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Apparent ileal amino acid digestibility and the nutritive value of the triticale cultivars Moreno and Ulrika for finishing pigs

Keywords pigs, amino acids, cereals, triticale, digestibility, performance,

Abstract

Both digestibility and performance experiments were carried out to evaluate the nutritive value of triticale for growing-finishing pigs. In experiment 1, the apparent ileal and faecal digestibility of nutrients in barley (*Hordeum vulgare* cv. Viivi) and two triticale (*Triticum spelta*) cultivars, Moreno and Ulrika, were measured using six cannulated barrows with a body weight (BW) of 82-107 kg. In experiment 2, 12 barrows were used over 25-100 kg BW to study the effects of replacing barley in a barley-soyabean meal-based diet with graded amounts of triticale cv. Moreno (25, 50, 75, or 100%) and cv. Ulrika (50 or 100%). The apparent ileal and faecal digestibilities of dry matter and organic acids were higher for both triticale cultivars than for barley ($P < 0.05$). The apparent ileal digestibilities of protein and amino acids were similar for barley and the triticales ($P > 0.05$). The apparent ileal digestibility of lysine averaged 65.6, 70.8, and 70.5% for barley and triticale cv. Moreno and Ulrika, respectively. The net energy content of triticales (11.5 MJ kg⁻¹ DM) was 0.4 MJ kg⁻¹ DM higher than that of barley. Replacement of barley with the triticale cultivars Moreno and Ulrika exerted a positive quadratic effect on daily weight gain and feed conversion ratio of pigs from 50 to 100 kg and from 25 to 100 kg BW ($P < 0.01$). The best performance of the pigs was observed when barley was replaced with cv. Moreno or 50% with cv. Ulrika. Carcass lean percentage decreased linearly with increasing amounts of triticale ($P < 0.01$) and decreased quadratically with increasing amounts of cv. Ulrika in the diet ($P < 0.05$). Therefore, we concluded that 50-75% of barley can be replaced by triticale in diets for growing-finishing pigs.

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