



# Do electronic affect

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involved, with animals ranging in age from gilt to fifth parity. New animals were added each reproductive cycle.

Within the ESF system, we considered small groups of approximately 35 sows which were all added to the pen at the same time (static) versus larger groups (120 sows) that were dynamic. That is, groups of approximately 35 sows were removed for farrowing and others added at five-week intervals.

We also considered two stages of gestation at which to place the animals. Animals were either moved to the ESF eight to 10 days after breeding, or approximately 45 days after breeding, by which time embryonic implantation should have occurred. We also collected data from animals kept in stalls for their entire gestation.

Farrowing rate was determined based on all sows mated. We also recorded live piglets born, and calculated the number of live piglets per 100 sows mated. This measure combined farrowing rate and litter size.



Harold Gonyou

We classified the sows by parity as gilts, first, second and mature, and calculated an adjusted performance assuming a standard distribution of ages in each system. Animal flow problems developed during our first two breeding cycles, leading to a decision to house gilts separately until they were trained to the ESF system.

The farrowing rate of the animals differed with parity, being lowest for gilts and not differing among the older animals (see Table 1). This is not an uncommon finding in commercial herds, but the depression was greater within the ESF system.

Once gilts were housed by themselves, we did not see such a difference. There were no differences between the static and dynamic groups for farrowing rate. Although the farrowing rate for post-implant sows was four per cent higher than for pre-implant animals, the difference was not significant.

Although such a difference would be a major concern on a commercial farm, the week to week variation in farrowing rate was substantial and precluded a significant treatment effect. Stalled sows were intermediate to the ESF groups of sows. Litter size was smaller for gilts than for other parities,

A study concludes that productivity equal to that obtained in stalls can be achieved in an ESF system, but only possible if animals were already past implantation when the group was formed

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**T**he restriction on movement placed upon sows in gestation stalls has led numerous consumer groups to advocate a move to group housing. The challenge to group housing is to ensure appropriate levels of feed intake for all animals, and to create a social group which can minimize the effects of aggression at the time of group formation.

Group housing actually refers to a variety of housing systems and management options, ranging from floor feeding to electronic sow feeders; group sizes from four to several hundred; and regrouping at weaning through to some time after pregnancy is confirmed. It is important for producers to be aware of the effects of these options if they intend to consider alternatives to gestation stalls.

Electronic sow feeders (ESF) provide a feeding station which allows one animal at a time to enter and be fed its specific amount of feed. We examined two social management options within an ESF system to determine their effects on productivity.

The study was conducted over six breeding cycles at PSC Elstow Research Farm. In total, over 800 breedings were

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# sow feeders productivity?

and total live piglets per 100 sows bred was highest for the post-implant than for pre-implant treatment (see Table 1). Again, stalled animals were intermediate.

Our conclusion was that productivity equal to that obtained in stalls can be achieved in an ESF system, but this was only possible in our study if animals were already past implantation when the group was formed. Other studies using only pre-implant grouping tend to report lower productivity in groups.

Static and dynamic systems did not differ, but it should be pointed out that our dynamic system involved adding new animals at five-week intervals, not weekly as in several other studies. It is important to note the management methods used in group housing studies, as these can affect the outcome of the comparison.

Table 1. Farrowing rate of gilts and sows in stalls and various management programs within an electronic sow feeder system.<sup>1</sup>

	Stalls	Pre-implant		Post-implant	
		Static	Dynamic	Static	Dynamic
<b>Gilt</b>	793	678	681	734	763
<b>First parity</b>	898	874	865	929	910
<b>Second parity</b>	922	879	956	896	1,008
<b>Mature</b>	948	896	896	982	980
<b>Adjusted<sup>2</sup></b>	895	834	845	894	917
<b>Adjusted sows<sup>3</sup></b>	929	886	898	948	968

<sup>1</sup>Results of five reproductive cycles with new gilts added each cycle.

<sup>2</sup>Based on a theoretical herd demographic of 25 per cent gilts, 20 per cent first parity, 18 per cent second parity and 37 per cent mature (approximates a 15 per cent culling rate per cycle to a maximum 6th parity).

<sup>3</sup>Based on a theoretical sow herd run without gilts, as we have done for three cycles, with 27 per cent first parity, 23 per cent second parity and 50 per cent mature (approximates a 15 per cent culling rate to a maximum of 6 parities).



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