

ACTIVITY LEVELS OF GESTATING SOWS IN ELECTRONIC SOW FEEDING SYSTEMS

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Penning arrangements used for gestating sows fed by Electronic Sow Feeders (ESF) can be either a single pen with the sows having continual access to the feeder or twin pens with once a day access to the feeder. The twin pen system separates the fed sows from the unfed animals, and has the advantage of preventing non-feeding visits and allowing more timid sows to enter the feeder uninhibited.

Clarke *et al.* (1991) reported differences in the levels of social interaction between sows kept in the 2 systems, possibly as a result of the more competitive nature of sows in the twin pen system. As a part of a larger study into the behaviour of gestating sows in ESFs, activity levels of sows in the 2 systems were compared.

Two groups of 20 pregnant Large White sows, parity 1-3, were trained for at least 6 weeks for the single pen system and another two groups for the twin pen system. Observations were made on each group for 2 h morning and afternoon, for each of 3 successive days. This was repeated 4 times with 2 days between each repetition. The 24 h feed cycle began at 1500 h and the afternoon observations were separated into the 30 min prefeeding stage and the first 90 min of feeding. Observation scans were made at 10 min intervals and sows were classed as active, inactive or resting as described by Barnett *et al.* (1984). As there was very little inactive behaviour observed, the observations for active and inactive sows were combined for the purposes of analysis. Counts of activities were analysed as Poisson variables using the generated linear model technique described by McCullagh and Nelder (1989).

Table 1. The proportion of time sows were active when fed by an Electronic Sow Feeder in either a single or twin pen system

Means within each column followed by a different letter are significantly different at $P = 0.05$

Pens	Active period in morning	Active period in afternoon	
		Pre-feeding	Feeding
Single	0.034a	0.217	0.328a
Twin	0.057b	0.204	0.415b
s.e.m.	0.003	0.009	0.007

During the morning and feeding observations, sows in the twin pen system were significantly more active than the sows in the single pen system. These results are consistent with the higher levels of aggression, previously reported in the twin pen system (Clarke *et al.* 1991), suggesting a possible detrimental effect of this system on sow behaviour. Activity in the pre-feeding period was not affected by pen arrangement, possibly due to the sows in both systems anticipating the availability of feed with the start of the feed cycle.

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