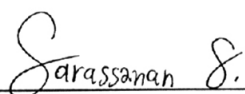


Sarassanan Sawangkham 2006: Effect of Cassava in Poultry Feed on Immunological System of Broiler. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Associate Professor Uthai Kanto, M.S. 56 pages.
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Effect of cassava in poultry feed on immunological system of broiler were studied. A total of 480 day-old chicks were divided into 48 groups of 10 animals each. The study was divided into 2 experiments utilizing half of the experimental animals each. Experiment 1, 24 groups of the animal was randomly assigned into 4 dietary treatment combinations composed of source of energy feed ingredients, corn or cassava and feed form, mashed or pellets by utilizing 2 x 2 factorial in randomized complete block experimental design. Results of the study have shown that chickens on cassava diet have significantly ($P<0.05$) higher number of macrophages for phagocytosis activity of both opsonized and unopsonized SRBC than those on corn diet. Animals on pelleted diet have significantly higher ($P<0.05$) number of macrophages for unopsonized SRBC than those on mashed diet. Broilers on cassava diet have significantly higher ($P<0.05$) proliferation of T-lymphocyte on day 3 and 7 after the antigen injection than those on corn diet. Chickens on pelleted diet have significantly higher ($P<0.05$) proliferation of T-lymphocyte than those on mashed diet. The effect of either source of energy feed ingredients or feed form on blood antibody level of the animals at every experimental period were found non-significant. Broilers on cassava diet have a significantly higher ($P<0.05$) level of glutathione (GSH) in erythrocyte at 21 days of age than those on corn diet. Animals on pelleted diet have a significantly higher ($P<0.05$) level of GSH in erythrocyte than those on mashed diet. This study has shown that cassava can stimulate non specific immunity and cellular immunity. *Lactobacillus spp.* naturally contaminated in cassava may be responsible for the increases of proliferation of T-lymphocyte and phagocytosis of macrophage. In additional, the low cyanide content in cassava has provided the beneficial effect on reduction of free radical generated by stress in the animal body.

Experiment 2, The other 24 groups of the experimental animals were subjected to the same treatment combinations with the same experimental design as employed in the Experiment 1 and were reared for determination of the animal performances. Results of the study have shown that the effect of source of energy feed ingredients on performance of the experimental animals was found non-significant. However, broilers on pelleted diet have a significantly higher ($P<0.05$) production performance than those on mashed diet.



Student's signature



Thesis Advisor's signature

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