was 40 to 50% greater ($P < 0.01$) than pigs fed ND 1, which was likely due to greater ($P < 0.01$) SAA intake for pigs fed ND 2 or 3 compared to pigs fed ND 1. Some SAA act as antioxidants, which may have spared VE and Se and masked any effect of Ox-L DDGS. Therefore, increased VE was unnecessary in nursery pig diets with Ox-DDGS. The inclusion of DDGS in sow diets reduced the Se and VE status of pigs, but not after weaning when MHD is a concern. It is unclear if antioxidant supplementation is needed in diets with Ox-L without increased levels of SAA.

**Key Words:** antioxidant, DDGS, oxidative stress

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**O092** Feed preference of nursery pigs fed diets with soybean meal, napus canola meal or juncea canola meal. J. L. Landeró1,2, E. Beltranena1,2, R. T. Zijlstra1,2, Animal and Poultry Science, University of Alberta, 3Alberta Agriculture and Rural Development, Edmonton, Canada.

Inclusion of conventional dark-seeded (*B. napus*) and novel yellow-seeded (*B. juncea*) canola meal (CM) can potentially replace soybean meal (SBM) in pig diets. The aim of this study was to examine the preference of nursery pigs for diets containing 20% of either SBM, napus CM or juncea CM. Diets formulated to contain 2.36 Mcal NE/kg and 4.5 g standardized ileal digestible Lys/Mcal NE were offered in a paired choice as mash (Exp. 1) or pellets (Exp. 2) for 3 consecutive 7-d periods. Each period consisted of 4-d double-choice test and 3-d non-test. Dietary treatments were provided in 2 separate 4-space feeders in each pen: 1) SBM vs. napus CM, 2) SBM vs. juncea CM, or 3) napus CM vs. juncea CM. Position of the 2 feeders within and among pens was not or was switched daily in Exp. 1 and 2, respectively. Previous to the experiment and during adaptation periods, pigs were fed diets containing SBM (Exp. 1) or none of the feedstuffs tested (Exp 2). In Exp. 1, 216 pigs (9.4 ± 1.6 kg) were housed in 27 pens of 8 pigs (4 gilts and 4 barrows) and randomly allocated to the 3 dietary treatments in a 3 × 3 Latin square. In Exp 2, 144 pigs (8.9 ± 1.1 kg) were housed in 36 pens of 4 pigs (2 gilts and 2 barrows) and randomly allocated to the 3 dietary treatments in a 3 × 3 Latin square. Total glucosinolate and glucoprotein content in juncea CM (10.8 and 9.4 µmol/g, respectively) were 2.2 and 7.3 times greater, respectively, than in napus CM. Pigs preferred SBM over napus CM diet ($P < 0.001$; 83.9% vs. 16.1% and 80.9% vs. 19.1% for Exp 1 and 2, respectively) and pigs preferred SBM over juncea CM diet ($P < 0.001$; 89.9 vs. 10.1% and 84.2% vs. 15.8% for Exp 1 and 2, respectively). Napus CM was preferred on the 2-way choice with juncea CM diet ($P < 0.001$; 64.0% vs. 36.0% and 81.4% vs. 18.6% for Exp 1 and 2, respectively). In conclusion, high content of the glucosinolate glucoprotein in juncea CM was associated with the reduced feed preference for juncea CM vs. napus CM.

**Key Words:** diet form, feeder adjustment, nursery pig

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Seventy-two pigs were used to assess the impact of nursery feeding program on the pig’s ability to mount an immune response, e.g. robustness, based on delayed-type hypersensitivity (DTH) to *Candida albicans* and production of anti-ovalbumin (OVA) antibodies. Pigs were randomly assigned to: High (H), Low (L), and Very Low (VL) quality diets, with or without in-feed antibiotics (2750 ppm chlortetracycline) from weaning to 6 wk post-weaning. The H diets contained typical levels of blood plasma, fishmeal, fishmeal, and acidifiers. The L diets were based on corn and soybean meal with minimal fishmeal and whey for the first 7 d post-weaning only; the VL diets were based solely on corn and soybean meal. Within dietary treatment, 6 pigs were assigned as Control and 6 as Vaccinated. Vaccinated pigs were immunized, by intramuscular injection, to induce antibody response and DTH as follows: on d 5 and 19 post-weaning pigs received 0.5 mg OVA, 0.5 mg killed *C. albicans*, and 0.5 mg Quil A adjuvant in 1 mL phosphate buffer. Blood samples were obtained on d 4, 18, and 32 for determination of anti-OVA antibodies.

The DTH was determined on d 17, where all pigs were given, by intradermal injection in the ear, 0.1 mg candidin in 0.1 mL saline and ear thickness measurements were made using a spring-loaded caliper at 6, 24, and 48 h after injection. The immunization protocol induced an antibody response to OVA ($P < 0.001$) where the optical density increase was 0.08 for control pigs and 0.24 and 1.31 for the primary and secondary antibody response, respectively, in Vaccinated pigs. There was no effect of nursery diet on the antibody response to OVA. The DTH response following candidin administration was greater ($P < 0.01$) for Vaccinated than Control pigs. Within Vaccinated pigs,