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## Energy content and amino acid digestibility of extruded and dehulled-extruded corn by pigs and its effect on the performance of weaned pigs

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Three experiments were conducted to compare raw corn, extruded corn, and dehulled-extruded corn in piglets' feeding. In Experiment (Exp.) 1, 8 barrows (19.9 ± 0.6 kg) were fed experimental diets containing one out of three corn samples and a rice-soybean meal basal diet in a double 4 × 4 Latin square design to determine the digestible energy (DE) and metabolizable energy (ME) in the corn samples using the difference method. The DE content in extruded (14.29 MJ/kg) and dehulled-extruded (14.42 MJ/kg) corn was greater (P < 0.05) than in raw corn (13.57 MJ/kg). In Exp. 2, 5 barrows (26.2 ± 1.3 kg) were fitted with ileal T-cannulas and used in a 5 × 5 Latin square design to determine the apparent (AID) and standardized (SID) ileal digestibility of amino acids (AA). The diets comprised the basal diet, the three corn diets from Exp. 1, as well as a nitrogen-free diet to estimate basal endogenous losses of AA. The AID and SID of isoleucine, leucine, lysine, threonine, and valine in dehulled-extruded corn was lower (P < 0.05) than in raw or extruded corn. In Exp. 3, 108 weaned 35 days old piglets (8.4 ± 1.2 kg) were allotted to one of the three diets based on corn type. Weaned pigs fed diets containing extruded or dehulled-extruded corn exhibited reduced (P < 0.05) weight gain and feed intake than pigs fed diets containing raw corn. The diet containing dehulled-extruded corn resulted in a higher incidence of diarrhoea. In summary, extrusion of corn did not result in improvements in digestibility and dehulling corn prior to extrusion appeared to result in heat damage which reduced ileal digestibility of AA. Substitution of raw corn with extruded or dehulled-extruded corn in starter diets formulated to equal quantities of ME and SID AA content did not improve the performance of weaned pigs.

### Keywords:

digestible energy; extrusion processing; growth; metabolizable energy

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