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A field trial of self feeders for weaned sows

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Data supports the importance of adequate feed intake to gilts prebreeding. The working hypothesis of this trial was to determine if the same “flushing effect” could be expected from ad lib fed weaned sows.

A self feeder for lactating sows was installed in multiple sow farms after testing the feeder in late 2005. Upon observing the intake response of the lactating sows on the self feeder, it was decided to test the feeder on weaned sows and measure feed consumption and subsequent reproductive performance compared to conventional-fed weaned sows.

A trial was designed and carried out to try to determine the value of ad lib feed intake of sows post weaning compared to sows fed five pounds of feed by automatic feed drop one time per day in addition to two additional hand feedings of approximately two pounds each.

This trial was carried out in June to August of 2006 on a 2400 sow farrow to wean farm.

Forty-four (44) Intake self feeders were installed on modified gestation stall head gates to allow continuous access to feed for the test sows from the day of weaning until breeding. Sows were placed at convenience in either the gestation stalls with the self feeders (test group), or in the conventional stalls (control group).

The control sows were offered five pounds of feed by automatic drop in the morning and hand fed two additional times each day from the day of weaning until breeding. The test sow group was also given five pounds of feed by automatic drop in the morning but also had continuous access to feed from the self feeder.

All sows were moved from the weaned sow breeding area after the last service, with movement being no later than

five days post breeding. All sows were fed to condition through gestation based on the backfat measurement at the time of weaning.

Results and conclusions

Feed intake was measured on a subset of the test group. The test group subset sows averaged fifteen pounds of feed consumed per day compared to the control group of nine pounds per day.

No significant difference in reproductive performance was observed, as measured by subsequent total born, percent of anestrus sows, conception rate and farrowing rate. 10.4% of the control group were culled for all reasons, compared to 6.7% of the treatment group ($P = 0.17$).

In parity one sows, there was an increase in subsequent total born of 1.2 per litter in the treatment group compared to decrease of 1.1 per litter in the control group. However, the data is inconclusive because of limited sample size in the parity one subset and the difference in lactation length between the two groups (20.6 days in the treatment group to 19.3 days in the control group).

The hypothesis at the start of this trial was that an increase in total born in the subsequent litter size, and an increased conception and farrowing rate would be observed in the treatment group. The data does not support this hypothesis.

It is important to note that the results may vary on farms with protocols differing for hand feeding weaned sows. Further trials are needed to determine the optimal feed intake post weaning as measured by subsequent reproductive performance. Furthermore, other effects may exist (e.g. sow longevity) that were not assessed in this trial.

Table 1: Treatment and control

	Treatment	Control
Number of Sows	194	508
Average Parity	3.41	4.02
Average Lactation Length	18.8	17.8
Percent Culled, all reasons	6.7	10.04
Percent Anestrus	1.03	1.77
Percent Rebred	5.67	4.53
Average Subsequent Total Born	13.14	13.06
Average Change in Total Born	-0.05	-0.28

Table 2:

Control																	
Std Dev:		2.00		2.4							31.1	1.8		14.8	2.9	2.7	3.3
Average:		4.02	0.79	17.8	10.04	0.39	4.33	1.77	2.36	1.57	47.0	5.0	4.53	40.0	13.34	13.06	-0.28
Total:	508		4		51	2	22	9	12	8	0.00		23				
Utilization Info																	
No. Sows	Trt	Parity	Deaths	Lactation, Days	Culls	Aborts	No Conc	No Heat	Lame	Other	Wean to Exit, Days	Days to 1st Breed	No. 2nd Breeds	Days to 2nd Breed	Total Born Previous	Total Born Next	Diff Next vs Previous
19	2	1	0	19.3	2	0	0	0	2	0	27.0	5.8	0.0	0.0	12.9	11.8	-1.1
130	2	2	1	18.8	14	0	4	5	3	2	42.2	5.2	9.0	37.9	13.4	14.3	0.9
81	2	3	2	17.7	8	0	2	2	3	1	38.9	4.7	6.0	39.6	13.8	14.2	0.4
114	2	4	0	18.2	10	1	5	0	4	1	61.9	4.9	6.0	35.0	13.6	12.6	-1.0
48	2	5	1	17.5	4	1	2	1	0	1	59.0	4.4	1.0	50.0	13.4	12.3	-1.1
41	2	6	0	16.3	3	0	2	0	0	1	33.3	5.1	0.0	0.0	12.9	12.2	-0.7
23	2	7	0	16.7	1	0	1	0	0	0	47.0	5.2	1.0	81.0	13.0	12.0	-1.0
52	2	8	0	16.2	9	0	6	1	0	2	46.6	5.0	0.0	0.0	12.4	11.8	-0.6

Treatment																	
Std Dev:		1.88		2.5							32.5	2.1		13.2	3.1	2.8	3.3
Average:		3.41	2.06	18.8	6.70	3.09	3.61	1.03	1.03	1.03	60.5	5.0	5.67	35.2	13.19	13.14	-0.05
Total:	194		4		13	6	7	2	2	2	0.00		11				
Utilization Info																	
No. Sows	Trt	Parity	Deaths	Lactation, Days	Culls	Aborts	No Conc	No Heat	Lame	Other	Wean to Exit, Days	Days to 1st Breed	No. 2nd Breeds	Days to 2nd Breed	Total Born Previous	Total Born Next	Diff Next vs Previous
18	1	1	0	20.6	1	0	0	0	1	0	21.0	7.0	1.0	44.0	11.8	13.0	1.2
62	1	2	3	19.2	5	1	4	1	0	0	63.7	5.1	3.0	28.0	13.9	13.7	-0.2
39	1	3	0	18.2	2	1	0	1	1	0	52.7	4.7	2.0	33.5	13.7	13.7	0.0
31	1	4	0	19.0	1	1	0	0	0	1	71.0	4.5	5.0	38.4	13.3	13.7	0.4
14	1	5	1	18.9	1	2	1	0	0	0	69.0	4.7	0.0	0.0	14.2	12.1	-2.1
12	1	6	0	18.3	3	1	2	0	0	1	55.5	4.7	0.0	0.0	12.3	12.6	0.4
8	1	7	0	16.3	0	0	0	0	0	0	0.0	4.6	0.0	0.0	12.1	10.8	-1.4
10	1	8	0	16.7	0	0	0	0	0	0	0.0	5.0	0.0	0.0	10.8	10.5	-0.3

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