

High-Fat Oat Groats for Weaned Pigs

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Weaned pigs require diets that are highly palatable, digestible and that contain a high energy content. High-fat oat groats (HFOG) could be an ingredient with those characteristics. However, their real potential for weaned pigs still needs to be demonstrated.

Two experiments were carried out to determine the nutritional value of HFOG in weaned pigs and the growth performances of the latter when fed graded levels of HFOG. The sample of oat groats contained 9.5% oil and 17% crude protein, on a DM basis. Eight pigs were fed with a diet composed of 95% HFOG and 5% of minerals and vitamins, including 0.4% of chromic oxide (for ileal digestibility) and 0.4% of acid-insoluble ash (for faecal digestibility). After a 10d-adaptation period, faecal samples were collected for 3 consecutive days. The pigs were then killed, 4h after the last meal, and the ileum content was collected. The DE content was 3,724kcal/kg DM. The apparent ileal protein digestibility was 0.80 and that of lysine, methionine and threonine, respectively 0.78, 0.85 and 0.78. The fact that the DE was not higher than that of wheat, despite a higher oil content, is ascribed to the low oil digestibility (0.60). For the growth study, a control diet was formulated with 63% wheat, 16% soybean meal, 2% fish meal, 3.5% blood cells, 7% whey, 4.5% canola oil, minerals, vitamins and amino acids. Three other diets were formulated in order to contain 15, 30 or 45% of HFOG, at the expense of wheat and soybean meal. The diets had the same net energy (2.35 Mcal/kg DM) and amino acid (11 g SID Lysine/kg DM) contents. 192 pigs (initial bodyweight, 6.8 kg, 1 week after weaning) were distributed in 48 pens of 4 pigs (2 males, 2 females) and the 4 treatments were randomly allocated to the pens (12 pens/treatment). The pigs were weighed weekly for 4 weeks (final average weight: 21kg). No difference in daily gain, feed intake and feed conversion was observed between treatments ($P > 0.05$). The combined, average values of daily gains were 229, 427, 612 and 726 g/d, respectively, for the 4 consecutive weeks.

Implications: HFOG can replace wheat in rations for nursery pigs. Fine grinding is most likely required to optimize use of the high oil content of the cereal.