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Impact of feeding sweetpotato vines silage on growth and carcass quality of pigs in Uganda

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Abstract

In Uganda, pig farming is an important livestock activity. The high cost, poor quality and the lack of feed remains the greatest constraint. Commercial concentrate feeds are costly, of uncertain quality and unavailable in the rural areas. Local feed ingredients e.g., sweetpotato residues are cheap but limited and fluctuates seasonally. There are knowledge gaps to preserve and formulate complete forage-based balanced for supplementing pigs. The objective of this research was to assess the impact of feeding sweetpotato vines (SPV) based silage on growth rates and carcass quality of growing pigs in Uganda. We addressed the question 'To what extend can sweetpotato silage be economically included in a commercial diet without significantly affecting growth rates, and carcass quality of growing pigs?' The study included 48 pigs (mean initial body weight of 23 ± 0.5 kgs). The experiment had two diets: sweetpotato silage (80 and 60 % inclusion) and maize-soybean meal (20 and 40 % replacement) giving a total of 4 treatments. Pigs were randomly allotted to treatments in groups of four. Pigs were weighed initially and subsequently on a weekly basis for 12 weeks. Feed offered and refusals were measured daily. Two male and female pigs/treatment were slaughtered to evaluate carcass quality (90 days). Mean body weight (BW) of pigs did not differ between farmer practice (100 % SPV) and 80:20 SPV:MSN diet. However, the BW differed significantly between 60:40 SPV:MSN diet and the commercial diet (100 % MSN), (90 days), ($p < 0.05$). As expected, the average daily gain (ADG) increased with increased level of commercial diet. The 60:40 SPV:MSN diet gave the highest ($p < 0.05$) ADG relative to 100 % SPV. The 100 % SPV diet had lowest cost but highest cost per live weight gain ($2.29). Conversely, the MSM diet had the lowest cost per live weight gain ($0.48) but more costly diet. Compared to 100 % SPV, the 60:40 and 80:20 SPV:MSM diet rations were more economical, at $0.52 and $0.57 per live weight gain respectively. The 60:40 SPV:MSM diet was 32 % less expensive to produce/kg of carcass weight relative to 100 % SPV. We concluded that pigs grow well on the 60:40 SPV:MSM diet.

Keywords: Feeding, pig diets, pig production, sweetpotato silage, sweetpotato vines

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