IOWA STATE UNIVERSITY
Extension and Outreach
Iowa Pork Industry Center
www.ipic.iastate.edu

SOW MORTALITY PROJECT UPDATE 5-31-19

Project Background

The Iowa Pork Industry Center at Iowa State University, with funding from the National Pork Board, initiated an industry-wide survey that involved U.S. swine breeding herds to identify potential risk factors that are used to prevent pelvic organ prolapses (POP).

One of the factors evaluated was sow body condition during late gestation (just prior to or just after entering the farrowing room). In the pork industry, sow body condition has always been an important factor for producers to manage and a relatively easy technique is used to monitor body condition scores (BCS).

Thin Sow: 1

Felt hip bones without any firm pressure

Ideal Sow: 2

Felt hip bones with firm pressure

Heavy Sow: 3

Could not feel hip bones with firm pressure

Scoring System

- A 3-point system to assess BCS was used in late gestation (Figure 1).
- Assessed at approximately 110-115 days of gestation
- 62 commercial sow farms in U.S.
- Almost 5,000 sows scored

Figure 1 (above). 3-point system to assess BCS was developed by the Swine Medicine Education Center at Iowa State University.

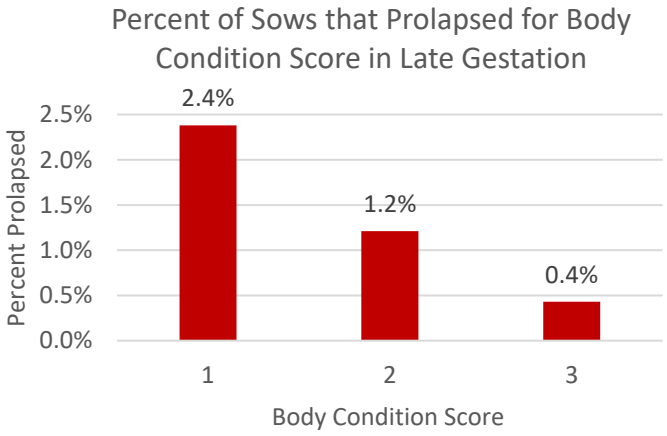

Figure 2 (above). Prolapse percent for each BCS of the 4,953 sows from the 62 farms in the U.S. When the measured sows were followed beyond farrowing, 65 of them prolapsed (1.3% of all animals scored). Twenty-one of the BCS 1 sows prolapsed (2.4%), 41 of the BCS 2 sows prolapsed (1.2%), and 3 of the BSC 3 sows prolapsed (0.4%).

	Total Animals Scored	Animals Prolapsed	Percent Prolapsed
BCS 1	884	21	2.4%
BCS 2	3,378	41	1.2%
BCS3	691	3	0.4%
Total	4,953	65	1.3%

Table 1. Summary of sows BCS and prolapses from the 62 farms in the U.S. A total of 884 sows were considered a BCS 1 (thin), 3,378 sows were a BCS 2 (normal body condition), and 691 sows were a BCS 3 (overweight).

Thinner sows had an increased risk of prolapse compared to a normally conditioned sow.

THIS PROJECT IS SUPPORTED BY THE NATIONAL PORK BOARD PROJECT #17-224.

For more information please go to https://piglivability.org/ or email chipmana@iastate.edu

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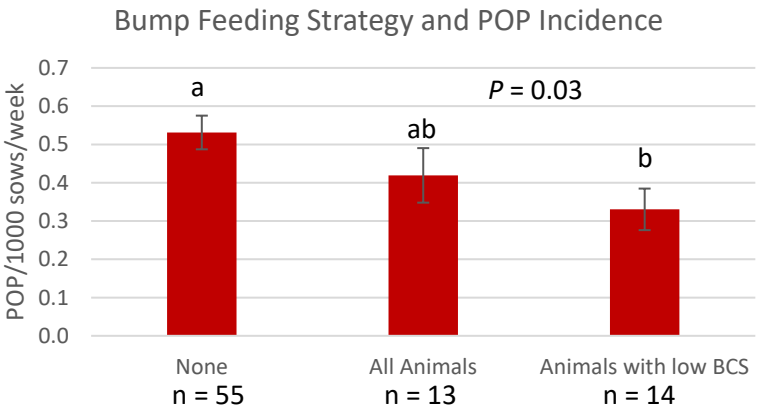
Feeding Strategy and Pelvic Organ Prolapse Incidence



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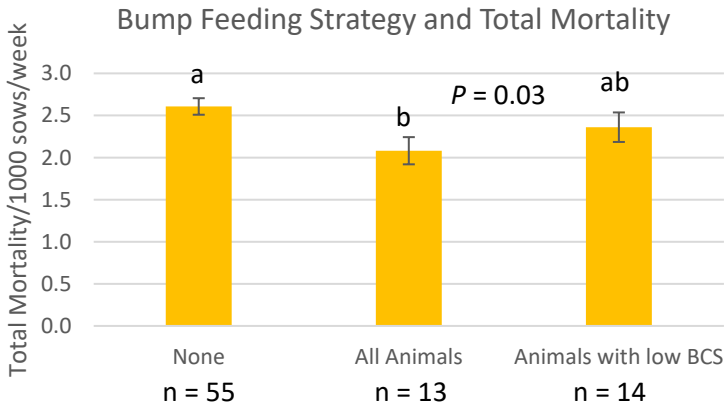

B

Figure 3 (above). Bump feeding strategy in late gestation and POP incidence (A) and total mortality (B). Farms either did not use bump feeding, bump fed all animals, or only bump fed those considered to have a low body condition score (BCS). Bars with different superscripts differ significantly ($P < 0.05$).

The use of bump feeding in late gestation is a management strategy that was used on some of the farms in the study. Farms either bump fed all sows, bump fed only sows with low BCS, or did not bump feed any sows.

- Farms that did not bump feed had the equivalent of about 135 POP/year for a 5000 sow farm.
- Farms that bump feed their thinner sows had the equivalent of about 85 POP/year for a 5000 sow farm.

Farms that bump fed low BCS sows had lower prolapse incidence compared to farms that did not bump feed.

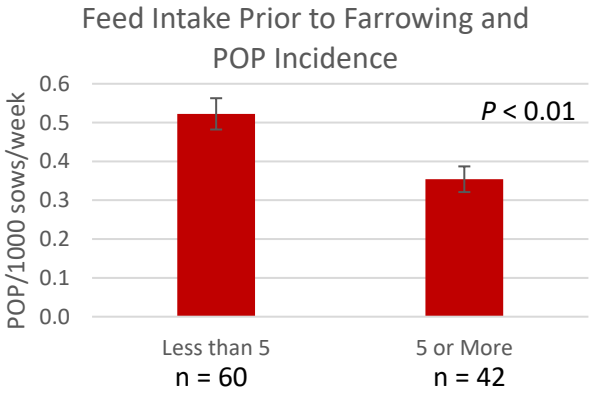

Figure 4 (above). Farms were categorized as either feeding less than 5 pounds per sow per day or feeding 5 pounds or more per sow per day in farrowing crates prior to farrowing. Differences in the number of gestating days in the farrowing crate were not taken into account. Farms that fed sows 5 pounds per head per day or more had a lower prolapse incidence compared to farms that fed sows less than 5 pounds per head per day.

Body condition or feed intake prior to farrowing appears to be an important component to understanding the biological factors contributing to POP incidence.

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