

Nutritive value of fermented and amino acid-supplemented malted sorghum sprouts for growing pigs

Olufemi Sunday Akinola · Joel Oluwatosin Alabi ·
Adeboye Olusesan Fafiolu · Folorunso Temitope Adedayo ·
Olajide Mark Sogunle · Oluseyi Olutosin Oduguwa ·
Amos Oladipo Fanimo

Accepted: 19 September 2012

© Springer Science+Business Media Dordrecht 2012

Abstract Two experiments were carried out to determine the effects of diets containing fermented and amino acid (AA)-supplemented malted sorghum sprout (MSP) on performance, nutrient utilisation and feed cost analysis of growing pigs. In experiment 1 (digestibility trial), 12 pigs were individually housed in metabolic crates, equipped with feeding and watering troughs which also allow for separate collection of faeces and urine. Data collection lasted for 7 days during which feed intake and faecal output were weighed, with daily storage of collected faeces at -4°C . Four diets, a basal diet, basal plus malted sorghum sprout (B+MSP), basal plus fermented malted sorghum sprout (B+FMSP) and basal plus amino acids plus malted sorghum sprout (B+AA+MSP), were tested. Samples of test ingredients, feed and faeces were analysed for their gross energy and proximate compositions. In experiment 2, 18 weaner pigs were used in a completely randomised design for 63 days to determine the performance and cost analysis of feeding malted sorghum sprout at 0, 100 and 200 g/kg in pig's diet, six pigs per diet with each pig representing a replicate. Daily feed intake and weekly weight gain were determined. The prevailing cost of each feed ingredient was used to compute the feed cost and, subsequently, the feed cost analysis. Results of digestibility trial showed that there was no difference in the utilisation of the chemical constituents of B+MSP and B+AA+MSP diets, which were also similar to the basal diet, except the crude protein (CP) in

amino acid-supplemented malted sorghum sprout diet, which was lower compared to the basal diet. B+FMSP was lower ($P<0.05$) in the digestibility of dry matter, organic matter and CP compared to the basal diet. The digestible energy (DE) and the fraction of gross energy utilised as DE of each diet also were not affected by fermentation and supplementation with AA. In experiment 2, the levels of MSP used did not affect ($P>0.05$) the performance and feed cost indices measured. It was concluded that MSP can be used in growing pig's diet, without the need for fermentation and AA supplementation, at 200 g/kg level with no adverse effect on the nutritive value of the diet.

Keywords Malted sorghum sprout · Pigs · Fermented · Amino acids · Digestibility · Performance

Abbreviations

MSP	Malted sorghum sprout
AA	Amino acids
FMSP	Fermented malted sorghum sprout
DE	Digestible energy
GE	Gross energy
DM	Dry matter
CP	Crude protein
OM	Organic matter