

Surapan Jitviriyanon 2009: Effects of Pelleting Temperature of Cassava Diet on Pelleting Process, Microflora Population and Swine Performances. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Associate Professor Uthai Kanto, M.S. 105 pages.

The objective of this study was to determine the effects of pelleted temperature on pelleting efficiency of the cassava diets as well as microbial population in feeds and digesttract of growing pigs and performances of growing-finishing pigs. The diets were subjected for mash feed and pelleting temperature of 61-65, 66-70 and 71-75 °C. These studies were investigated by using a completely randomized design. The increasing of pelleting temperature of the cassava diets in the starting period resulted in the reduction of current consumption and electrical consumption but increase of production rate. Pelleting of cassava feed of starting period at temperature 71-75 °C produced the highest standard and modified pellet durability index ($P<0.01$). Pelleted feeds produced from every pelleting temperature have no significant differences in hardness and fine percentage. Moreover, increasing of pelleting temperature of the cassava diets in the growing period resulted in the reduction of current consumption and electrical consumption ($P<0.01$), the increase of production rate ($P<0.01$), the reduction of pellet durability index ($P<0.01$), the reduction of pellets hardness ($P<0.01$) and the increase of fine percentage ($P<0.01$). Increasing of pelleting temperature of the cassava diets in the finishing pig period also resulted in the reduction of current consumption and electrical consumption ($P<0.01$), the reduction of the pellet durability index ($P<0.01$), but no differences were found in the production rate, pellet hardness and fine percentage. The pelleted diets have significantly lower ($P<0.01$) population of lactic acid bacteria, *E. coli* and yeast than those of the mash unpelleted feed. The population of lactic acid bacteria, coliform bacteria and yeast in the ileum, in the feces and pH of ileal contents of pigs were also not significantly different after offering the experimental diets. There were no significant differences in average daily gain, feed intake, feed conversion ratio and carcass quality of pigs fed either mashed or pelleted diets. Nevertheless, the growing pigs (16-22 wks) fed with mashed diet showed the significantly poorer feed conversion ratio than those pelleted fed diets ($P<0.05$).

Student's signature

Thesis Advisor's signature