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Full Length Research Paper

Seasonal changes in body condition scores of pigs and chemical composition of pig feed resources in a semi-arid smallholder farming area of Zimbabwe

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Abstract

There are few studies quantifying the productivity of rural pigs and evaluating the nutritive value of non-conventional feeds, such as weeds. The objectives of this study were to determine changes in body condition scores of boars and lactating sows and investigate changes in the chemical composition of commonly used pig feed resources in a smallholder farming area of Zimbabwe. Body condition scores (BCS) were measured monthly between October and April. *Commelina benghalensis* (wandering jew) and *Richardia brasiliensis* (Mexican clover) were collected monthly, between October and March, for proximate and amino acid analysis. Sows had lower BCS than boars ($P < 0.05$). The Neutral detergent fibre (NDF) and acid detergent fibre (ADF) contents of *C. benghalensis* were lower ($P < 0.05$) than those of *R. brasiliensis*. *C. benghalensis* had about twice the amount of crude protein (CP) compared to *R. brasiliensis*. Lysine, methionine and cysteine, which are the most important amino acids in pig nutrition, were similar in groundnut hulls and *R. brasiliensis*. *C. benghalensis* had higher ($P < 0.05$) levels of threonine, tryptophan, isoleucine, leucine, histidine, phenylalanine, tyrosine, valine, arginine, serine, aspartic acid, glutamic acid, glycine and alanine than *R. brasiliensis*. The proportion of essential amino acids (EAA) was significantly higher ($P < 0.05$) in *R. brasiliensis*. A further study

to determine the digestibility and growth performance of pigs fed on these non-conventional diets is needed.

Key words: Rural pig production, body condition scoring, *Commelina benghalensis*, proximate analysis, *Richardia brasiliensis*.

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