Title: Reduced Nocturnal Temperature for Early-Weaned Pigs – NPB #06-072

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Scientific Abstract
The objective of this project was to determine the effect of a reduced nocturnal nursery temperature regimen on performance of early-weaned pigs and energy consumption during the nursery phase. A common protocol was developed and 4 universities (South Dakota State University, University of Minnesota, University of Nebraska-Lincoln, & University of Missouri) each ran two trials in the fall, winter or spring months. Two nursery rooms were used and the experimental treatments were: Control (CON) room temperature in nursery (30 C at pig height at weaning lowered 2 C per week) and Reduced Nocturnal Temperature (RNT - beginning on day 7 post weaning, target temperature lowered 6 C from 1900 to 0700 from CON, then returned to CON from 0700 to 1900). Prior to day 7, CON regimen was employed in the RNT treatment as well. Performance was measured weekly in the nursery phase (35-42 d), and electrical and heating fuel usage recorded weekly. Data from SDSU were dropped from the analysis due to a confounding factor within the building. A total of 1258 weaned pigs weighing 6.2 kg were used in the 6 trials. Nursery average daily gain (.43 kg/d), average daily feed intake (.62 kg/d), and feed/gain (1.46) were identical for the CON and RNT pigs. There were no statistical differences in BTU (405,447 BTU/pig vs 334,049 BTU/pig) or Kwh usage (5.6 Kwh/pig vs 5.0 Kwh/pig) between CON and RNT treatments. However, the lack of treatment effect could have been due to the large standard error associated with these two variables. Heating fuel use (BTU/pig) was numerically reduced by 17.4% and Kwh/pig was reduced by 10.7% for the pigs in the RNT treatment. If these differences are repeatable in commercial facilities, producers can save a substantial amount of money through reduced propane and electrical costs by reducing nocturnal temperature the second week after weaning for early-weaned pigs (6.2 kg) without affecting growth performance.