



Deutscher Tropentag, October 8-10, 2003, Göttingen

“Technological and Institutional Innovations
for Sustainable Rural Development”

Digestibility and Nitrogen Retention in Creole Pigs and Improved Breed of Pigs Fed with Maize and Mucuna Beans in Peasant Systems in South of Mexico

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Abstract

Peasant pig production in South of Mexico is primarily characterised by Creole pigs (CP) kept in the backyard. CP are however more and more displaced by improved breeds of pigs (IBP). Often, peasant people believe that IBP are more profitable than CP because of their higher weight gain and leaner carcass. However, to exhaust their growth capacity the IBP have high nutrient requirements. On the other hand, the low performance characteristics of CP may match better with the feed available in peasant production such as mucuna beans (*Stizolobium deeringianum*). The objective of this experiment was to evaluate digestibility and nitrogen balance in CP and IBP fed with feedstuffs obtainable in peasant systems.

Eight CP and eight IBP pigs with a mean live weight of 40.7 ± 1 kg were used. The pigs were housed in metabolism crates. Two experimental diets were used: diet (A) maize only (crude protein 8.2%), diet (B) 25% of mucuna beans previously boiled and dried + 75% of maize (crude protein 12.3%). Seven days were allowed for diet adaptation and seven days for faeces and urine collection. The pigs were allocated to one of two dietary treatments in a randomised block design with four blocks and one replication per treatment in each block. Data were analysed using the GLM procedure of SAS.

CP showed a higher dry matter intake and live weight gain than IBP ($p < 0.05$). The intake of dry matter within the breeds was not influenced by the different diets. Digestibility of dry matter was similar ($p > 0.05$), however digestibility of neutral detergent fibre was higher in diet B. There were no statistical differences in nitrogen retention ($p > 0.05$). The results indicate that there is no benefit in use IBP when only low quality diets are available. It is possible to use mucuna beans in order to reduce maize in pig diets.

Keywords: Creole pigs, digestibility, nitrogen balance, *Stizolobium deeringianum*