

Combining Crated Farrowing with Bedded Group Lactation

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Summary and Implications

The purpose of this demonstration was to evaluate combining crated farrowing with bedded group lactation, in an effort to reduce pre-wean mortality. The demonstration was conducted at the ISU Armstrong Research Farm, Lewis, IA, during 2004 and 2005.

Each group farrowing occurred in portable crates. After farrowing was completed, the pigs were taken out of the pens and placed in a common creep area with heat lamps. Group lactation ensued. Weaning occurred at 32 to 36 days of age.

The average number of pigs born alive was 11.7 pigs per litter with an average birth weight of 3.3 lbs per pig. Weaning occurred at an average of 34.2 days of age with 9.0 pigs per litter weighing an average of 19.8 lbs each. The pre-wean mortality was 22.8%. Although this is high, it is approximately 1/5 less than the pre-wean mortality recorded during the earlier demonstration of the Swedish cubicle system. The larger number of pigs born live and the lower pre-wean mortality resulted in 9 pigs weaned per litter in this demonstration compared with 8.1 pigs per litter in the Swedish cubicle system which was demonstrated earlier at this site. This is about a 12% improvement. Again the bedded group lactation worked well. The pigs gained an average of 1.3 lbs/day with few problems.

Introduction

One alternative farrowing system that was evaluated earlier was the Swedish deep-bedded system using free-stall farrowing boxes and group lactation. The system was demonstrated at the ISU Armstrong Research Farm in southwest Iowa for 2 1/2 years. The system worked well with one exception—high (28%) pre-wean mortality primarily during the first several days after birth (80%). The purpose of this demonstration was to evaluate combining crated farrowing with bedded group lactation, in an effort to reduce pre-wean mortality.

Materials and Methods

The demonstration was conducted at the ISU Armstrong Research Farm, Lewis, IA, during 2004 and 2005. Farrowing crates were attached to 5 × 7 ft decks of plastic coated expanded metal. The decks were on 12 in.

legs. The crates and decks were placed in a retrofitted older-style farrowing house with a flat concrete floor. Prior to farrowing, the sows were placed in the crates. There were 10 to 13 sows in each group.

Each group farrowing was completed in 2 to 7 days. Five to 15 days after farrowing was completed, the pigs were taken out of the pens and placed in a common creep area with heat lamps. All the sows were removed from the pens and the crates were removed from the farrowing building. The moist manure and bedding was removed. New wood shavings were added, topped with straw. The sows were allowed to roam about the bedded farrowing room, without the farrowing pens. After about 1 1/2 hours, the pigs were let out of the creep area and were allowed to nurse. Group lactation ensued. Weaning occurred at 32 to 36 days of age. Weaning was implemented by removing the sows and leaving the pigs in the bedded room. The pigs were moved to finishing at 46 to 60 days of age.

The pigs were bedded with cornstalks or straw every 4 to 6 days. After the pigs were removed, the building was cleaned and the bedding pack was composted.

Results and Discussion

Results of the demonstration are shown in Table 1. The average number of pigs born alive was 11.7 pigs per litter with an average birth weight of 3.3 lbs per pig. Weaning occurred at 34.2 days of age with 9.0 pigs per litter weighing an average of 19.8 lbs each. The pre-wean mortality was 22.8%. Although this is high, it is approximately 1/5 less than the pre-wean mortality recorded during the earlier demonstration of the Swedish system. The larger number of pigs born live and the lower pre-wean mortality resulted in 9 pigs weaned per litter in this demonstration compared with 8.1 pigs per litter in the Swedish cubicle system. This is about a 12% improvement. Again the bedded group lactation worked well. The pigs gained an average of 1.3 lbs/day with few problems.

The time of the pre-wean mortalities was summarized according to which day after farrowing that the mortality occurred (Table 2). Overall about 40% of the mortalities occurred by day 5 and 60% occurred after day 5. This data suggests that the sows may have had some difficulty adjusting to the group deep-bedded setting. All of the sows were multiparous and had no experience in a bedded group lactation environment. It also seems that sows had fewer mortalities in the bedded settings on the second or third time in that environment (Table 2).

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Table 1. Farrowing results of a quasi-Swedish system in Iowa.

	Farrowing group					Average
	<u>A1</u>	<u>B1</u>	<u>A2</u>	<u>B2</u>	<u>A3</u>	
No. of litters	13	13	11	10	10	11.4
Month farrowed	Mar	May	Aug	Oct	Jan	
No. pigs born alive/litter	11.9	11.0	11.9	12.3	11.3	11.7
Avg. birth wt. (lb)	3.5	3.7	3.4	2.9	3.2	3.3
No. pigs weaned/litter	8.5	9.2	8.5	10.2	8.7	9.0
Avg. weaning wt. (lb)	22.0	18.3	16.5	21.1	21.3	19.8
Avg. weaning age (days)	35	34	34	36	32	34.2
Pre-wean mortality, %	28.6	16.1	29.0	17.1	23.0	22.8
Farrowing interval (days)	7	6	2	4	4	4.6
Additional days in pens (days)	5	5	5	9	15	7.8
Total days in pens	12	11	7	13	19	12.4
Avg. end weight (lb)	41.4	34.2	31.8	48.6	40.0	39.2
Avg. end age (days)	46	49	48	60	48	50.2
Avg. nursery ADG (lb/day)	1.8	1.1	1.1	1.1	1.2	1.3

Table 2. Summary of piglet mortalities by days after farrowing when mortality occurred.

	Farrowing group					Overall
	<u>A1</u>	<u>B1</u>	<u>A2</u>	<u>B2</u>	<u>A3</u>	<u>Average</u>
Through day 5, pigs (%)	8 (19)	10 (42)	10 (26)	13 (59)	16 (62)	11.4 (41)
After day 5, pigs (%)	<u>35 (81)</u>	<u>14 (53)</u>	<u>28 (74)</u>	<u>9 (41)</u>	<u>10 (38)</u>	<u>19.2 (59)</u>
	43	24	38	22	26	30.6 (100)