A 21-d experiment was conducted to estimate the energy value of soybean meal (SBM) and determine the effects of increasing SBM on pig performance. A total of 2,233 pigs (PIC 337 × 1050), initially 11.0 kg, were placed in pens containing 20 to 27 pigs. Treatments were assigned in a randomized complete block design with BW as blocking factor. Dietary treatments consisted of 21, 27, 33, or 39% SBM obtained by changing the amount of feed-grade amino acids and corn. There were 23 replicates per treatment. Pigs were weighed and feed disappearance measured to calculate ADG, ADFI, G:F, and caloric efficiency (CE). Cull pigs and mortality were evaluated daily. Data were analyzed with the GLIMMIX procedure of SAS. There was a tendency (P = 0.090) for a quadratic response for ADG, with a decrease in ADG observed with 39% SBM. There was a tendency (linear, P = 0.092) for a decrease in ADFI as SBM increased. Pigs fed diets with increasing SBM had a tendency (quadratic, P = 0.069) for an increase in G:F up to 33% SBM and an improvement (linear, P = 0.001; quadratic, P = 0.063) in CE with increasing SBM. There was no evidence for differences (P ≥ 0.457) in cull pigs and mortality. Using CE to estimate the energy of SBM relative to corn, a value of 105.4% of corn energy or 2,816 kcal/kg NE was determined using all data points. When removing the CE value of the 39% SBM treatment due to the quadratic tendency, SBM was estimated to have 121.1% of corn energy or 3,236 kcal/kg NE. The results suggest that feeding increasing levels of SBM improves G:F and CE. The energy value of SBM was estimated between 105 and 121% of corn, which is much greater than the NRC (2012) would suggest.

Key words: caloric efficiency; energy; soybean meal