EFFECTS OF HUMIC ACID ON GROWTH PERFORMANCE AND IMMUNE RESPONSE OF DEKALB BROWN CHICKEN

ABSTRACT

This study was conducted to discover an alternative drinking supplement that promotes growth to free range chicken. This study aims to determine the growth performance of growing dekalb brown chicken using supplementation of humic acid (HA); identify the effect of humic acid (HA) on the antibody titer against Newcastle Disease of dekalb brown chicken and determine the cost-analysis of supplementing humic acid (HA) in dekalb brown chicken growers. A total of sixty (60) female dekalb brown grower chickens under 10 weeks old were used in the study. They were randomly distributed into four (4) treatments with three (3) replications and arranged with Completely Randomized Design (CRD). Treatment 1 was given pure water plus basal diet (Control); Treatment 2 was given 2 tbsp of humic acid mixed in 1 liter of water plus basal diet; Treatment 3 was given 4 tbsp of humic acid mixed in 1 liter of water plus basal diet; and Treatment 4 was given 6 tbsp of humic acid mixed in 1 liter of water plus basal diet, respectively. Based on the data gathered and laboratory results of the study, Four (4) tbsp of humic acid (T3) mixed in 1L of water, given three (3) times a week brought highly significant results as compared in different treatments. Humic acid mixed to water has no significant effect on the antibody titer against Newcastle Disease (NCD) of free range chickens. The cost of production using humic acid as a drinking supplement was cheaper to commercially available products. Humic acid improved the utilization of nutrients on animal feeds thus increasing the final weight, gain in weight, average daily gain and low feed conversion ratio.

Key words: growth performance, humic acid, NCD antibody titer, cost of production

RESPONSE OF THREE ITIK PINAS (*Anas platyrhynchos)* VARIETIES TO RATIONS WITH DIFFERENT ANIMAL PROTEINS

ABSTRACT

This study was conducted to evaluate the response of three *Itik Pinas* varieties to rations with different animal protein sources. The 3 x 3 Factorial in Completely Randomized Design (CRD) was employed in the study. A total of 90 *Itik Pinas* was used per variety (*itim,* khaki, and *kayumanggi*) and were randomly distributed into three treatments namely: rations with golden apple snail meal, fish entrail meal, and shrimp meal. Each treatment was replicated three times.

The proximate analysis revealed that golden apple snail meal had the highest crude protein of 73.9% while shrimp meal had 57.5% and fish entrail meal had 37.8% crude protein on dry basis. Results of the feeding trial revealed non-significant differences among the three varieties of *Itik Pinas* as well as among the experimental rations used in terms of final weight, gain in weight, average daily gain, feed conversion ratio, and weight of retail cuts (breast, drumstick, tenderloin, wings, neck, thigh, and whole back weights). Significant differences were, however, noted among the protein sources in terms of feed consumption. Live weight varied significantly ($P<.01$) among the three *Itik Pinas* varieties. *Itik* Pinas variety and protein sources has significant ($P<.05$) interaction effect on dressing percentage and carcass percentage. Meanwhile, in percentage return on investment was 10.98% with *Itik Pinas itim* fed ration with golden apple snail meal while with *Itik Pinas-kayumanggi* fed ration with shrimp meal incurred a loss of 12.67%.

GANIA, Abraham Jr., Santos Von Aerol, Panzo Darwin and Shalymar Rosario. 2021. **Effect of Sweet Potato (*Ipomoea batatas)* Vines on the Growth Performance of Rabbits (*Orytolagus cuniculus)***

This study was conducted to determine the growth performance of rabbits supplemented with sweet potato vines.

A total of sixty (60) rabbits, six (6) weeks of age (mixed sex) were used in the study. They were randomly distributed into 60 individual cages representing four (4) treatments with three (3) replications. The treatment that were used are 100% commercial feed, 15% of sweetpotato + 85% of commercial feeds, 30% of sweet potato vines + 70% commercial feeds and 45% of sweet potato vines + 55% commercial feeds. Rabbits were weighed weekly to record their gain in weight. After 42 days of rearing, the rabbit were weigh for their final weight and gain weight, feed consumption, feed conversion efficiency.

The result of the study showed that supplementing up 30% of sweet potato vines has significance effect in terms of final weight, gain in weight, and feed conversion efficiency. However, supplementing of sweet potato vines up to 45% has no significant effects in terms of final weight, gain in weight, and feed conversion efficiency of the rabbits.

Based from the result of the study, it can be concluded that the supplementation of sweet potato vines up to 30% has a significant effect in terms of final weight, gain in weight, and feed conversion efficiency of the rabbits.

PEDRO, Daniel Paulo A. and Annalie B. Paragas. 2021. **Growth Performance and Immune Response of Free-Range Chickens Supplemented with Fermented Soybean (*Glycine max*) Curd Residue**

This study was conducted to identify the effect of supplementing soybean curd residue (SCR) in the growth performance and immune response of free-range chickens. It specifically aimed to determine the efficacy of soybean curd residue (SCR) as an alternative feed source for growing free-range growers in the locality, determine the soybean curd residue on the antibody titer against Newcastle Disease of free-range growers; and determine the cost analysis of supplementing soybean curd residue for rearing free-range growers. A total of 150 grower Hubbard chickens, regardless of gender were randomly distributed into five (5) treatments and were replicated three (3) times. Treatment 1 was given pure commercial grower feeds (control); treatment 2 was given commercial grower feeds with 5% SCR; Treatment 3 was given commercial grower feeds with 10% SCR; Treatment 4 was given commercial grower feeds plus 15% SCR; and Treatment 5 was given commercial grower feeds with 20% SCR. Of all the treatments, Treatment 2 showed promising results having the highest final weight, gain in weight, and average daily gain, and the lowest feed conversion ratio. Though feeding did not significantly affect the antibody titer, an increase in its value was noted. The cost analysis showed that the increasing amount of SCR causes a decrease in the cost of production. Hence, Treatment 2 is better that the other treatments based on the growth performance parameters. Also, feeding does not significantly affect antibody titer. While inclusion of SCR in feeding growers is relatively cheaper than using pure commercial grower feeds.

