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Analysis of farrowing induction

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At Schwartz Farms we have been aggressive in our practice of farrowing induction. Typically we induce sows at day 114 of gestation although at times, have moved the induction to day 113 of gestation.

Our reasons for this practice include:

- The ability to time the farrowing event so as to have staff available to assist distressed sows and also reduce the incidence of stillborn piglets.
- The desire to reduce overnight farrowings in order to warm and split suckle piglets as soon as possible after birth.
- The desire to reduce variation in age at weaning.

This trial was designed to analyze the effect of farrowing induction on piglet survivability and vigor, as well as sow performance. The second part of this trial will analyze the effect of farrowing induction on subsequent reproductive performance. This data will not be available until November of 2006.

The trial was conducted from May 15, 2006 to June 18, 2006 on a 2500 head farrow to wean sow farm.

Trial protocol

In each farrowing room of 48 crates, the sows in one half of each room (24 crates) were induced at day 114 of gestation (treatment), while sows in the other half of each farrowing room (24 crates) were allowed to farrow without induction (control). Any sow in the induction group that farrowed prior to induction was placed in the control group. Also, any sow that was induced but farrowed 0 to 7 hours post induction was removed from the trial.

The sows were induced to farrow by intramuscular injection of 1 ml of synthetic prostaglandin..

Piglets were cross fostered within 48 hours of birth and were only fostered from treatment sow to treatment sow or from control sow to control sow.

The following data was collected:

- Stillborn rate
- Prewean mortality
- Percentage of litters treated for diarrhea
- The incidence of retained pigs
- The incidence of agalactia
- Average days to return to estrus
- The incidence of anestrus

There were 175 observations in the treatment group (induced) and 263 observations in the control group (non-induced).

Data summary

Data are summarized in tables for all sows (Tabble 1) and broken out by parity (Tables 2-6).

Comments and conclusions

The two major parameters that we wanted to examine at the onset of this trial were stillborn percentage and prewean mortality. The remaining parameters measured were secondary to our main goal.

My conclusions from the first part of this trial are the following:

- Inducing farrowing showed the greatest benefit in reducing stillbirths in older parity sows. Parity 1 sows actually showed an increase in stillbirths with induction.
- Overall the increase in preweaning mortality with induction was less than expected. The majority of this increase was in parity 1 and parity 5 + sows.
- Agalactia, retained pig incidence and percent of sows and piglets that were treated with antibiotic all appeared to be unaffected by induction in this trial.
- We did observe a reduction in the variance in wean age with induction. The induced sows had an average lactation length of 17.2 days and a standard deviation of 1.5. The non-induced sows had an average lactation length of 17.1 days and a standard deviation of 2.4. Because uniformity of pigs entering the weaned phase is extremely important, we do believe that induction is valuable in this regard.

In interpreting the results of this trial it is apparent that we must continue to evaluate the benefits of labor efficiency,

Table 1: All sows

	Treatment (I)	Control (N.I.)	Difference
Sows	194	287	
Gestation Length, days	115.4	115.6	-0.2
Prewean mortality, %	11.7	10.2	+0.5
Stillborn rate, %	7.6	8.5	-0.9
Litters treated, %	8.2	10.1	-1.9
Sows treated, %	15.9	13.9	+2.0
Retained pig incidence, %	4.1	3.8	+0.3
Agalactia incidence, %	0.5	2.1	-

Table 2: Parity 1 sows

	Treatment (I)	Control (N.I.)	Difference
Sows	37	43	
Gestation Length, days	115.4	114.6	+0.8
Prewean mortality, %	12.3	7.6	+4.7
Stillborn rate, %	7.6	4.8	+2.8
Litters treated, %	10.8	11.6	-0.8
Sows treated, %	0.00	13.9	-13.9
Retained pig incidence, %	0.00	0.00	0.00
Agalactia incidence, %	2.70	0.00	+2.7

Table 3: Parity 2 sows

	Treatment (I)	Control (N.I.)	Difference
Sows	25	58	
Gestation Length, days	115.3	114.9	+0.3
Prewean mortality, %	7.3	10.4	-3.1
Stillborn rate, %	6.6	6.8	-0.2
Litters treated, %	0.00	10.3	-10.3
Sows treated, %	8.00	15.5	-7.5
Retained pig incidence, %	4.00	0.00	+4.0
Agalactia incidence, %	0.00	1.7	-1.7

Table 4: Parity 3 sows

	Treatment (I)	Control (N.I.)	Difference
Sows	31	41	
Gestation Length, days	115.5	115.9	-0.5
Prewean mortality, %	10.9	14.9	-4.0
Stillborn rate, %	4.2	9.2	-5.0
Litters treated, %	9.7	19.5	-9.8
Sows treated, %	6.4	14.6	-8.2
Retained pig incidence, %	3.2	4.87	-1.6
Agalactia incidence, %	0.00	0.00	0.00

Table 5: Parity 4 sows

[T5 follows]

	Treatment (I)	Control (N.I.)	Difference
Sows	28	46	
Gestation Length, days	115.3	115.6	-0.2
Prewean mortality, %	12.1	12.3	-0.2
Stillborn rate, %	9.9	8.9	+1.1
Litters treated, %	10.7	6.5	+4.2
Sows treated, %	14.3	13.0	+1.2
Retained pig incidence, %	7.1	0.00	+7.1
Agalactia incidence, %	0.00	8.7	-8.7

Table 6: Parity 5+ sows

[T6 follows]

	Treatment (I)	Control (N.I.)	Difference
Sows	73	99	
Gestation Length, days	115.6	116.1	-0.6
Prewean mortality, %	13.0	11.0	+2.0
Stillborn rate, %	8.6	10.8	-2.2
Litters treated, %	8.2	7.1	+1.1
Sows treated, %	26.0	13.1	+12.9
Retained pig incidence, %	6.8	5.0	+1.8
Agalactia incidence, %	0.00	1.0	-1.0

piglet uniformity and stillbirth reduction against the costs of induction and possible increase in preweaning mortality. We still believe that farrowing induction has a place in our system but will attempt a parity-based approach to this practice. Also, we need to identify the individual sows with gestation lengths longer than the average to customize the induction timing to these individuals.

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