

Sumate Traiprugsachart 2010: Effect of Cassava Pulp Level on Laying Hen Performance and Egg Quality. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Yuwares Ruangpanit, Ph.D. 74 pages.

The objective of this study was to determine the effects of cassava pulp level on laying hen performance and egg quality. Experiment 1 was carried out to determine the chemical, physical and biological properties of cassava pulp sample obtained from a standard cassava starch manufacturing. The representative cassava pulp had low protein but high in fiber content. The starch remained approximately 50.20 percent. Cyanide concentration was 16.6 ppm. There was no contamination of selected mycotoxin including Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Zearalenone, Deoxynivalenol, Fumonisin B1, Fumonisin B2 and Ochratoxin. Therefore, the representative cassava pulp is suitable as a feed ingredient in laying hen diet.

Experiment 2 was carried out to determine the effect of cassava pulp level on physical characteristic of feed, Laying hen performance and egg quality. Three hundred and eighty four-H&N “Brown Nick” laying hens, approximately 60 weeks of age, were divided into 4 dietary treatments. Each treatment consisted of eight replications with 12 laying hens per replication. The hens were kept in environmental controlled house, where feed and water were provided *ad libitum*. All laying hens were randomly fed experimental diets as following; Control diet (0% cassava pulp); and the diet containing 5, 10 and 15% cassava pulp, respectively. Bulk density of experimental diets tended to decrease with an increase in cassava pulp level ( $P=0.0656$ ) while the angle of repose remained unchanged. The incorporation of cassava pulp up to 15% in the diet had no detrimental effect on overall laying hen performances. However, an increase in level of cassava pulp resulted in an increase feed cost per dozen egg and significantly decreased in egg yolk color ( $P<0.01$ ) However, no significant effect on the other egg quality parameters was observed.

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Thesis Advisor's signature