EFFECT OF SPINY AMARANTH (*Amaranthus spinosus)* SUPPLEMENTATION ON THE GROWTH PERFORMANCE, PROXIMATE ANALYSIS, CARCASS YIELD AND INTESTINAL MORPHOLOGY OF SASSO CHICKEN

A Thesis Presented to the Faculty of the Department of Animal Science,
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TARLAC AGRICULTURAL UNIVERSITY
Camiling, Tarlac

In Partial Fulfilment of the Requirements for the Degree
BACHELOR OF SCIENCE IN AGRICULTURE major in
ANIMAL SCIENCE

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THESIS MANUSCRIPT

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For the Degree	:	**BACHELOR OF SCIENCE IN AGRICULTURE MAJOR IN ANIMAL SCIENCE**
Title	:	**EFFECT OF SPINY AMARANTH (***Amaranthus spinosus)* **SUPPLEMENTATION ON THE GROWTH PERFORMANCE, PROXIMATE ANALYSIS, CARCASS YIELD AND INTESTINAL MORPHOLOGY OF SASSO CHICKEN**

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Date Submitted: _____
Recorded: _____

APPROVAL AND ACCEPTANCE

The thesis attached hereto, entitled "**EFFECT OF SPINY AMARANTH (***Amaranthus spinosus)* **SUPPLEMENTATION ON THE GROWTH PERFORMANCE, PROXIMATE ANALYSIS, CARCASS YIELD AND INTESTINAL MORPHOLOGY OF SASSO CHICKEN",** prepared and submitted by **JEREMY M. AGPALASIN, ELVIN L. DOMINGO, EJ SEAN S. ESTEBAN** and **CARLO S. SALAZAR,** in partial fulfillment of the requirements for the degree **BACHELOR OF SCIENCE IN AGRICULTURE,** is hereby approved and accepted by the Committee on Oral Examination with a grade ___ on May 02, 2019.

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ABSTRACT

The study was conducted to determine the effect of Spiny Amaranth *(Amaranthus spinosus)* supplementation on the growth performance, carcass characteristics and internal organs of Sasso chicken. It also evaluated the proximate nutrient composition of *A. spinosus* and an economic effect of supplementing *A. spinosus* in the diet of Sasso chicken. A total of 120 Sasso chicks were used in the experiment. The birds were brooded for 21 days and which after it was randomly distributed into four (4) treatments. Each treatment were replicated into three (3) and each replication consists of 10 Sasso chicks. The birds were distributed randomly following the Complete Randomized Design (CRD). The different treatments were Treatment 1 - Control (100% Commercial Feeds); Treatment 2 - 5% Spiny Amaranth meal; Treatment 3 – 10% Spiny Amaranth meal; and Treatment 4 – 15% Spiny Amaranth Meal. The result in proximate analysis of spiny amaranth showed a high crude protein and ash content. The Sasso chicken supplemented with spiny amaranth meal at different inclusion levels of 5%, 10% and 15% has comparable growth performance, carcass characteristics and internal organs as compared to Sasso chicken fed with commercial ration alone indicating a positive effect to the animals. The length of the villi had increased when the inclusion levels of the spiny amaranth meal increases as compared to the length of Sasso chicken without supplementation. The return on investment increases when the spiny amaranth meal was supplemented in the diet of Sasso chicken at different inclusion levels resulting to higher return on investment.

DEVELOPMENT OF SMART FARMING FOR THE LOWLAND STRAWBERRY (*Fragaria ananass*) PRODUCTION

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ABSTRACT

The developed system in this paper monitors the humidity levels, moisture content of the soil and surrounding temperature. Furthermore, parameter values such as maximum and minimum temperature, maximum and minimum humidity values can be monitored accordingly by sending an SMS to the system. This system was developed by using Arduino microcontroller, GSM module, moisture sensor and DHT11 temperature/humidity sensor. This design can be used for monitoring and controlling temperature and humidity value via SMS.

The developed smart greenhouse farming used an Arduino system that will monitor the monitor and control the water content of the soil using a moisture sensor which runs under the control of a microcontroller, a DHT 11 sensor to control and monitor the greenhouse humidity and proper temperature and a Short Messaging System (SMS) to notify the caretaker/ owner on the moisture level content and temperature/humidity of the greenhouse.

The system was successfully implemented in the greenhouse. The system is working properly that is to get temperature, humidity and soil moisture. The communication is properly done between temperature, humidity and soil moisture, and Arduino Mega 2560.

The system monitored and maintain the proper temperature, humidity and soil moisture content inside the greenhouse. The device has been successfully tested under

simulated conditions and showed the ability of controlling temperature, humidity and soil moisture.

The System notified the caretaker/farmer via Short Messaging System (SMS) for the notification status (information) and triggering the water pump. The device showed the capability of sending SMS holding the latest temperature and humidity information and also the status of the greenhouse.