

Chemical composition and nutritive value of dehulled canola meal for broiler chickens

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The present study was conducted to explore the potential for the production of high-energy, high-protein and low-fiber canola meal fractions to be used in high-nutrient density pre-starter diets for broiler chickens. Three pre-press solvent extracted canola meals (CM) from conventional (black) and yellow-seeded *B. napus* canola, and canola-quality *B. juncea* were subjected to sieving technology. The use of sieves from 250 to 600 μm resulted in the production of low-fiber fractions Fine 1 and Fine 2. Compared with parent meals, the content of total dietary fiber of fractions Fine 1 and Fine 2 decreased from 30.0 to 21.4 and 26.7% for conventional CM, from 25.5 to 15.3 and 18.7 for yellow-seeded CM, and from 27.0 to 21.6 and 23.4% for *B. juncea* meal, respectively. Likewise, crude protein increased from 36.8 to 42.0 and 39.6% for conventional CM, from 41.0 to 43.6 and 43.0% for yellow-seeded CM, and from 42.3 to 47.9 and 46.8% for *B. juncea* meal. One-day-old male Ross 308 broiler chicks were randomly assigned to 10 dietary treatments of 8 replicate cages of 5 birds each to evaluate the effect of three parent CM and their respective Fine 1 and Fine 2 fractions at 15% of a diet on growth performance of broilers from 1 to 10 d of age. A corn/SBM-based diet served as a control. All diets were formulated based on the determined nutrient composition and were balanced for energy, CP and amino acids. There was no significant difference between treatments for feed intake, body weight gain and feed efficiency indicating that CM and its low-fiber fractions could effectively replace SBM in the broiler pre-starter diets. The benefits from using the dehulled meals could also be reflected in the cost of feed production which for diets containing low-fiber fractions averaged \$0.60 per 1 kg of live chicken weight when compared to \$0.65 for the corn/SBM-based diet. It could also be concluded that canola fiber has minimal effect on nutrient utilization as evidenced by similar growth performance of young broiler chickens fed diets containing CM of different fiber content.

Key words: canola meal, dehulling, dietary fiber, broiler chicken

***Poult. Sci.* 2014, **93** (Supplement 1):72**