132 Determination of endogenous intestinal losses of Ca and digestibility of Ca in canola meal fed to growing pigs. J. C. Gonzalez-Vega*[1], C. L. Walk[2], and H. H. Stein[1], [1]*University of Illinois, Urbana,* [2]*AB Vista, Marlborough, UK.*

An experiment was conducted to test the hypothesis that endogenous Ca is lost from the gastrointestinal tract of growing pigs. The objective was to determine the apparent total tract digestibility (ATTD) and the true total tract digestibility (TTTD) of Ca in canola meal without and with added microbial phytase. Retention of Ca from canola meal was also determined. Forty 8 growing barrows (average initial BW: 16.72 ± 2.52 kg) were allotted to a randomized design with 8 dietary treatments and 6 pigs per treatment. Diets were based on sucrose, cornstarch, potato protein isolate, corn gluten meal, and canola meal. Diets were formulated to contain 0.08, 0.16, 0.24, or 0.32% Ca from canola meal, respectively. All diets were formulated with 0 or 1,500 units per kilogram of microbial phytase (Quantum, AB Vista, Marlborough, UK) and contained 0.32% digestible P. Feces and urine samples were collected from d 6 to d 11. Results indicate that feed intake, Ca intake, P intake, and P excretion increased ($P < 0.05$) by increasing the level of Ca in the diets. The ATTD of Ca and Ca retention increased ($P < 0.05$) if dietary Ca increased and also if phytase was added to the diets. The TTTD of Ca increased ($P < 0.01$) if phytase was used, but was not affected by the level of Ca in the diets. Total endogenous losses of Ca were determined using the regression procedure. Regression analyses indicated that apparent total tract digested Ca increased (linear, $P < 0.05$) as dietary Ca intake increased. The estimated total endogenous loss of Ca was 0.160 and 0.189 mg/kg DMI for canola meal without and with microbial phytase, respectively, and these values were not different. In conclusion, endogenous Ca is lost from the gastrointestinal tract of growing pigs, and values for TTTD of Ca are, therefore, different from values for ATTD of Ca. Values for ATTD of Ca are influenced by the level of dietary Ca, but that is not the case for values for TTTD of Ca. Microbial phytase increases the digestibility of Ca in canola meal, but does not influence the endogenous loses of Ca.

Key Words: calcium, endogenous losses, pigs