

Siriwan Somla 2010: Effect of Pellet Temperature of Corn – Soy Based Diet on Physical and Nutritional Properties of Feed Pellets, Growth Performance and Nutrient Availability in Broilers. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Seksom Attamangkune, Ph.D. 67 pages.

The objective of this study was to determine the effect of pelleting temperature of corn soybean diet on physical properties of feed pellets, growth performance and nutrient availability in broilers. Three phase diets (1-16 day, 17-35 day and 36-49 day) were pelleted at the temperature of 85, 90 and 95°C in a randomized completely design. Increasing pelleting temperature of the diets resulted in the reduction of current ampere and electrical consumption of pelleting. Increasing pelleting temperature from 85 to 95°C resulted in increased pellet durability index, hardness and starch cooking ($P < 0.01$) but, the percentage of fines and fine particles size decreased ($P < 0.01$). For the nutrient availability study, the total of 72 twenty one days old Ross 308 male broiler chicks was allotted into 3 groups, 8 pens per groups and 3 chicks per pen in a randomized completely design. The chicks fed diet conditioned with increasing pelleting temperature from 85 to 95°C resulted in decreased ($P < 0.01$) energy and nitrogen utilization. For the growth performance study, the total of 9,600 day old Ross 308 male broiler chicks was allotted into 3 groups, 16 pens per groups and 200 chicks per pen in a randomized completely design. Results showed that bodyweight gain, feed intake and feed efficiency of starter phase decreased ($P < 0.01$) as fed with diet conditioned with increased temperature but there were no significant differences in grower and finisher phase.

Student's signature

Thesis Advisor's signature