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Digestibility of dried and ensiled sweet potato roots and vines and their effect on the performance and economic efficiency of F1 crossbred fattening pigs

Abstract -
Two experiments were carried out to evaluate the digestibility of sweet potato vine (SPV) and root (SPR) silage and meal, and to determine the effects on performance of including a mixture of SPV and SPR in both ensiled and dried form in diets for F1 crossbred fattening pigs (Mongcai sow x Yorkshire boar). The digestibility trial (on-station) was done according to a 3*3 Latin Square design with 3 treatments on 3 castrated F1 crossbred fattening pigs with an initial mean live weight of 35 kg. Treatment SP0 was a basal diet without sweet potato, and was replaced by sweet potato meal (SPM) or sweet potato silage (SPS) at a level of 50% (DM basis) to give treatments SPM50 and SPS50. The feeding trial (on-farm) was conducted with a total of 40 F1 crossbred pigs (20 females and 20 males) of 15 kg average initial live weight at 4 farms as replicates. At each farm, 10 pigs were kept in 5 pens (1 male and 1 female in each pen), with each pen representing a treatment. The pigs were fed diets consisting of mixtures of the basal diet (SP0) and the SPM or SPS (40% or 60% SPM, and 40% or 60% SPS) to give treatments SP0, SPM40, SPM60, SPS40 and SPS60, respectively. The SPM and SPS in both experiments were mixtures of 50% SPV and 50% SPR (DM basis).

The digestibility of DM, CP, CF and NDF in both SPM50 and SPS50 diets was about 90, 77, 92 and 89%, respectively, of the values recorded for treatment SP0. There were no differences due to method of processing the sweet potatoes. Pigs on the control diet (SP0) performed better than on all other treatments as regards average daily gain and feed conversion ratio. Diets SPM40 and SPM60 resulted in higher average daily gain and better feed conversion ratio compared to diets SPM60 and SPS60. There were no differences between SPM40 and SPS40. The back fat thickness of the pigs ranged from 1.99 to 2.28 cm and was closely correlated with final live weight and rate of live weight gain. The labour cost for processing was higher for SPM than for SPS.

Key words
: Conversion, digestibility, feed intake, growth, pigs, sweet potato meal, sweet potato silage.

Reference
: Hoang Huong Giang, Le Viet Ly and Ogle B 2004: Digestibility of dried and ensiled sweet potato roots and vines and their effect on the performance and economic efficiency of F1 crossbred fattening pigs. Livestock Research for Rural Development. Vol. 16, Art. #50. Retrieved June 30, 2004, from http://www.cipav.org.co/lrrd/lrrd16/7/gian16050.htm

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