EFFECT OF NUTRIENT SUPPLEMENT DEVELOPED FROM VEGETABLE WASTE ON PERFORMANCE AND MEAT QUALITY OF BROILER CHICKEN

A dissertation submitted to the

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

in partial fulfillment of the requirement of

the degree of

Bachelor of Animal Science

by

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2020/2021

ABSTRACT

More than 40% of annual fruit and vegetable postharvest losses in Sri Lanka have been created a significant economic loss and a massive treat to the direct environmental exposure. Vegetable waste is rich in essential nutrients which may useful for livestock feeds. Poultry feed producers are searching for alternative feed ingredients which suite to the general poultry ration while not having any economic losses. The present study had done with the aim of develop a nutrient supplement from the vegetable waste (Brinjal and Carrot 1:1) ,collected from Mannin Economic Centre, Peliyagoda. Vegetables were subjected to bio-conversion in an aerobic bioreactor for 3 days (presence of LAB inoculants, temperature maintained at 40^0C and with continuous stiring at 15 RPM), and digesta dried in a steam bath. Dried vegetable waste (VW) contained 4.22% crude protein, 2.77% crude fat, 13.8% ash, 38.46% crude fiber and 10.08% moisture. Ninety-day old broiler chicks were randomly divided to three treatments each treatment was consisted three replicates as each replicate contained 10 birds. Birds were fed with commercial diet added with two levels of VW supplement (T1-2.5% and T2–5%) and control diet (C-0%, VW) for 42 days. Body weight gain (WG), feed intake (FI), feed conversion ratio (FCR) and mortality were recorded weekly. Data were analyzed using one way ANOVA at $P \leq 0.05$. There were no significant difference ($P > 0.05$) among the treatment for WG, mortality and FCR. Birds fed with T2 diet increased WG compared to the control. The highest FCR was recorded by the birds fed with control diet. Incorporation of biologically treated VW supplement had no negative effect on overall performance of broilers and it enhanced the meat quality parameters of broiler chicken.