (1) project type, (2) barn flow, (3) pen design and (4) people.

The first three he described as "easy," meaning a producer has to get them right only once, when building the sow barn. People and management, on the other hand, have to be right every single day.

The project type could be a new building, an expansion or retrofitting an existing facility -- something Parsons said is challenging because retrofits are "always a series of compromises" and rarely are an ideal situation for a sow or producer.

Barn flow is an important consideration because parity segregation, group type and group constitution will play significant roles in determining productivity. Separating gilts from sows and keeping similar sizes of sows in the same group will minimize several potential husbandry concerns.

Static group management, when sow groups are all in and all out of the facility as a group, is typically better suited for smaller group sizes -- fewer than 100 sows, on average. When groups are larger than 100 sows, dynamic groups can be utilized to minimize aggression issues as new sows are mixed into existing groups.

Group constitution refers to sorting groups either pre-implant or post-implant. In pre-implant scenarios, Parsons said groups must be mixed before breeding to minimize aggression issues, and 21-day heat checks and 35-day pregnancy checks are done in the pens and may be done with the aid of the ESF system due to the possibilities offered by RFID tags.

Post-implant systems, while more forgiving than pre-implant systems, may not pass the "smell test" with consumers. Parsons asked, if a sow still spends 165-180 days per year in a gestation stall, is the system truly stall-free?

ESF systems also typically require less space per sow to construct -- as little as 18-22 sq. ft. per sow, compared with as much as 24-30 sq. ft. in self-catch crate systems.

*Editor's Note: Listen to an interview with Parsons in the "Feedstuffs in Focus" podcast at <http://www.feedstuffs.com/Media/PodcastItems/FeedstuffsInFocus4Dec2012TomParsonsGroupHousing.MP3>.*

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