

## ANIMAL WELFARE

**Title:** Optimizing on-farm management of non-infectious sow lameness during the farrowing and lactation period – NPB#14-005.

**Investigator:** Monique Pairis-Garcia

**Institution:** The Ohio State University

**Date Submitted:** 1/17/2017

### Scientific Abstract:

The flooring commonly used in swine production facilities is designed for cleanliness and efficient manure handling. Metal or plastic flooring used in farrowing crates may increase the prevalence of lameness and lesions due to the physical characteristics of the materials. The goal of this study was to investigate the effect of rubber mats in farrowing crates on lameness, behavior, reproduction, and performance during lactation. In total 213 multiparous sows were enrolled in the study after being blocked by parity and categorized as lame or non-lame. Sows were placed into farrowing crates with or without a rubber mat. Lameness, lesion scores, sow weight, and body condition measurements were obtained once weekly. Additionally, 2 hours of behavioral observations immediately after morning feeding were taken, using 15 minute interval scans (lying, standing, sitting, drinking, feeding, and nursing), over the course of 4 weeks around farrowing (1 week prior to 3 weeks post farrowing day). The rationale being that farrowing and lactating sows rarely stand except around feeding times, thus differences in standing and feeding behavior depending on treatment and lameness status would be as most visible at this time. Piglet weights were recorded during the weeks of farrowing and weaning. Additional production and piglet mortality data were obtained post-hoc via records from the farm's computer database PigKnows®. The addition of rubber mats to farrowing crates did not affect lameness prevalence at the end of the study ( $P > 0.05$ ) but increased the proportion of time spent lying ( $P < 0.05$ ) compared to sows without a rubber mat. Sows that were lame throughout the study weaned piglets with lower body weights compared to non-lame sows ( $P < 0.05$ ). Sows provided with rubber mats weaned piglets with lower body weights compared to sows housed without a rubber mat ( $P < 0.05$ ). Sows provided with rubber mats had a higher number of crushed piglets compared to sows without a rubber mat (119 vs 62 crushed piglets/treatment;  $P < 0.05$ ). Rubber mats did not affect the number of lesions ( $P > 0.05$ ) but there was an overall decrease in the number lesions over time for all treatments ( $P < 0.05$ ). In conclusion, rubber mats did not influence lameness status during lactation. Providing rubber mats in the farrowing crates increased total piglet mortality due to an increase in crushed piglets. Additional research is needed to be able to properly assess the potential use of rubber mats as a flooring substrate to mitigate lameness in farrowing crates.

---

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

---

For more information contact:

National Pork Board • PO Box 9114 • Des Moines, IA 50306 USA • 800-456-7675 • Fax: 515-223-2646 • [pork.org](http://pork.org)

---

