

Effects of adding distiller's dried grain with solubles (DDGS) to gestation and lactation diets on reproductive performance and nutrient balance in sows. J.A. Wilson^{1*}, M.H. Whitney¹, G.C. Shurson¹, and S.K. Baidoo². University of Minnesota, St. Paul¹ and Waseca².

A two-parity study utilizing 93 sows was conducted to determine the effects of diets containing 50% DDGS in gestation and 20% DDGS in lactation on sow reproductive performance. Nutrient balance was determined from d 100 to 105 of pregnancy using 14 sows. Sows were allotted based on parity and initial BW to a corn-soybean meal gestation diet (GC) or GC + 50% DDGS (GDG), and a corn-soybean lactation diet (LC) or LC + 20% DDGS (LDG) in a 2 X 2 arrangement of treatments. Sows were fed 1% BW plus 100 g, 300 g, and 500 g per d on d 30, 60, and 90 of gestation, respectively, and were provided *ad libitum* access to feed during lactation. Sows remained on their respective diets through two reproductive cycles (RC1 and RC2). No differences in sow gestation weight gain, pigs born alive per litter, and litter birth weight were observed between sows fed GC and GDG. Dietary treatment combination had no effect on litter size or litter weight at weaning for RC1, but sows fed GC/LC weaned fewer pigs per litter during RC2 ($P < .05$). Pre-weaning piglet mortality was higher ($P < .05$) for sows fed GDG/LDG compared to other treatments during RC1, but dietary treatment combinations had no effect during RC2. Sows fed GC/LDG in RC1 had lower lactation feed intake ($P < .01$), which primarily occurred within the first 7 d of lactation, but this effect was not observed during RC2. Wean-to-estrus interval was higher ($P < .001$) for sows fed the GC/LC diet combination compared to sows fed the GDG/LDG and GDG/LC diet combinations (5.8 vs. 4.8 and 4.4d,) during RC1, but was not observed during RC2. Sows fed GDG diet had greater N, S ($P < .05$), and P retention ($P < .1$) than sows fed the GC diet. These results suggest that feeding a gestation diet containing 50% DDGS will support satisfactory reproductive performance, but feeding a 20% DDGS lactation diet may reduce feed intake if sows were fed a corn-soybean meal diet during gestation.

Key words: Sow, distiller's dried grains with solubles, reproductive performance