

Public Abstract

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Graduation Term:SP 2012

Department:Animal Sciences

Degree:MS

Title:Effects of heat stress on thermoregulation, reproduction and performance of different parity sows

Heat stress caused by high ambient temperatures causes seasonal infertility in sows, leading to decreased production and a loss in reproductive efficiency. The objective of these studies was to specifically determine the effect of heat stress on the thermoregulatory behavior, growth and production characteristics as well as endocrine responses of sows during lactation. Factors such as parity, energy balance and farrowing facility design were closely examined to determine their role in controlling body temperature and respiration rate of sows during heat stress and lactation. Primiparous and multiparous Landrace or Landrace x Large White sows of different parities were studied from late gestation through weaning. The study was performed at the University of Missouri Swine Research Complex (Columbia, MO) in order to provide similar results as would be found in a real-world commercial swine farm setting. Rectal temperature (RT), respiration rate (RR), shoulder skin temperature, ear skin temperature, metabolite concentrations, energy balance (EB), sow body weights and piglet body weights were measured throughout the studies.