

**Effects of dietary electrolyte balance and molasses in diets with corn-based distillers dried grains with solubles on growth performance in nursery and finishing pigs.**

C. Feoli\*<sup>1</sup>, J.D. Hancock<sup>1</sup>, S.M. Williams<sup>1</sup>, T.L. Gugle<sup>1</sup>, S.D. Carter<sup>2</sup>, and N.A. Cole<sup>3</sup>

<sup>1</sup>*Kansas State University, Manhattan*, <sup>2</sup>*Oklahoma State University, Stillwater*, <sup>3</sup>*USDA/ARS, Bushland, TX*

Two assays were conducted to determine the effects of dietary electrolyte balance (dEB) and molasses in diets with corn-based distillers dried grains with solubles (DDGS, Sioux River Ethanol, Hudson, SD) on growth performance of nursery and finishing pigs. For the first experiment, 126 nursery pigs (35 d old and avg BW of 10.2 kg) were assigned with six pigs/pen and seven pens/treatment. Treatments were a corn-soybean meal-based control and diets with DDGS as 30% of the formula without and with 0.93% sodium bicarbonate to bring dEB to 64 meq/kg [(Na + K) × (Cl + S)] as in the control. Diets were formulated to 1.4% Lys, 0.75% Ca, and 0.35% available P. Pigs fed the control diet had greater ADG ( $P < 0.03$ ) and ADFI ( $P < 0.08$ ) but did not differ in G:F ( $P > 0.6$ ) compared to those fed diets with DDGS. Addition of sodium bicarbonate did not improve growth performance ( $P > 0.3$ ). For the second experiment, a total of 70 gilts (avg BW of 60.5 kg) were assigned with two pigs/pen and five pens/treatment. The pigs were fed the experimental diets for 26 d, fed a common diet for 6 d, and then reassigned to a different treatment for an additional 26-d assay. The end result was 10 pens per treatment. Treatments were a corn-soybean meal-based control and diets with DDGS as 40% of the formula without and with 5% molasses and sodium bicarbonate (none, 1, and 2%) arranged as a 2 x 3 factorial plus control. Diets were formulated to 0.9% Lys, 0.6% Ca, and 0.22% available P. Pigs fed the control diet had greater ADG and ADFI ( $P < 0.001$ ) but did not differ in G:F ( $P > 0.4$ ) compared to those fed diets with DDGS. Adding molasses and(or) sodium bicarbonate did not affect ADG ( $P > 0.5$ ) or ADFI ( $P > 0.14$ ) and adding molasses actually decreased ( $P < 0.03$ ) G:F. In conclusion, adding sodium bicarbonate and(or) molasses to diets with DDGS did not improve growth performance in nursery or finishing pigs.

**Key Words:** Distillers Dried Grains, dEB, Pig